



# Agenda

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- I. National Income Accounting
- II. Fiscal and Monetary Policy
- III. Multiplier and Accelerator
- IV. Supply side Economics



# National Income Accounting

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Supply = Demand

$$Y = C + I + G + (X-M)$$

- $Y = \text{GDP}$
- $C = \text{Consumption spending by households}$
- $I = \text{Investments by business and households}$
- $G = \text{Government purchases of goods \& services}$
- $(X-M) = \text{Net export}$



# Fiscal Policy

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Refers to changes in government spending and taxation

Effect on National Accounting framework:

$$Y = C + I + G + (X - M)$$

- increase in G increases Y

- decrease of taxes increases C

Keynesian view subscribe to Fiscal Policies

i.e.: Great Depression



# Monetary Policy

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Monetary Policy – Changes in the money stock, credit or interest rates

In The US, MP is accomplished by three primary tools:

- Open market operations (ie: government bonds)
- Changing reserve requirements
- Changing the discount rate (ie: the rate banks can borrow at)



# Monetary Policy

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<b>Action</b>	<b>Goal</b>	<b>Negative Side Effect</b>
Interest rate drop	Stimulate growth	May cause inflation
Interest rate increase	Lower inflation	Slow economic growth

Government spending crowds out private sector spending



# Multiplier

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$$C = \bar{C} + C^* (1-t) Y$$

$\bar{C}$  = Spending due to wealth effect

$C^*$  = marginal propensity to consume

$t$  = tax rate

$Y$  = National Income (GDP)

Substitute that National Income Equation to get:

$$Y = \frac{1}{1 - C^* (1-t)} (\bar{C} + I + G + (X - M))$$

↙  
Multiplier  $\sim 2.5$  in the US



# Accelerator

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$$I = \bar{I}_t + k(Y_t - Y_{t-1})$$

$\bar{I}_t$  = investment due to new technology (negligibly small)

$K$  = Capital output ratio (avg = 3, depends on  $I$ )

$T$  = period of time

If  $Y_t < Y_{t-1}$  then  $I$  goes to 0.

Take away: when the economy starts shrinking ( $Y_t - Y_{t-1}) < 0$ , investment shrinks which will further accelerate shrinking of the economy.



# Growth Accounting

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$$O = A e^{\gamma t} K^{\alpha} L^{(1-\alpha)}$$

O = Output (normally GDP)

A = Total Factor Productivity (measure of the level of technology)

K = Stock of Capital in the economy

L = Labor

$\alpha$  = Share of capital paid to owners of the capital (0.2 – 0.3 for US)

$e^{\gamma t}$  = Disembodied technological progress



# Growth Accounting

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Two possibilities for Growth:

- due to technological progress
- due to accumulation of capital

US 80% technological progress, 20% accumulation



# Supply Side Economics

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Economic policies intended to encourage people to increase Quantity of labor they supplied (and thus output)

Example: Reagan's beliefs

Savings (S)  $\uparrow$   $\rightarrow$  Investment (I)  $\uparrow$   $\rightarrow$  Output  $\rightarrow$  Earnings (E)  $\uparrow$   
 $\rightarrow$  Wages (W)  $\uparrow$

Work Effort  $\uparrow$   $\rightarrow$  Output  $\uparrow$   $\rightarrow$  Earnings  $\uparrow$   $\rightarrow$  Wages (W)  $\uparrow$