

Notes

Very early stage draft – Contents not considered reliable.

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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, 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.

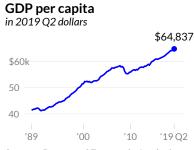
Section listing recent updates and upcoming releases would be nice.

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.

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 \$21,340 billion in the second quarter of 2019, compared to an inflation-adjusted equivalent of \$10,210 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 Q2 dollars, has increased to \$64,837 in 2019 Q2 from \$41,429 in 1989 Q1.

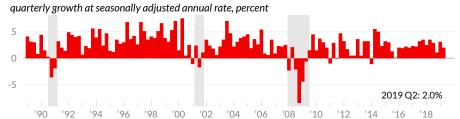


Source: Bureau of Economic Analysis

Economic Growth

GDP (see •) increased at an annual rate of 2.0 percent during the second quarter of 2019, compared to an increase of 3.1 percent in the first quarter of 2019. Quarterly growth has averaged 2.5 percent over the past three years, 2.2 percent over the past 10 years, and 2.5 percent over the past 30 years.

Real Gross Domestic Product Growth

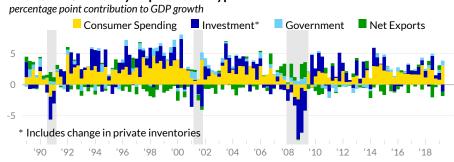


Source: Bureau of Economic Analysis

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 \square), private investment (gross spending on capital goods) and changes in private inventories (see \square), government spending and investment (see \square), and net exports (see \square) 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.

