

SAVING

SAVINGS provide the funds that are available for investment. Without saving, there would be NO investment. Everything would be consumed.

Individual Saving =

$$\text{Income} - \text{Taxes} - \text{Consumption}$$

Basically, it is what you have leftover after the taxes are paid and spending on goods & services.

National saving - similar concept, but for the country as a whole.

$$\text{National Saving} = \text{Income} - \text{Consumption} - \text{government purchases}$$

(S) (GDP ≡ Y)

$$S = Y - C - G$$

A National Saving =

Private Saving $Y - C - T$

Government Saving $T - G$

$$S = (Y - C - T) + (T - G)$$

$$= Y - C - G$$

Recap

- National Savings measure the resources a country has available for investment
- Countries with high levels of S can have high levels of investment
- Countries with low levels of S can also have high levels of investment, but only if people in other countries are willing to lend their savings to the low saving country.

$$S = \text{Private Saving} + \text{Govt Saving}$$

NOTE: $T-G < 0$ in U.S.

~~so we~~

our Private saving is
rather low as well.

Much of our investment
funds come from other
countries.

2010

$$S = Y - C - G$$

$$\$14,660 - \$10,349 - \$3,000 = 1,311 \text{ Billion}$$

(Billions)

$\$1.311$ Trillion

Real GDP

In order to determine how much growth there is in the economy we need to make adjustments due to changes in prices. This allows us to get a ~~to~~ more accurate measure of how much more stuff is being produced (Growth)

Real GDP - measures value of all newly prod. goods & services in a country during a period of time, adjusting for changes in prices.

If ~~the~~ GDP is not adjusted for price changes then it is Nominal GDP.

Calculating Real GDP

Suppose your economy consists of only 2 goods, CD & DVD

	2008		2009	
	P	Q	P	Q
DVD	\$15	1,000	\$20	1,200
CD	\$10	2,000	\$15	2,200

Nominal GDP 2008

$$\begin{aligned}
 & \$15 \times 1,000 + \$10 \times 2,000 \\
 & \$15,000 + 20,000 = \$35,000
 \end{aligned}$$

Nominal GDP 2009

$$\begin{aligned}
 & \$20 \times 1,200 + \$15 \times 2,200 = \\
 & \$24,000 + \$33,000 = \$57,000
 \end{aligned}$$

GDP increased, but some was due to increased production and some to increases in price.

To keep price constant we could
 Measure 2009 production in 2008
 Price or measure 2008 prod using
 2009 price.

2008 Price.

$$\begin{aligned} \text{output 2008} &= P_{2008} \times 1000 + P_{2008} \times 2000 = 35,000 \\ \text{output 2009} &= 15 \times 1200 + 10 \times 2200 = 40,000 \end{aligned}$$

$$\frac{40000 - 35000}{35000} = 14.286\%$$

2009 Price.

$$\begin{aligned} \text{output 2008} &= \$20 \times 1000 + 15 \times 2000 = 50,000 \\ \text{output 2009} &= 20 \times 1200 + 15 \times 2200 = 57,000 \end{aligned}$$

$$\frac{57000 - 50000}{50,000} = 14\%$$

Chain

$$\sqrt{14.286 \times 14} = 14.14\%$$

"Geometric Mean"

output was 14.14% higher in 2009
 than in 2008.

Real GDP

- ① ~~there~~ so, you compute the links in the chain between each pair of consecutive years. This gives you a series of growth rates.
- ② Pick a "Base" year. In the base year (2005) Nominal GDP = Real.
- ③ Then compute real GDP ^{in 2006} By multiplying GDP 2005 times $1 + \text{growth rate}$

For instance

Nominal GDP 2005 \$12,638 B.
 real growth rate 2.7%

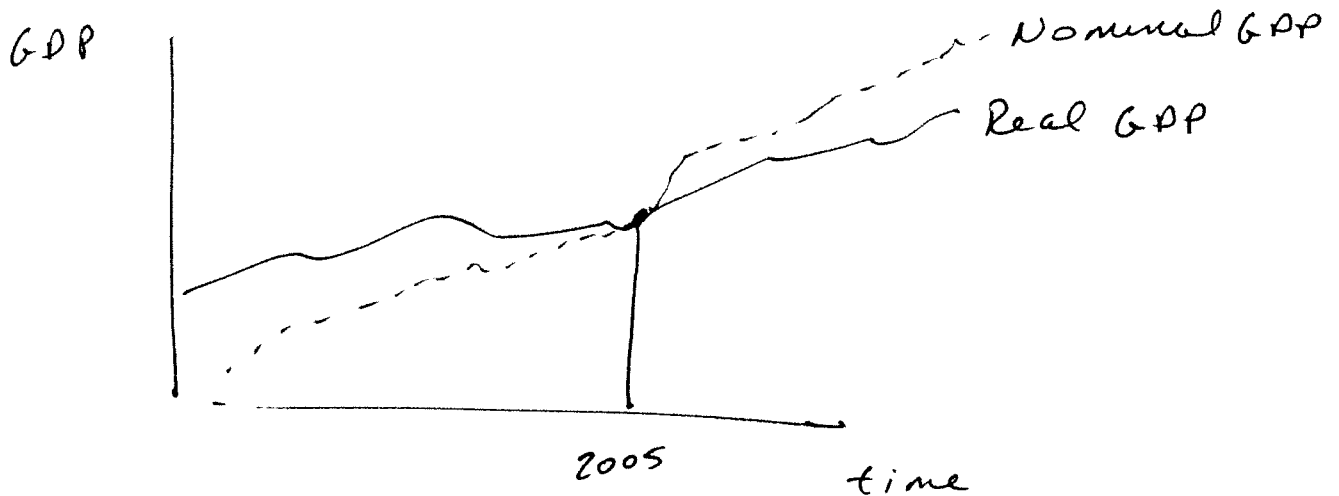
$$(1 + .027) * 12,638 = \$12,979$$

growth in 2006 1.7%

$$(1 + .017) 12,979 =$$

GDP Deflator

Nominal GDP grows faster
than Real GDP because of inflation



+ note: Real & Nominal are equal
in Base year
Also, Nominal has steeper
slope (grows faster)

We can measure the Δ in price
level

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

% GDP Deflator measures
inflation of all domestically
produced goods & services.

Other Measures

CPI Consumer Price Index.

This only measures prices of consumer goods (~~not all~~, some of which may be produced abroad).

Uses the "Basket" approach.

Price the basket each period and measure the % Δ in price of basket.

"Basket" is more or less same each year (D's are made occasionally as new goods are invented).

Differences between CPI inflation and GDP inflation:

- consumer goods only
- Fixed basket
- includes imputed goods

others like PPI

Real GDP shouldn't be taken as the final measure of economic well-being. Though, High per capita GDP countries do measure highly on other quality of life measures.

GDP doesn't measure important things like

- (1) Home production
- (2) Leisure Activity
- (3) underground economy.
- (4) quality improvements