

GDP: Gross Domestic Product

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Outline: Unit I, Section INT 2

- I. What is GDP?
- II. Measuring GDP
- III. Potential GDP and Business Cycles
- IV. GDP and Happiness

I. What Is GDP?

- A measure of economic well-being or standard of living
- GDP versus GDP/capita
 - E.g. 20 people, each making \$30,000 a year. What is GDP and GDP/capita?
- Useful metric to compare across countries

Definition of GDP

- Aggregate Income = Aggregate Expenditure = Value of Aggregate Production
 - Eg. I pay \$5 for coffee?
 - What about when you pay taxes?

GDP

$$= C + I + G + NX$$

- C = Consumption = Household spending on G&S
- I = Investment = Firm purchases of capital equipment, structures, inventory, & new housing
- G = Government spending on G&S
- $NX = X - IM$ = Net Exports

II. Measuring GDP

- (Measured) GDP = The **market value** of all **final goods and services produced** within a country in a given time period.
 - (Measured) GDP vs “Ideal” GDP
 - Ideal GDP = Perfectly measured GDP = GDP that includes the value of **both market and nonmarket** final goods and services...

Legalizing Marijuana in CA 2016

- Does GDP increase/decrease?

final goods and services

- No intermediate goods
 - E.g. you buy \$5 bread at your local Whole Foods.
Seed (\$0) =>wheat (\$1) =>flour(\$2) =>bread (\$5)

Inventory Exception

- A firm puts intermediate goods into inventory investment for use or sale at a later date
 - E.g. \$300 computer placed into inventory in $t = 0$, and then sold in $t = 1$.

produced

- E.g. You buy a \$10,000 new car
- E.g. You buy a \$8,000 used car

within a country

- E.g. US builds \$10 million plant in China

Net Exports

- $NX = X - IM$
- E.g. BMW produced in Germany and sold in US for \$30K

GDP does not include

- Value of leisure
- Nonmarket goods
- Environmental quality
- Income inequality

GDP Deflator

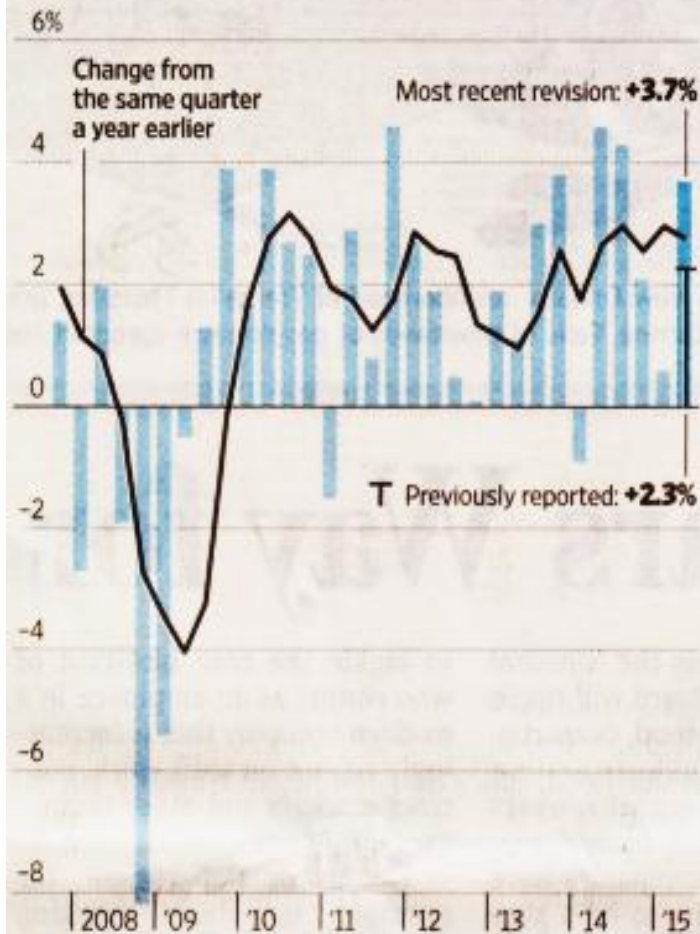
- Real GDP versus nominal GDP
 - Covered next lecture

V. GDP in the News

An Up and Down Picture

GDP was revised sharply upward for the second quarter, though annual growth remains slow and steady.