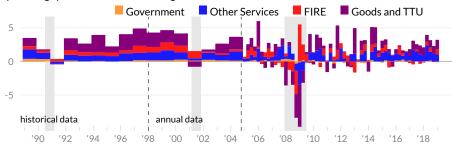
Real GDP Growth by Expenditure Type



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

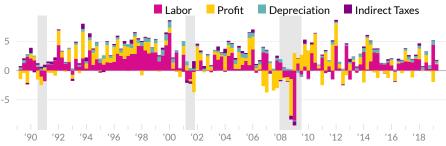


Source: Bureau of Economic Analysis

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

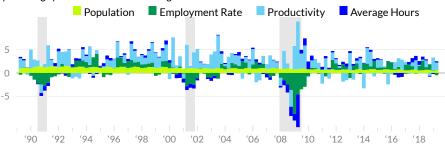


Source: Bureau of Economic Analysis

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

Real GDP Growth by Inputs

percentage point contribution to GDP growth



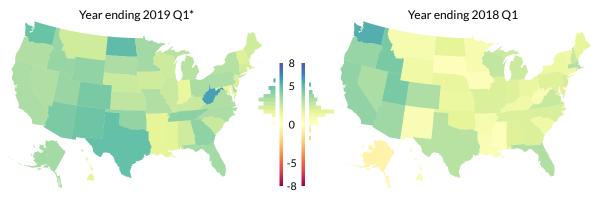
Source: Author's Calculations

	nponents of Economic (ntage point contribution to real			h			moving	g averag	es
•		2019	'19	'18	'18	'18	3-	10-	30-
		Q2	Q1	Q4	Q3	Q2	year	year	year
	Gross Domestic Product	2.0	3.1	1.1	2.9	3.5	2.5	2.2	2.5
	Consumer Spending	3.03	0.78	0.97	2.34	2.70	1.87	1.58	1.81
	Durable Goods	0.87	0.02	0.09	0.25	0.56	0.44	0.42	0.42
	Non-durable Goods	0.87	0.30	0.24	0.50	0.57	0.40	0.30	0.33
	Services	1.29	0.46	0.65	1.59	1.57	1.03	0.85	1.06
	Gross Investment	-1.16	1.09	0.53	2.27	-0.30	0.62	0.86	0.59
	Non-residential	-0.14	0.60	0.64	0.29	1.04	0.59	0.58	0.54
	Residential	-0.11	-0.04	-0.18	-0.16	-0.15	-0.01	0.11	0.03
	Change in inventories	-0.91	0.53	0.07	2.14	-1.20	0.04	0.17	0.03
	Government	0.82	0.50	-0.07	0.36	0.44	0.26	0.01	0.24
	Federal	0.53	0.14	0.07	0.19	0.25	0.14	0.01	0.07
	State and Local	0.29	0.36	-0.14	0.17	0.19	0.12	0.00	0.17
	Net Exports	-0.68	0.73	-0.35	-2.05	0.67	-0.25	-0.20	-0.15
	Exports	-0.69	0.49	0.18	-0.78	0.71	0.27	0.48	0.51
	Imports	0.01	0.23	-0.53	-1.27	-0.04	-0.52	-0.67	-0.66
	Goods and TTU	-	1.39	1.13	1.13	0.99	0.89	0.57	0.91
	Manufacturing	-	0.51	0.32	0.31	0.26	0.32	0.15	0.33
	Construction	-	0.00	-0.09	0.12	0.11	0.07	-0.00	-0.01
	Retail Trade	-	0.63	-0.14	0.34	-0.06	0.24	0.13	0.20
	FIRE	-	0.80	-0.07	0.59	0.55	0.21	0.48	0.47
	Other Services	-	1.03	1.16	1.33	2.35	1.19	0.86	0.89
	Education & Healthcare	-	0.51	0.16	0.24	0.34	0.24	0.18	0.19
	Professional & Business	-	0.27	0.48	0.59	0.96	0.48	0.33	0.34
	Information	-	0.25	0.47	0.41	0.70	0.41	0.29	0.26
	Government	-	-0.14	-0.02	0.12	0.07	0.06	0.00	0.10
	Population	0.57	0.55	0.66	0.70	0.59	0.64	0.72	0.98
	Employment Rate	-0.49	0.10	1.21	0.56	2.05	0.63	0.30	0.02
	Average Hours	0.27	-0.22	-0.19	0.24	0.64	0.12	0.15	0.02
	Productivity	1.68	2.66	-0.60	1.43	0.23	1.10	1.08	1.47
(Gross Domestic Income	1.8	3.2	0.8	3.3	0.7	2.0	2.4	2.5
	Labor	1.09	4.41	0.28	1.39	-0.03	1.38	1.18	1.29
	Profit	0.14	-1.95	-0.11	1.26	0.12	0.04	0.78	0.63
	Depreciation	0.43	0.73	0.53	0.59	0.47	0.44	0.31	0.42

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 Q1, one state (West Virginia) had real GDP growth of more than five percent, 40 states had real GDP growth between two and five percent, 10 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 Q1						Q1		
	2019 Q1	'18 Q4	'18 Q3	'18 Q2	'18 Q1	1-year*	3-year	10-year
United States	2.2	4.2	3.4	2.2	3.1	3.2	8.3	23.4
Pacific	1.7	6.4	2.0	2.3	2.8	3.3	11.8	31.5
Washington	7.2	7.2	5.4	3.1	3.1	4.7	16.2	38.1
California	0.9	6.6	1.2	2.2	2.7	3.2	11.4	32.1
Oregon	2.0	3.6	4.2	1.3	3.1	3.1	12.1	27.7
Hawaii	0.0	2.4	1.6	1.1	1.2	1.6	4.7	16.1
Alaska	-5.7	1.7	2.9	4.9	3.9	3.4	0.2	-2.9
West South Central	2.4	4.1	2.5	5.6	4.7	4.2	6.7	26.7
Texas	2.4	4.5	3.3	6.6	5.1	4.9	8.3	34.0
Oklahoma	0.8	5.4	0.2	5.5	3.9	3.7	1.4	18.7
Arkansas	1.0	1.7	0.6	1.5	2.5	1.6	3.0	12.2
Louisiana	4.3	1.4	-0.1	1.3	3.8	1.6	2.0	-1.5
Middle Atlantic	1.2	4.1	2.8	1.2	3.1	2.8	6.9	20.2
New York	0.5	4.7	3.0	0.2	3.8	2.9	7.8	26.7
Pennsylvania	0.7	4.0	3.2	2.5	2.9	3.2	6.3	18.5
New Jersey	3.6	2.4	1.8	1.8	1.8	2.0	5.3	7.9
Mountain	2.7	4.0	4.8	3.3	3.8	4.0	10.0	20.0
Utah	5.9	3.7	4.7	1.8	4.2	3.6	12.2	32.8
Colorado	0.3	5.9	4.1	3.8	3.6	4.4	10.8	29.9
Idaho	2.0	5.6	3.6	2.7	2.7	3.6	12.5	21.6
continued on next page.								

