

Principles of Economics
Macroeconomics

The Income-Expenditure Framework

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Four Components of Spending

- Consumption spending by households
 - Sometimes consumption spending on domestically-produced goods
- Investment (spending by corporations building plant and installing equipment and purchasing inventories)
- Government purchases
 - Taxes and transfer payments don't count
- Exports
- These all add up to total spending E : $C + I + G + X = E$
 - Which is in equilibrium the same as total incomes or GDP Y : $E = Y$

Behind the Scenes

- Behind decisions to spend are:
 - Incomes
 - Desires to save—deleverage—or dis-save—leverage up
 - Desires to build up or spend down money balances
- Intermediate goods and services don't count
- In equilibrium: Expenditure = Income = Factor Payments = Receipts

Who Does What?

- $C + I + G + X = E$
 - C: households: taxes T , income Y , wealth W , expectations
 - I: businesses: real interest rates r , capacity utilization, current profits, expected future profits
 - G: government
 - X: foreigners: exchange rate—value of home currency— ε , foreign variables

So Let's Set Up a Model...

- $C + I + G + X = E$:: components of aggregate demand
 - $E = Y$:: in equilibrium
- Components
 - $C = c_0 + c_y(Y - T) + c_w(W)$:: households
 - $I = I_0 - I_r(r)$:: businesses
 - G :: government
 - $X = X_0 - X_\varepsilon(\varepsilon)$:: foreigners

So Let's Set Up a Model

II...

- Others
 - Taxes: T :: government
 - Value of currency: $\varepsilon = \varepsilon_0 + \varepsilon_r(r)$:: financial markets
 - Real interest rate: r :: Federal Reserve, financial markets
 - Wealth: $W = W_0 - W_r(r)$:: financial markets

This Model Is too Simple...

- More goes on in financial markets:
 - r : real (risky) interest rate: financial markets: inflation π , short-term safe interest rate i , expected future interest rates, risk premia
 - W : wealth: financial markets: real interest rates r , expected future profits, risk premia
 - i : interest rate: Federal Reserve
 - ε : exchange rate: r , foreign variables
 - T : taxes (and transfers): government

Plumbing Behind the Model

- $C + I + G + X = E$
- $C + I + G + X = Y$:: short-run equilibrium
- $I + (G - T) + X = Y - C - T$:: subtract C, T from both sides
- $I + (G - T) + X = S$:: notice that $Y - C - T$ is the savings of households
- $(I - S) + (G - T) + X = 0$
 - $I - S$:: how much businesses want to borrow minus how much households want to lend
 - $G - T$:: how much the government wants to borrow
 - How much we have to lend to foreigners to give them \$\$ to buy our exports

Plumbing Behind the Model II

- $E > Y$:: planned expenditure greater than income (and production)—excess supply of cash—inventories will be run down, production (and income) will increase...
- $E < Y$:: planned expenditure less than income (and production)—excess demand for cash—inventories will accumulate, production (and income) will fall...
- Adjustment first via quantities and the level of production, only later and slowly via wages...