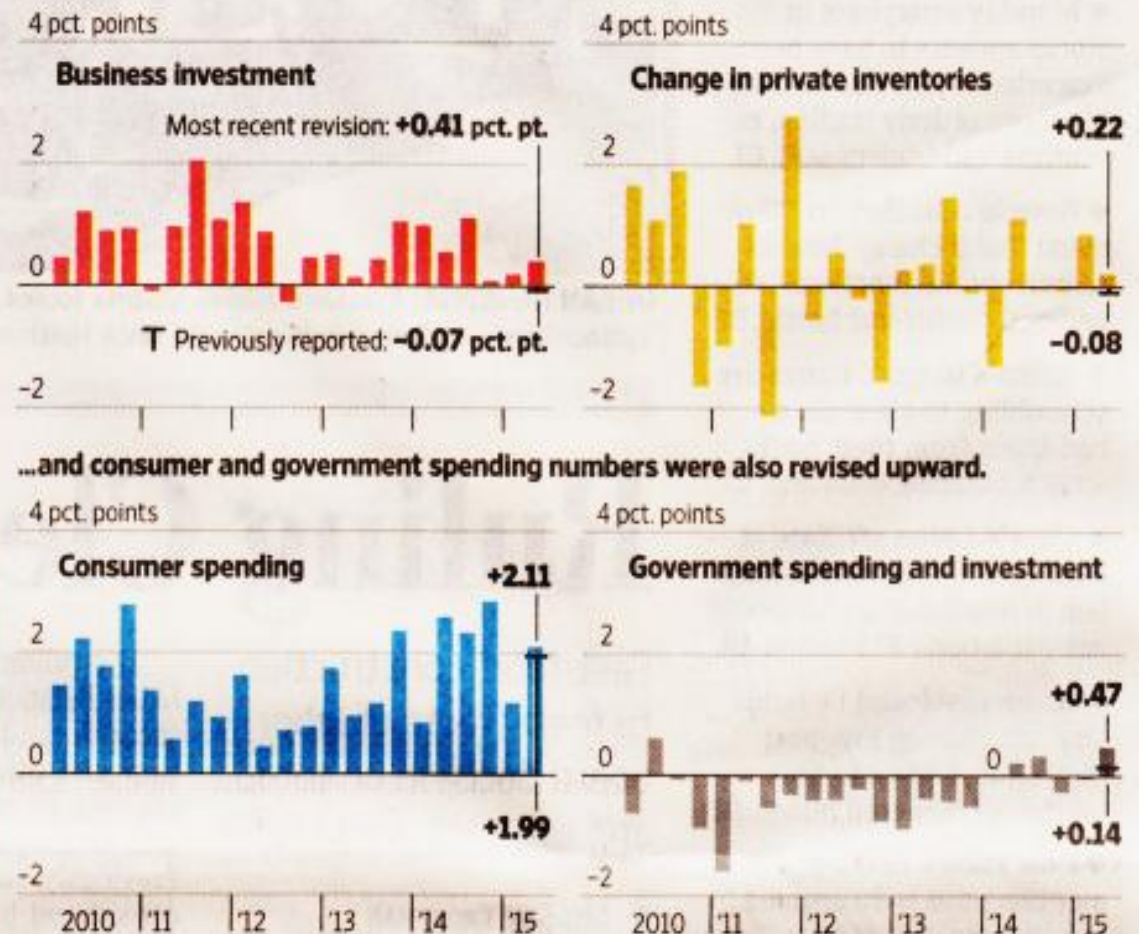
Quarterly change in U.S. GDP at an annualized rate



Note: All figures are adjusted for inflation and seasonality. Source: Commerce Department

Revisions boosted some measures of second-quarter business activity, which had initially been thought to be a drag on the economy...

Contributions to quarterly change in U.S. GDP for select sectors at an annualized rate



