

Measuring a Nation's income & Cost of Living

- **How GDP is defined and calculated**

- Macroeconomics: explains economic changes affect economy as whole
- GDP measures nation's total income (best measure of society wellbeing)
- Better measure of each individual would be GDP per person

Total income of everyone in economy and total expenditure on output

*Sellers income = buyers expenditure (Total income = total expenditure)

*GDP = market value of all final goods/services produced within a country

→ Buying 2nd hand is not part of GDP (to avoid double counting)

- **The breakdown of GDP into four major components**

*GDP (Y) = C + I + G + NX (expenditure approach)

→ Consumption – spending by households (laptops, not including houses)

→ Investment – new capital equipment, inventory, new housing

→ Government purchases – doesn't include transfers like pension benefits

→ Net exports – Exports minus imports (aka trade balance)

*Value added = difference between final production values & inputs value

- **The distinction between nominal GDP and real GDP**

→ Nominal – production of goods/services @ current prices

→ Real – constant prices (look at base year)

Not affected by changes in price, only looks at changes in production

→ GDP inflator = Nominal/Real x 100%

*Base year deflator = 100%

- **Whether GDP is a good measure of economic wellbeing**

Not a perfect measure as it doesn't include leisure, quality of environment or activities taken place outside of market (time with kids)

- **How economists construct the CPI**

Consumer Price Index- total good/services bought by consumers

Inflation rate = % change in price levels from the preceding period

*Use the CPI index to calculate inflation rate (23% increase in inflation)

□ An example:

□ Step 1- survey the consumers to determine a fixed basket of goods: four apples, two movie tickets.

□ Step 2 – find the price of each good in each year.

Year	Price of apples	Price of movie tickets
2011	\$1.50	\$6
2012	\$2.50	\$8
2013	\$3.00	\$10

□ An example – continued

□ Step 3 – calculate the cost of the basket of goods in each year.

□ Step 4 – choose one year as a base year (2011) and calculate the CPI in each year.

□ Step 5 – use the CPI to calculate the inflation rate from previous year.

	Step 3	Step 4	Step 5
Year	Cost of basket	Consumer price index	Inflation rate
2011	$1.5 \times 4 + 6 \times 2 = 18$	$(18/18) \times 100 = 100$	
2012	$2.5 \times 4 + 8 \times 2 = 26$	$(26/18) \times 100 = 144$	$(144 - 100) / 100 \times 100 = 44$

- **Why the CPI is an imperfect measure of the cost of living**

- Substitution bias (price don't all change proportionally)
Consumers substitute towards goods that have become less expensive
- Introduction of new goods (greater variety – ↑ living standard)
- Unmeasured quality changes (if quality of good rises, \$ value rises)\

*CPI overstates the cost of living by 0.5% → 2%.

- Minus 1 from the measured inflation rate to account for this

*Produce Price index = cost of goods/services bought by firms

- **The differences between the CPI and the GDP deflator**

- **GDP Deflator** – reflects current level of prices to base year prices
Prices of G/S produced domestically (imported goods don't show up)
- **CPI** – reflects prices of all G/S bought by consumers
Price increase in imported good shows up (e.g. i-phones)

- **The distinction between real and nominal interest rates**

Indexation: Automatic correction of dollar amount for the effects of inflation by law or contract (e.g. basic wage)

*Must consider inflation rate when looking at interest rates

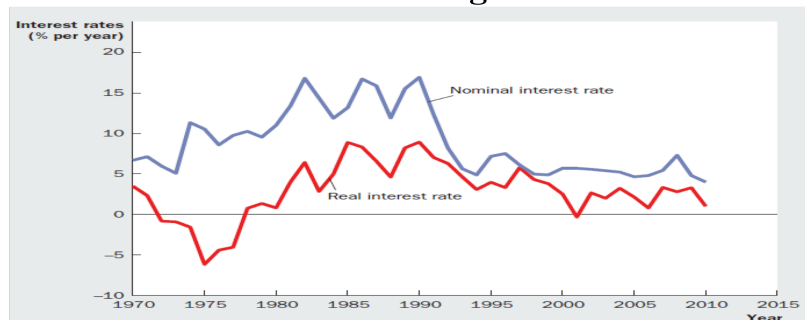
→ Nominal – tells us how fast the no. of dollars raises over time

→ Real – tells how fast purchasing power of bank account rises over time
Correction for inflation effects

*Real interest rate = nominal interest rate – inflation rate

- **Real and nominal interest rates in Australia since 1970.**

- ▣ Why is it possible that nominal interests rate are high but real interest rates are negative?