	2019 Q1	'18 Q4	'18 Q3	'18 Q2	'18 Q1	1- year*	3-year	10-year
continued from previous	page							
Arizona	5.2	2.6	7.4	3.5	3.8	4.3	12.4	18.9
Montana	-0.4	3.2	1.4	1.3	3.2	2.2	2.4	15.0
Nevada	6.4	2.5	2.7	2.8	4.0	3.0	9.0	11.0
New Mexico	-1.1	4.3	5.5	4.1	4.6	4.6	4.7	7.6
Wyoming	-6.2	3.0	2.8	6.0	3.3	3.8	-0.2	-13.3
South Atlantic	2.0	3.2	4.7	1.7	2.7	3.1	8.4	18.6
Georgia	-0.5	2.6	7.6	2.1	3.1	3.8	10.6	24.2
South Carolina	1.4	2.5	3.2	1.6	2.5	2.4	7.6	21.2
Florida	4.1	1.4	7.2	2.0	2.9	3.4	10.3	20.8
Maryland	0.4	3.7	-0.9	1.2	1.8	1.5	6.9	18.5
District of Columbia	3.7	1.4	6.3	0.1	1.4	2.3	7.2	17.6
North Carolina	2.0	7.7	0.5	1.9	2.8	3.2	7.9	15.1
Virginia	2.9	2.9	4.9	1.5	2.7	3.0	6.4	14.7
Delaware	-1.2	8.0	9.0	0.0	3.9	3.4	0.6	13.8
West Virginia	-2.0	6.8	9.3	1.8	5.2	5.7	6.1	6.5
West North Central	0.9	6.4	1.5	1.4	2.7	3.0	4.7	17.0
North Dakota	0.5	9.6	3.2	3.5	3.9	5.0	-0.9	52.0
Nebraska	0.7	4.7	-0.8	2.2	3.4	2.4	3.5	25.8
South Dakota	4.6	2.4	4.5	2.1	3.6	3.1	1.2	22.7
Minnesota	0.1	7.6	2.5	1.1	2.6	3.4	7.5	20.4
Iowa	1.4	6.5	-0.2	0.3	2.3	2.2	2.1	19.7
Kansas	0.6	5.4	1.2	0.9	3.1	2.6	5.7	14.7
Missouri	1.4	6.2	1.8	1.8	2.3	3.0	4.6	5.0
East North Central	2.8	1.8	3.9	1.5	3.0	2.5	5.9	16.4
Ohio	0.2	3.1	4.9	1.4	3.5	3.2	5.8	18.8
Michigan	2.3	3.8	3.3	1.8	2.6	2.9	7.5	18.4
Wisconsin	4.9	1.6	2.4	2.1	2.9	2.3	6.4	17.3
Indiana	4.0	-0.4	1.9	0.9	2.9	1.3	6.5	14.8
Illinois	4.0	0.6	5.0	1.3	2.9	2.4	4.5	13.6
New England	3.6	0.6	3.3	1.7	2.5	2.0	5.2	15.1
Massachusetts	4.7	2.2	1.8	1.8	2.7	2.1	7.2	25.4
New Hampshire	6.4	-0.7	3.9	1.7	2.6	1.9	5.7	20.7
Vermont	0.9	4.0	-1.1	1.9	2.5	1.8	5.0	11.9
Maine	2.0	2.5	3.1	0.7	2.6	2.2	6.1	8.6
Rhode Island	1.3	3.2	-5.7	1.0	2.2	0.1	0.9	7.7
Connecticut	1.7	-3.6	9.0	1.8	2.2	2.2	1.8	-0.1
East South Central	0.3	4.5	3.0	1.6	2.4	2.9	6.3	14.4
Tennessee	0.6	6.6	5.2	1.6	2.4	3.9	8.9	23.6
Kentucky	-1.8	4.5	0.9	1.8	2.5	2.4	4.1	12.8
Alabama	1.2	2.2	1.8	2.1	2.7	2.2	5.8	10.6
Mississippi	1.3	2.2	2.0	0.5	1.9	1.7	2.8	0.0

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 Private Government Rest of World 10 -10 '90 94 '96 '98 '00 '02 '04 '06 '08 '10 '12 14

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.

New borrowing by sector

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

Other Residential Real Estate Corporate Equities

Solve total US wealth divided by GDP

Residential Real Estate Corporate Equities

Output

Ou

Source: Federal Reserve

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.

