

# Economic Overview: The Puzzle of Productivity

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May 24, 2018

# Economic Overview

## The Plan

- (1) Show you graphs taken mostly from FRED (Federal Reserve Economic Database)
- (2) Apologize for the fact that economists are bad at predicting short-run economic fluctuations
- (3) Discuss some long-term trends affecting the US economy

# Economic Output

## What is it and how can we measure it?

Economic output is created when we transform “inputs” into higher-valued “outputs.”

- ▶ Inputs include raw materials, capital (machines) and labor (people).
- ▶ The rate at which we transform inputs into outputs varies across regions and over time, and is referred to as “productivity.”

# Economic Output

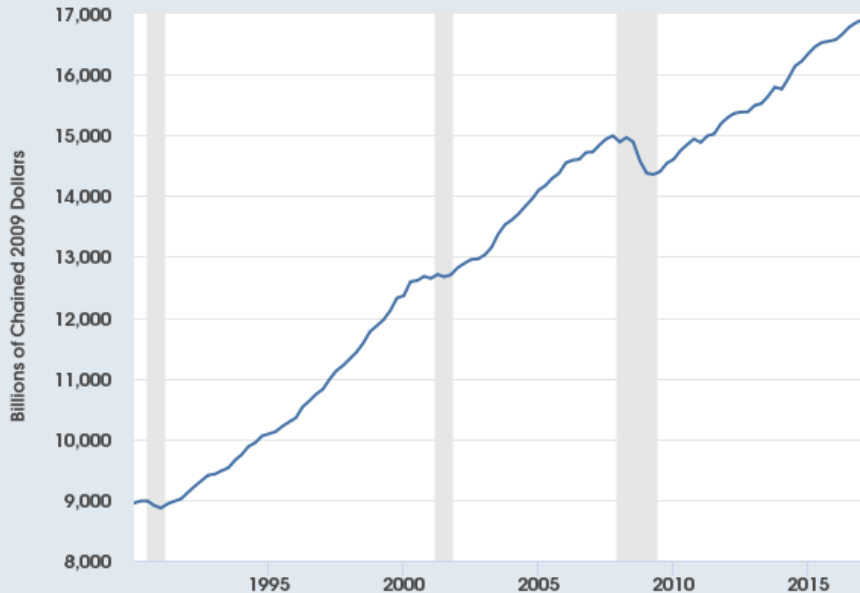
What is it and how can we measure it?

Output is usually measured with **Gross Domestic Product (GDP)**.

- ▶ GDP is the **total value of the goods and services produced**.
- ▶ Equivalently, GDP is the **total income earned**, coming from **wages, rents, interest, and profits**.
- ▶ *GDP per capita is the primary determinant of standards of living.*

**FRED**

— Real Gross Domestic Product

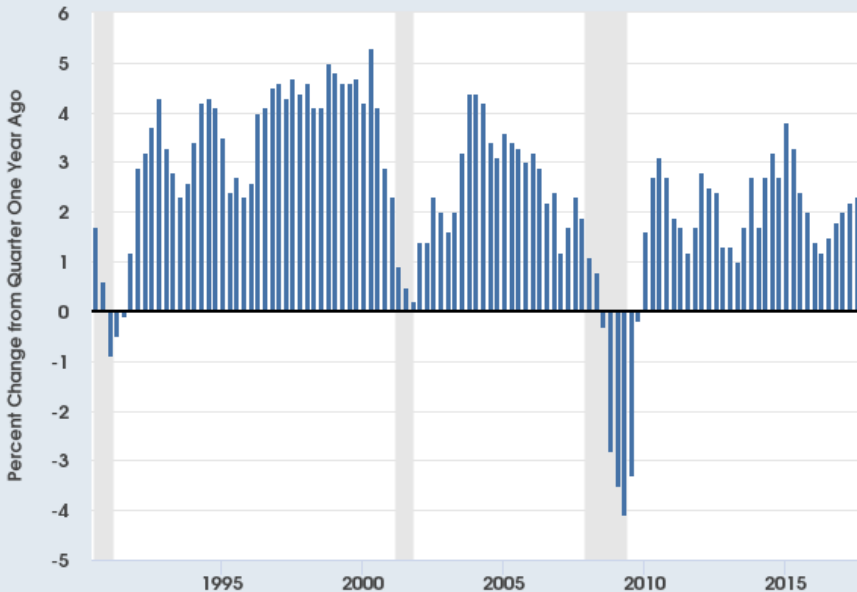


Source: U.S. Bureau of Economic Analysis

# US Economic Growth

## Summary

- ▶ The US economy has grown steadily at an average of 2.1 percent annually since the Great Recession.
- ▶ Economic growth has been slower since 2000 compared to previous periods.