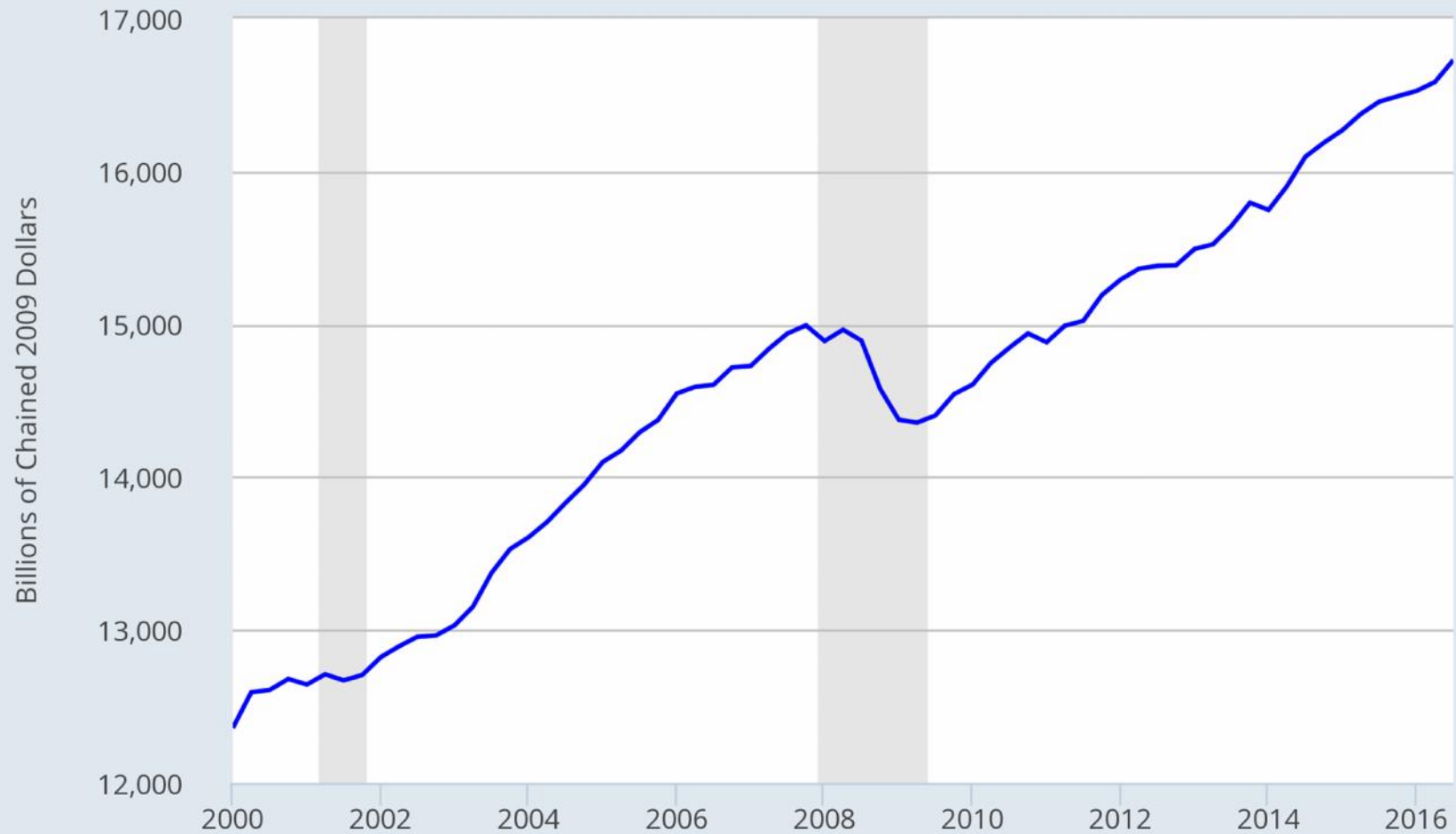
THE WALL STREET JOURNAL.

Previous Chart

- What component(s) of GDP is missing?
- For G, note it includes government spending **and investment**
- No clear trends since the 08 Financial Crisis
- Policy decisions based on
 - Forecasts of data =>Revisions inevitable

III. Potential GDP & Business Cycles

- Potential GDP = Estimate of what GDP would have been if all factors of production (L,K) had been used at their “normal” rates.
 - Actual GDP can be lower than potential GDP
 - Actual GDP can be higher than potential GDP