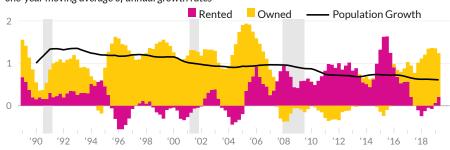
[Table or chart on population]

Demographics and Household Formation

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

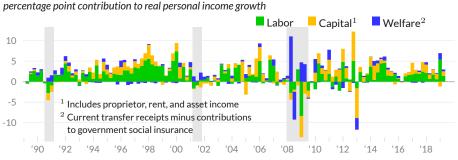


Source: Census Bureau

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



[Gross Labor Income text and chart]

Capital Income

Welfare Income

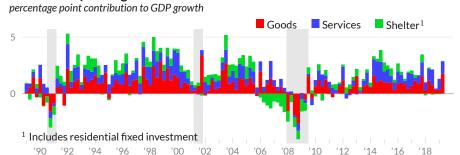
[Breakout section on income of the aged]

[Income to persons detailed table]

Household Expenditures

This section covers household spending on goods (see \blacksquare), services excluding housing and utilities (see \blacksquare), and shelter (see \blacksquare , calculated as housing services and utilities combined with residential fixed investment). These categories contributed 3.00 percentage points to GDP growth in 2019 Q2 compared to an average contribution of 1.84 percentage points over the past three years.

Consumer Spending and Residential Investment



Source: Bureau of Economic Analysis

In the second quarter of 2019, household spending on goods contributed 1.74 percentage points to GDP growth, household spending on services other than housing and utilities contributed 1.12 percentage points, and shelter spending and investment contributed 0.03 percentage points. Spending on health care services contributed 0.38 percentage points to GDP growth in 2019 Q2 and has contributed 0.34 percentage points, on average, over the past three years.

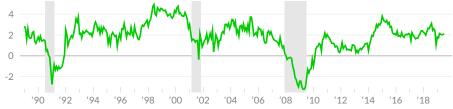
Consumer Spending and Residential Investment

percentage point contribution to real GDP growth moving averag					res				
		2019 Q2	'19 Q1	'18 Q4	'18 Q3	'18 Q2	3- year	10- year	30- year
	Total	3.0	1.32	0.56	2.21	2.46	1.84	1.53	1.72
	Goods	1.74	0.32	0.33	0.75	1.13	0.84	0.73	0.75
	Motor Vehicles and Parts	0.37	-0.27	0.07	0.01	0.18	0.11	0.12	0.08
	Furniture and HH Equipment	0.14	0.03	-0.09	0.09	0.08	0.1	0.09	0.08
	Recreational Durable Goods	0.32	0.23	0.04	0.12	0.17	0.19	0.16	0.21
	Groceries	0.25	-0.08	0.07	0.13	0.09	0.15	0.09	0.08
	Clothes and Shoes	0.25	-0.07	0.0	0.15	0.18	0.05	0.05	80.0
	Services (ex. Shelter)	1.12	0.99	0.12	1.39	1.04	0.86	0.66	0.74
	Health Care Services	0.38	0.72	-0.22	0.6	0.39	0.34	0.3	0.27
	Transportation	0.17	0.01	-0.02	-0.02	-0.1	0.06	0.06	0.06
	Recreational	0.17	-0.03	0.09	0.02	0.17	0.05	0.06	0.07
	Food and Accommodations	0.22	-0.06	-0.12	0.35	0.23	0.12	0.12	0.09
	Financial and Insurance	0.05	0.15	0.1	0.05	-0.04	0.06	0.02	0.13
	Shelter	0.03	-0.03	-0.06	-0.09	0.14	0.13	0.25	0.25
	Housing Services and Utilities	0.14	0.01	0.12	0.07	0.29	0.14	0.14	0.23
	Residential Fixed Investment	-0.11	-0.04	-0.18	-0.16	-0.15	-0.01	0.11	0.03

Consumer spending is also reported on a monthly basis. Inflation- and population-adjusted consumer spending increased by 2.1 percent in July 2019 over July 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]

Household Balance Sheets

[Consumer Credit and Mortgages as share of DPI]

Housing prices

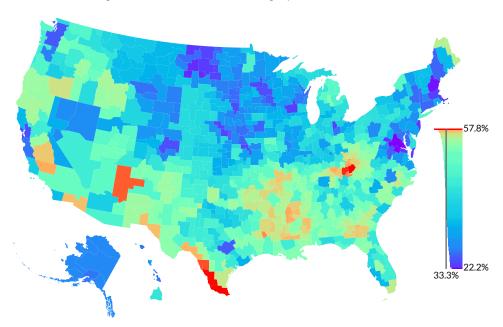
Housing permits/starts

Geographic location of housing permits

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, 2017 Share of commuting zone householders with after-housing-expense annual income below \$13,060



Source: American Community Survey

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.

