Principles of Economics

Macroeconomics

Money, Interest Rates, and Spending

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The Multiplier: A Little Algebra

- $Y = E = C + I + G + X$
- $Y = E = c_y(Y - T) + c_0 + c_wW + I + G + X$
- $Y = c_yY + c_0 + G - c_yT + c_wW + I + X$
- $(1 - c_y)Y = c_0 + G - c_yT + c_wW + I + X$
  - $1/(1 - c_y) = \mu$
- $Y = \mu[c_0 + (G - c_yT) + (c_wW + I + X)]$

Boosting and Shrinking Planned Expenditure: The Money View

- The “money” view of a downturn:
  - Planned expenditure fell short of projected income because people wanted to build up their stocks of money…
  - And so incomes fell…
  - And incomes kept falling until people felt so poor that they forgot about wanting to build up their stocks of money…
  - And there the economy sits, with lots of unemployment and idle factories
- This suggests an obvious way to restore employment to full employment, reduce unemployment, and restore production to potential output
- PRINT SOME MONEY!

Boosting and Shrinking Planned Expenditure: The Money View II

- But don’t print too much…
- Hard to cut nominal wages and prices…
- Easy to generate an inflationary spiral

Boosting and Shrinking Planned Expenditure: The Spending View

- People in aggregate want to spend less than their incomes: they want to "deleverage"
  - Planned expenditure falls short of projected income…
  - And so incomes fell…
  - And incomes kept falling until planned expenditure was once more equal to projected income…
  - And there the economy sits, with lots of unemployment and idle factories
- This suggests an obvious way to restore employment to full employment, reduce unemployment, and restore production to potential output
- INDUCE SOMEBODY TO LEVERAGE UP!

Boosting and Shrinking Planned Expenditure: The Spending View II

- People in aggregate want to spend less than their incomes: they want to "deleverage"
    - Planned expenditure falls short of projected income…
    - And so incomes fell…
    - And incomes kept falling until planned expenditure was once more equal to projected income…
    - And there the economy sits, with lots of unemployment and idle factories
- This suggests an obvious way to restore employment to full employment, reduce unemployment, and restore production to potential output

Boosting and Shrinking Planned Expenditure: The Spending View III

- People in aggregate want to spend less than their incomes: they want to “deleverage”
- This suggests an obvious way to restore employment to full employment, reduce unemployment, and restore production to potential output
- INDUCE SOMEBODY TO LEVERAGE UP!
  - Make consumers more confident (c_0)…
  - Make businesses more eager to invest…
  - Sell more things to foreigners…
  - Have the government buy more stuff…

Money and Interest Rates

- How to reconcile the “spending” and the “money” views?
- They have to be the same, ultimately: wanting to spend less than you earn *is* the same thing as wanting to build up your holdings of cash
- What happens when you want to dump your cash holdings?
    - You buy bonds—and so bond prices go up, which means interest rates go down
    - You buy stocks and houses—and so their prices go up, and so wealth goes up
    - You buy foreign currency assets—and so the value of the currency goes down
- And as bond prices go up and interest rates go down, investment spending rises
- And as the value of the currency goes down, exports rise
- And as wealth goes up, consumer spending goes up as well

Interest Rates, Wealth, and Spending

- $Y = \mu[c_0 + (G - c_y T) + (c_w W + I + X)]$
- All these last three terms depend on r: $(c_w W + I + X)$
  - Lower r—print more money—and get more planned expenditure
  - Raise G—have the government spend more—and get more planned expenditure
  - Lower T—get households more disposable income—and get more planned expenditure
- $Y = \mu[c_0 + (G - c_y T) + (c_w W + I)(r) + X(\varepsilon(r))]$
- $Y = \mu[c_0 + (G - c_y T) + (c_w W + I + X)(r)]$