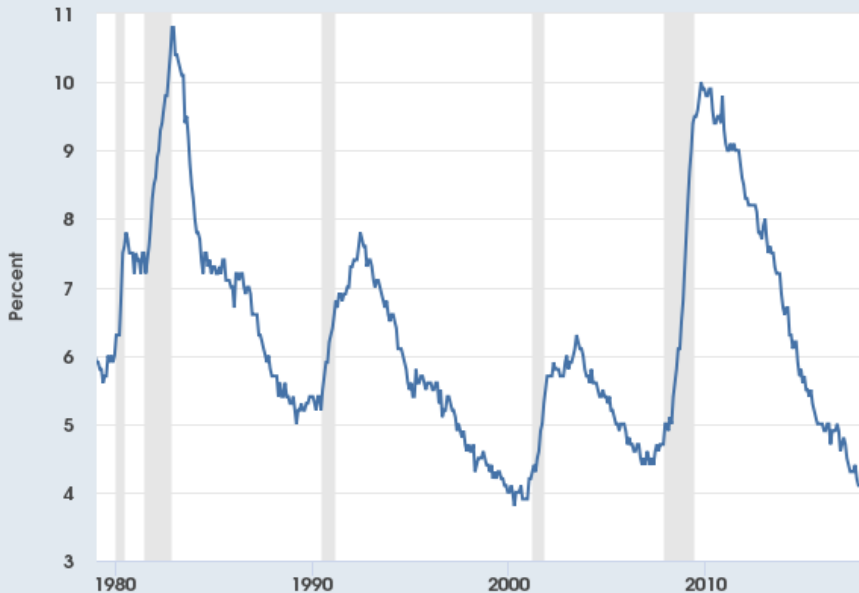
# US Unemployment

## Summary

Current US unemployment is low by historical standards.

- ▶ However, an individual is counted as “unemployed” only if s/he is seeking employment.
- ▶ Many people of working age are choosing not to work, as illustrated by low labor force participation.