Capital Investment

Investments that make workers more productive, by definition, allow businesses to produce goods and services using less effort from people. Business gross investments are grouped broadly as structures (see \square), equipment (see \square), and intellectual property products (see \square).

Business Investment

percentage point contribution to GDP growth

Structures Equipment Intellectual Property Products

2

0

90

92

94

96

98

00

02

04

06

08

10

12

14

16

18

Source: Bureau of Economic Analysis

Business investment subtracted 0.14 percentage points from GDP growth in the second quarter of 2019 compared to an average contribution of 0.59 percentage points over the past three years. In 2019 Q2, investment in structures subtracted 0.36 percentage points from GDP growth, investment in equipment contributed 0.05 percentage points, and investment in intellectual property products contributed 0.17 percentage points.

Business Investment

percentage point contribution to real GDP growth moving averages						ges		
	2019 Q2	'19 Q1	'18 Q4	'18 Q3	'18 Q2	3- year	10- year	30- year
Total	-0.14	0.6	0.64	0.29	1.04	0.59	0.58	0.54
Structures	-0.36	0.12	-0.29	-0.07	0.33	0.08	-0.02	0.01
■ Equipment	0.05	0.0	0.42	0.17	0.2	0.24	0.37	0.32
Information processing	0.13	0.17	-0.04	0.2	0.08	0.15	0.15	0.22
Computers and peripherals	0.17	0.05	-0.04	0.0	0.06	0.04	0.03	0.12
Industrial equipment	0.02	-0.04	0.08	0.07	-0.05	0.05	0.04	0.02
Transportation equipment	-0.14	-0.06	0.29	-0.07	0.09	-0.01	0.13	0.05
■ Intellectual property products	0.17	0.48	0.51	0.18	0.51	0.27	0.23	0.21
Software	0.11	0.26	0.19	0.15	0.18	0.16	0.13	0.12
Research and development	0.06	0.21	0.29	0.01	0.3	0.1	80.0	0.07

Durable goods new orders

Corporate profits

Industrial production

Retail sales

Free cash flow

Balance sheets

Inventories

[Box on tech industry]

Government

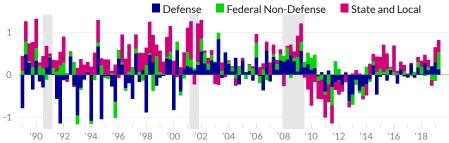
Overview

Government Consumption and Investment

Government consumption and fixed investment provide one way to measure how much $public \, sector \, activities \, are \, influencing \, the \, economy. \, The \, contribution \, to \, real \, GDP \, growth$ from the public sector can be broken down by federal defense (see), federal nondefense (see ■), and state and local (see ■).

Government Consumption and Investment

percentage point contribution to GDP growth Defense



Source: Bureau of Economic Analysis

Federal

Outlays on interest as share of GDP

State

Local

Balance sheets

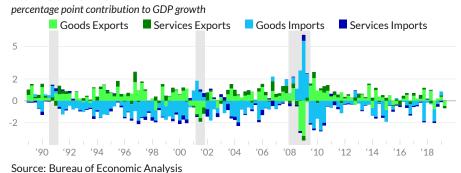
External Sector

Overview text goes here. Perhaps mention the size of total trade, imports, exports, and the trade balance, as a share of GDP. Perhaps include the trade balance/ GDP chart here. Eventually, section should capture changes in trade by goods and by partner. Section also needs to capture cross border flows of investment, though much of FDI seems to be tax avoidance. Focus on the more meaningful series, like remittances.

Trade

The US runs a persistent trade deficit, which often shows up as a negative contributor to GDP growth. The trade balance is the exports of goods (see ■) and the exports of services (see ■) minus imports of goods (see ■) and imports of services (see ■).

International Trade



Current account balance

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 US has positive net income from abroad.

International Investment Position

Labor Markets

Overview
Employment Rate
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]
Quits
Openings
Jobless claims
Flows
Reasons for non-participation
Union membership
State- and sub-state-level analysis

Capital Markets

Overview
Equity markets
[SP500]
[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

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.

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