* Very low real interest rates due to high inflation rates

* Prices indexes used to correct economic variables for the effects of inflation

Saving, Investment & the Financial System and The Nature rate of unemployment

- **Important financial institutions**

Financial system: group of institutions in the economy that help to match one person's saving with another person's investment. Two types:

→ Financial markets: savers can directly provide funds to borrowers

- Bond market: term = length of time until maturity

 - Debt finance – sale of bonds to raise money

 - Bond holders = safer, get paid first if company defaults

 - High credit risk = higher interest rate (e.g. junk bonds)

- Stock market: claim to partial ownership in a firm

 - Equity finance – sale of shares to raise money

 - Benefits of profits = dividends

 - Get paid after bond holders (therefore relatively riskier)

→ Financial intermediaries: savers indirectly provide funds to borrowers

- Banks: use deposits to make loans for people who want to borrow

 - Interest rate paid to depositors, charged to borrowers

- Managed funds: allow investors to own a portfolio of shares/bonds

- **Relationship between the financial system and some key macroeconomic variables**

Consider a closed economy: $NX = 0$

***S - National Saving = Investment** (Total income after paying for C & G)

***Private saving = $Y - T - C$** (income – taxes – consumer spending)

***Public saving = $T - G$** (tax revenue that government has left)

→ Budget surplus = $T - G > 0$ (tax revenue exceeds government spending)

→ Budget deficit = $T - G < 0$ (government is in debt)

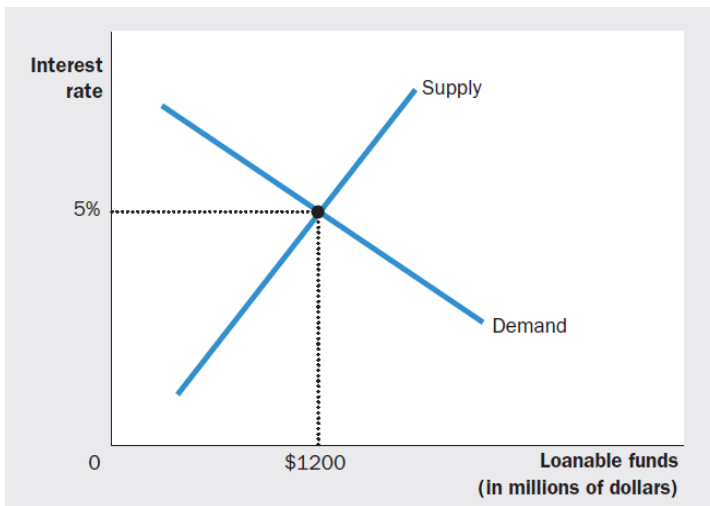
- **A model of the supply of and demand for funds in financial markets**

Market for loanable funds: Market for those who want to save supply funds and those who want to borrow to invest in funds

*Supply comes from private saving and public saving

*Demands comes from households/firms to borrow to make investments

*Interest rate = price of a loan (return on saving and cost of borrowing)

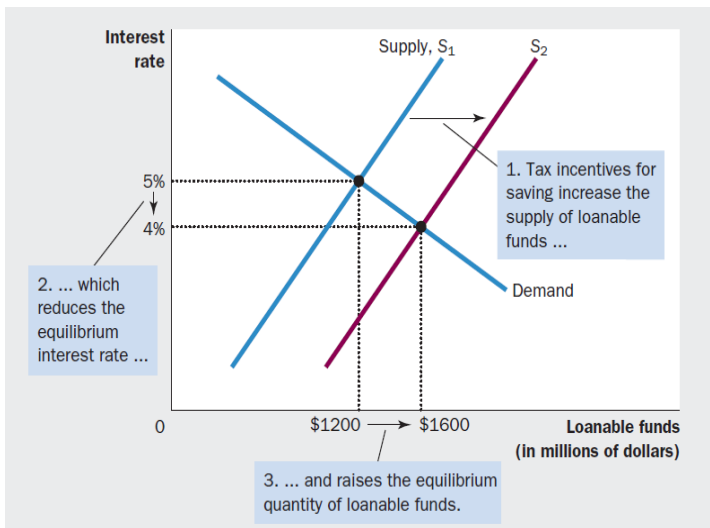


* High interest rate makes borrowing more expensive so that demand for loanable funds falls (slope is downwards sloping)

* \uparrow interest rate = \downarrow demand for loanable funds

Policy 1 = taxes and savings

* Effect of saving incentive



* Tax cut on saving

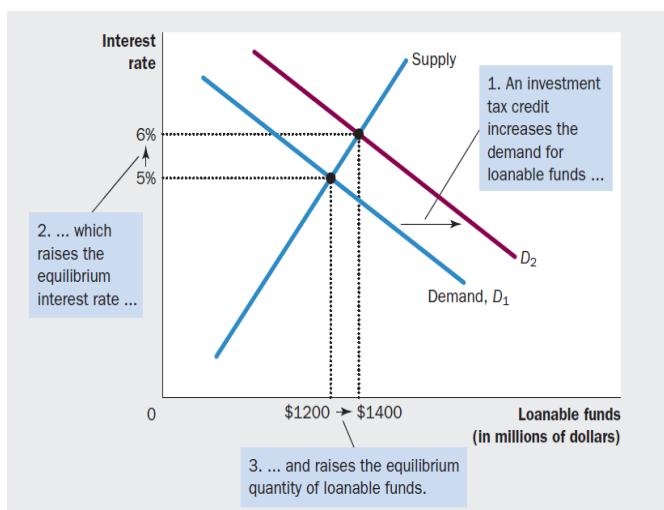
* Supply curve shifts to the right

* Greater saving & lower interest rate

* More saving and investment in the economy when the government reduces tax on saving

Policy 2 = taxes and investment

* Effect of tax cut on investment



* When Government institutes an investment tax credit, this encourages investment

* Demand curve shifts to the right

* Greater saving and a higher interest rate

* Government rebates