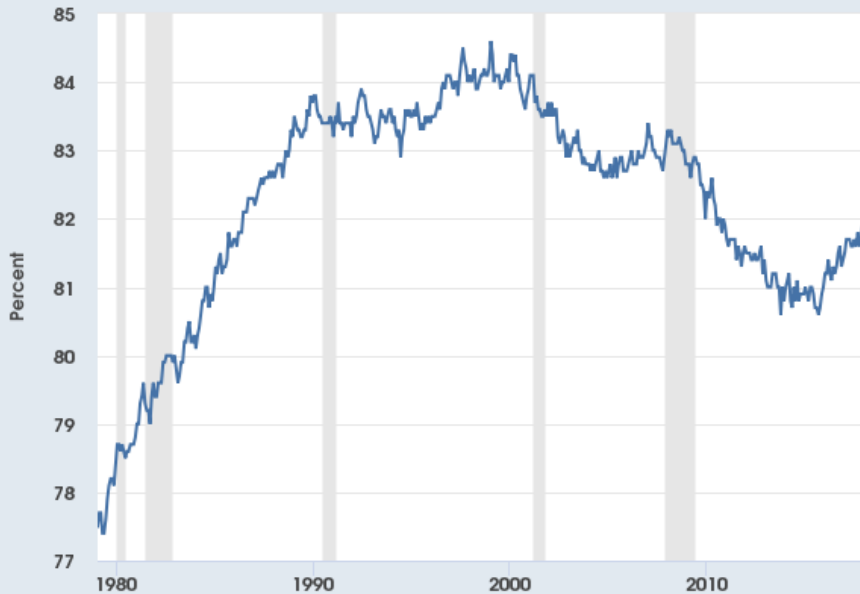




Source: U.S. Bureau of Labor Statistics

**FRED**

— Civilian Labor Force Participation Rate: 25 to 54 years



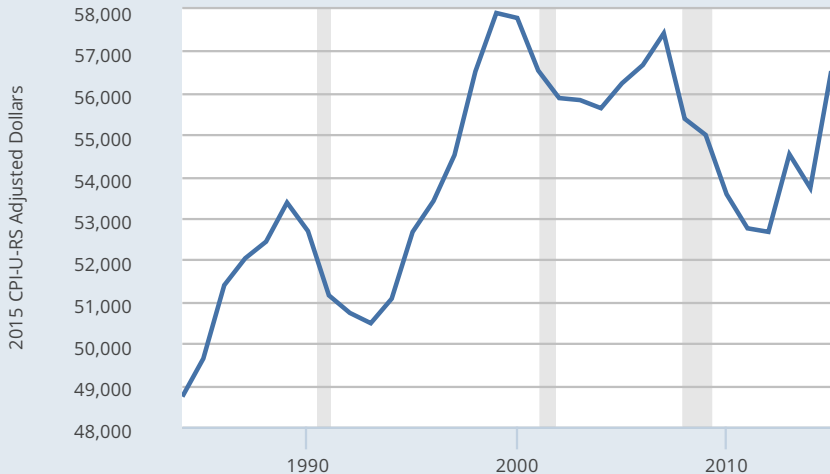
Source: U.S. Bureau of Labor Statistics

# US Economy

## Some big stories since 2000

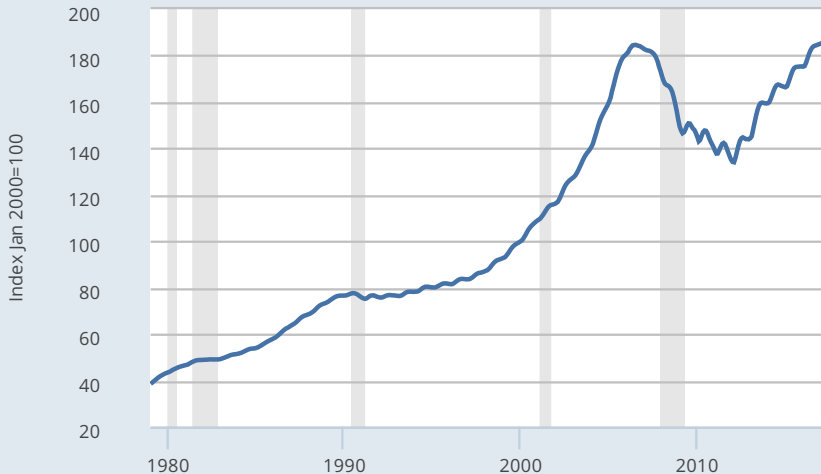
1. Growth, but slower
2. Stagnating middle class
3. Home prices have bounced back from crash; still maybe a bit high

— Real Median Household Income in the United States



Source: U.S. Bureau of the Census

— S&P/Case-Shiller U.S. National Home Price Index©

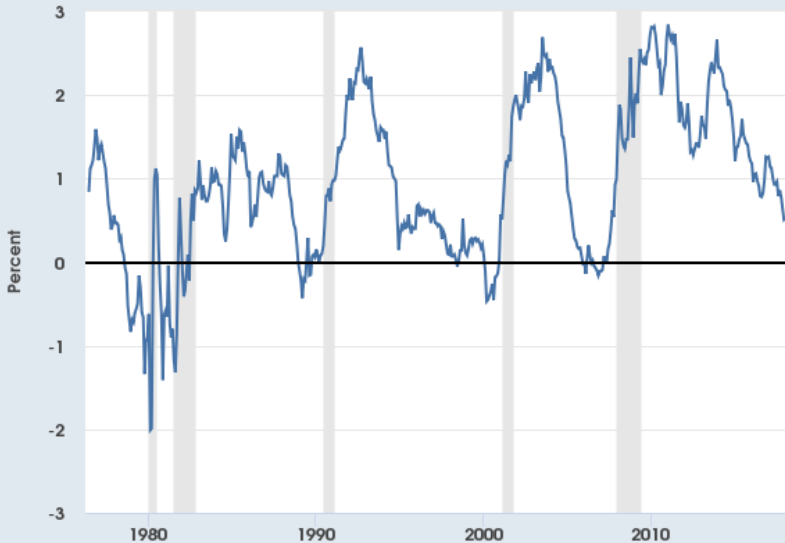


Source: S&P Dow Jones Indices LLC

# US Economy

## Looking Forward: Short-Term Outlook

The US Economy as of now looks strong.



Source: Federal Reserve Bank of St. Louis

# US Economy

## Near-Term Policy Outlook

Possible headwinds:

1. Higher interest rates
2. Policy uncertainty: Trade policy and/or immigration

Possible tailwinds:

1. Tax cuts (but plan is targeted where impact is smallest)
2. Infrastructure (details murky)



# US Economy

## Long-Term Outlook

Some GDP arithmetic:

$$\text{GDP} = (\text{Population}) * (\text{Labor Force Participation}) \\ * (\text{Labor Productivity})$$

- ▶ Labor productivity is simply our economy's *GDP per employed person* output. It's the average output generated by everyone who works.

A recipe: To change the rate of GDP growth, we must change the growth rate of one of these factors.