Source: U.S. Bureau of Economic Analysis
fred.stlouisfed.org

myf.red/g/cgVa

— Real Gross Domestic Product
— Real Potential Gross Domestic Product

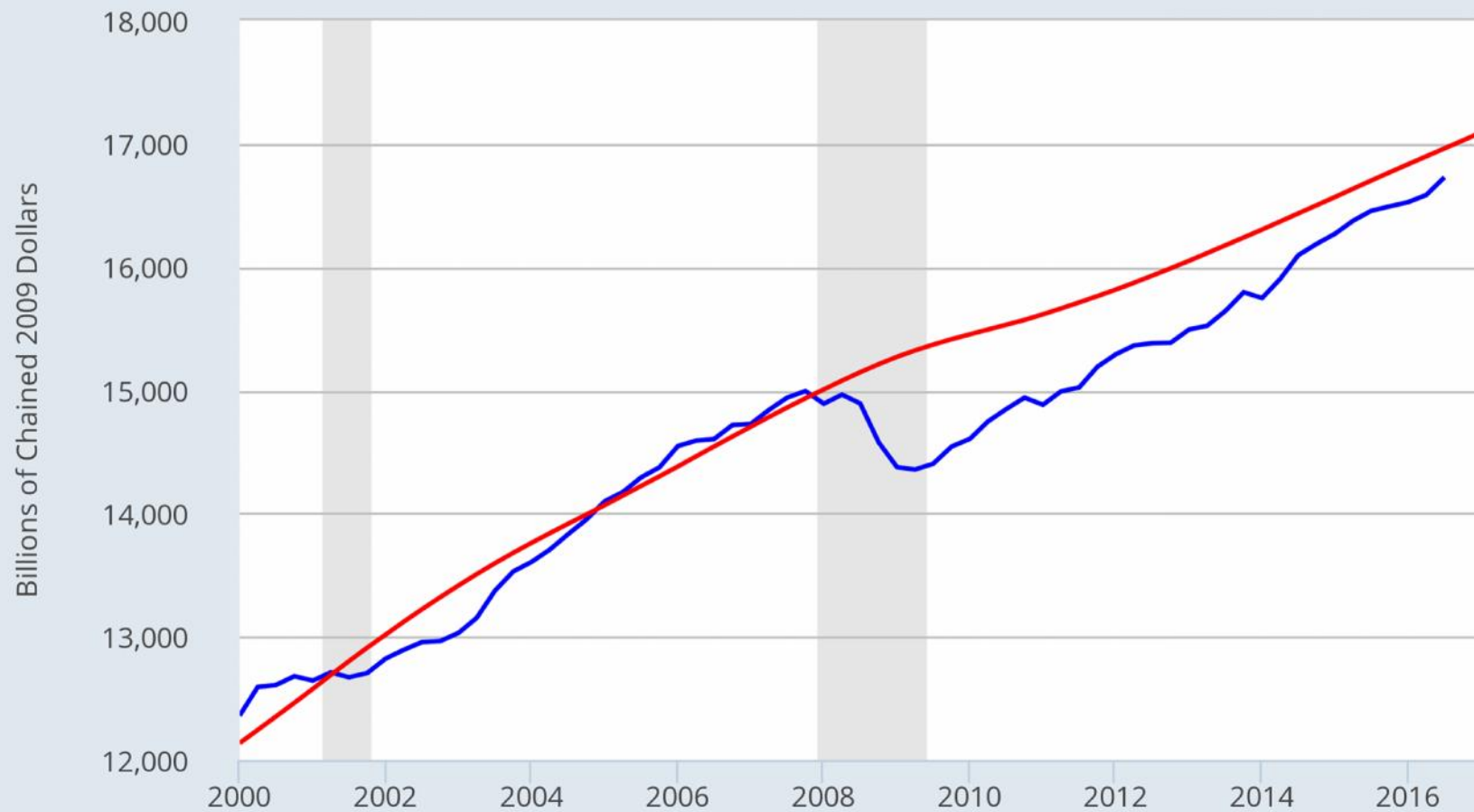


Chart Summary

- What do you notice?

IV. GDP and Happiness: Other Measures of Well-Being

- “A Happiness Index..” NYT
 - Child poverty, infant mortality, crime, access to healthcare, income inequality etc. (Miringoff)
 - Other “social/cultural” indicators: Friendliness, divorce, out-of-wedlock births(Bennett), # of frog species(Traverse City, MI), ...

Other Indices

- UN Human Development (Ben Friedman)
 - Basic: per capita income, life expectancy, and educational enrollment.
 - Uncontroversial and clear objective
 - Easy to collect data

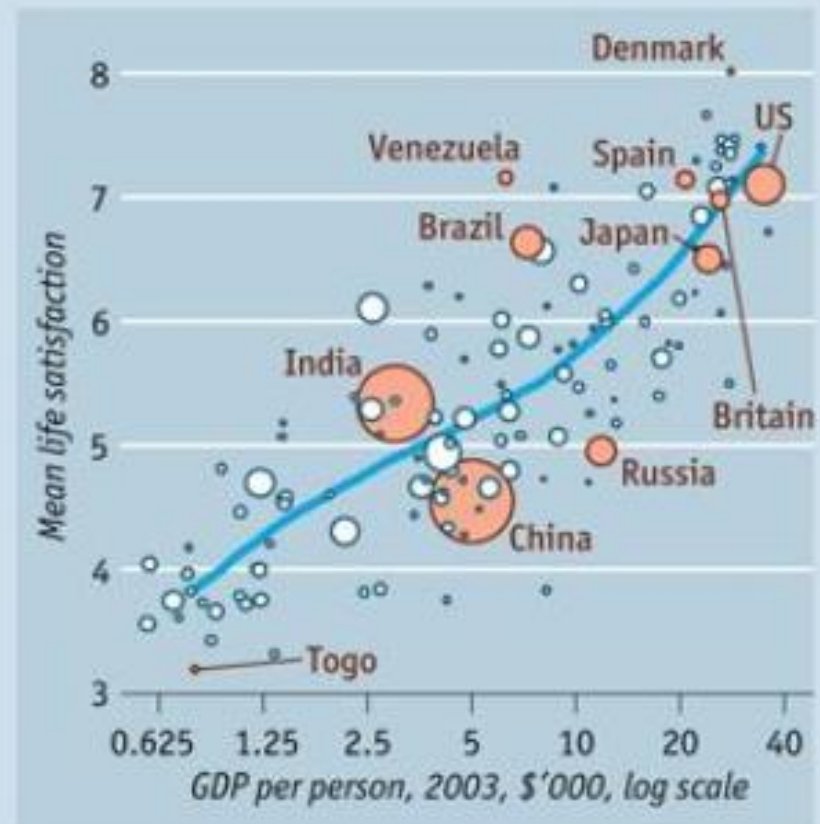
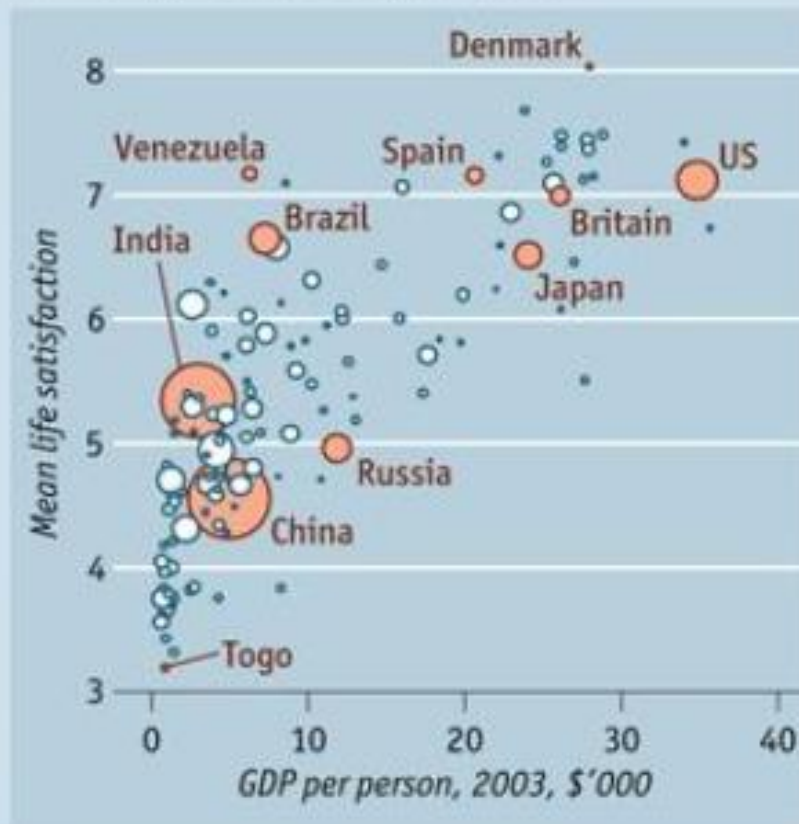
Money and Happiness

- Happiness surveys?
 - Inherently subjective
- GDP per cap is correlated with other socioeconomic variables
 - => life expectancy, health care, education, crime rates

“Money and Happiness,” Economist

Life satisfaction and GDP per person at PPP*

Circle size is proportional to population size



Sources: Penn World Table 6.2; Gallup World Poll, Angus Deaton

*Purchasing-power parity