# US Economy

## Long-Term Outlook

### Population Growth

- ▶ Demographic trends (declining birthrate)
- ▶ Immigration (new restrictions)

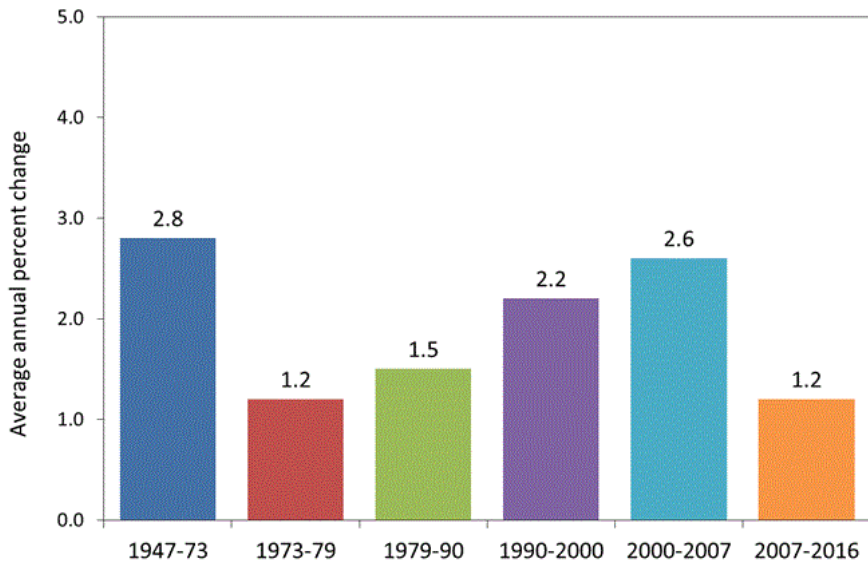
### Labor Force Participation Growth

- ▶ Participation by men has been dropping since the 1950s

### Productivity Growth

- ▶ Investment
- ▶ Technology
- ▶ Limited evidence that tax policy has a big influence

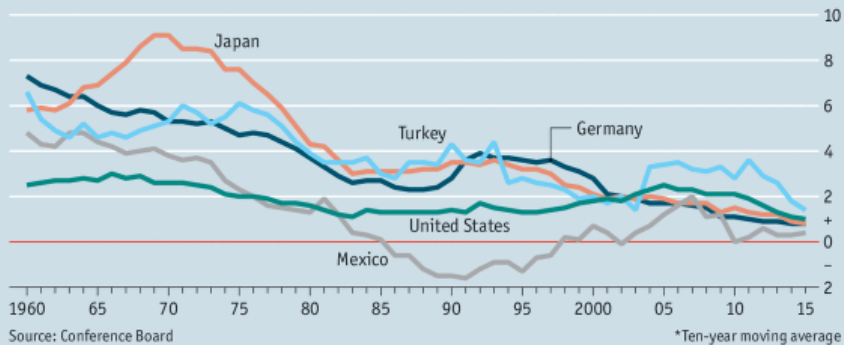
## Productivity change in the nonfarm business sector, 1947-2016



Source: U.S. Bureau of Labor Statistics

## Not what it used to be

Labour-productivity growth\*, per hour worked, %



Source: Conference Board

\*Ten-year moving average



*The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* by Erik Brynjolfsson and Andrew McAfee

Machines are getting better (fast) at non-routine cognitive tasks, which will boost productivity but threaten jobs of truck-drivers and accountants alike.



“Are Ideas Getting Harder to Find?” Nicholas Bloom, Charles I. Jones, John Van Reenen, and Michael Webb, Stanford University Working Paper.

“Moore’s Law: The number of researchers required today to achieve the famous doubling every two years of the density of computer chips is more than 75 times larger than the number required in the early 1970s.”

# US Economy

## What will happen to productivity growth?

**Some experts predict continued weak productivity growth.**

And if this happens, then our economies won't be large enough to pay for healthcare and retirement of our aging populations.

**Others predict the reverse, with an AI-generated productivity spurt.** This may exacerbate inequality and require reallocation of labor across sectors.

## List by the [International Monetary Fund \(2016\)](#)<sup>[6][7]</sup>

Rank ↕	Continent ↕	GDP per capita (US\$) ↕	Year ↕
	<i>World Average</i>	10,300	2016
1	North America	41,830	2016
2	Oceania	35,087	2016
3	Europe	21,767	2016
4	South America	8,520	2016
5	Asia	5,635	2016
6	Africa	1,809	2016
7	Antarctica	0 (N/A)	2016