AP Macroeconomics

Interest Rates & Investment Demand

What is Investment?

- **Money spent or expenditures on:**
  - New plants (factories)
  - Capital equipment (machinery)
  - Technology (hardware & software)
  - New Homes
  - Inventories (goods sold by producers)

Expected Rates of Return

- **How does business make investment decisions?**
  - Cost / Benefit Analysis
- **How does business determine the benefits?**
  - Expected rate of return
- **How does business count the cost?**
  - Interest costs
- **How does business determine the amount of investment they undertake?**
  - Compare expected rate of return to interest cost
    - If expected return > interest cost, then invest
    - If expected return < interest cost, then do not invest

Real (r%) v. Nominal (i%)

- **What's the difference?**
  - Nominal is the observable rate of interest. Real subtracts out inflation (π%) and is only known ex post facto.
- **How do you compute the real interest rate (r%)?**

  $$r\% = i\% - \pi\%$$

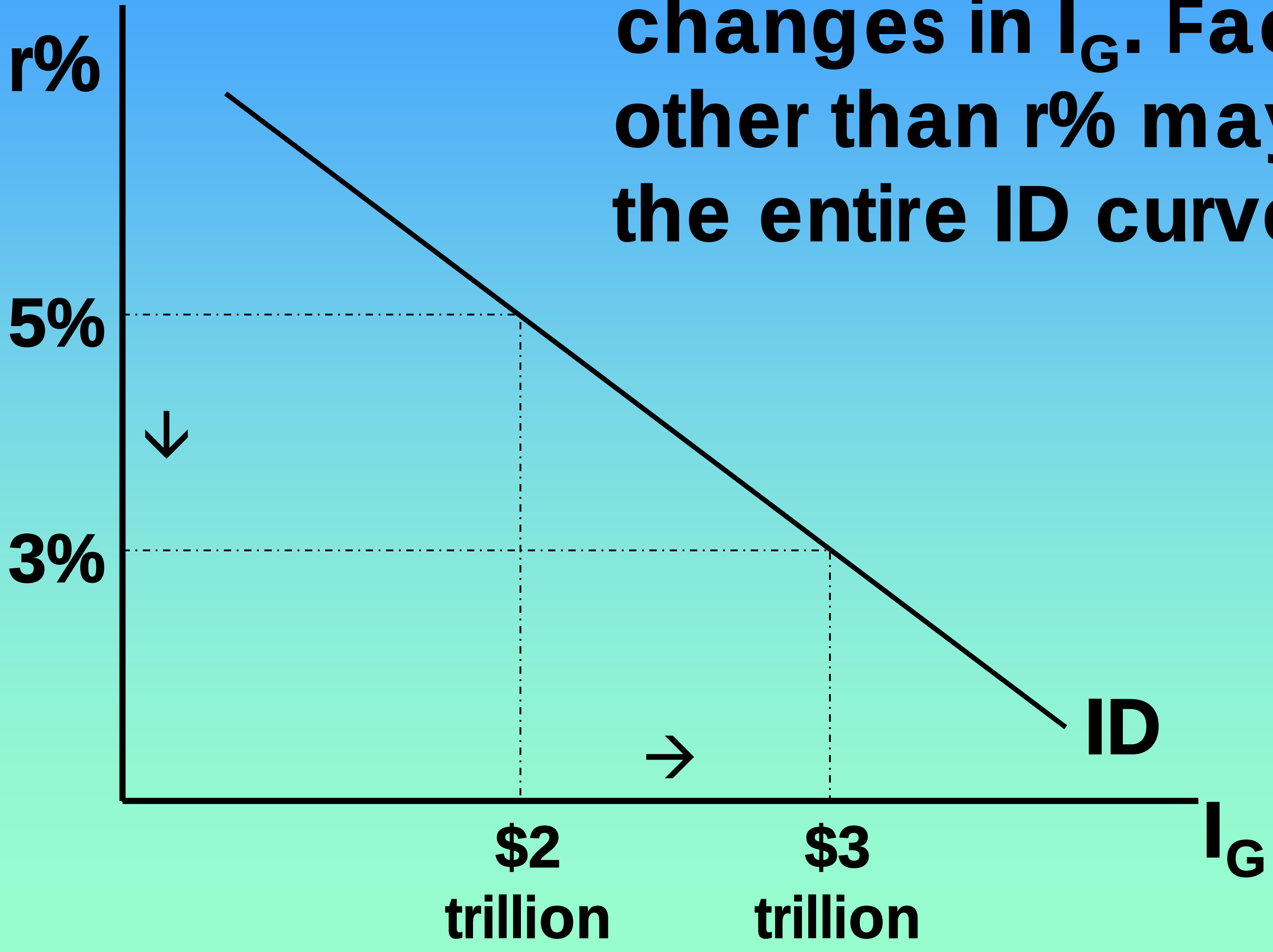
- **What then, determines the cost of an investment decision?**
  - The real interest rate (r%)

Investment Demand Curve (ID)

- **What is the shape of the Investment demand curve?**
  - Downward sloping
- **Why?**
  - When interest rates are high, fewer investments are profitable; when interest rates are low, more investments are profitable
  - Conversely, there are few investments that yield high rates of return, and many that yield low rates of return

The Investment Demand Curve

Changes in r% cause changes in I_G. Factors other than r% may shift the entire ID curve

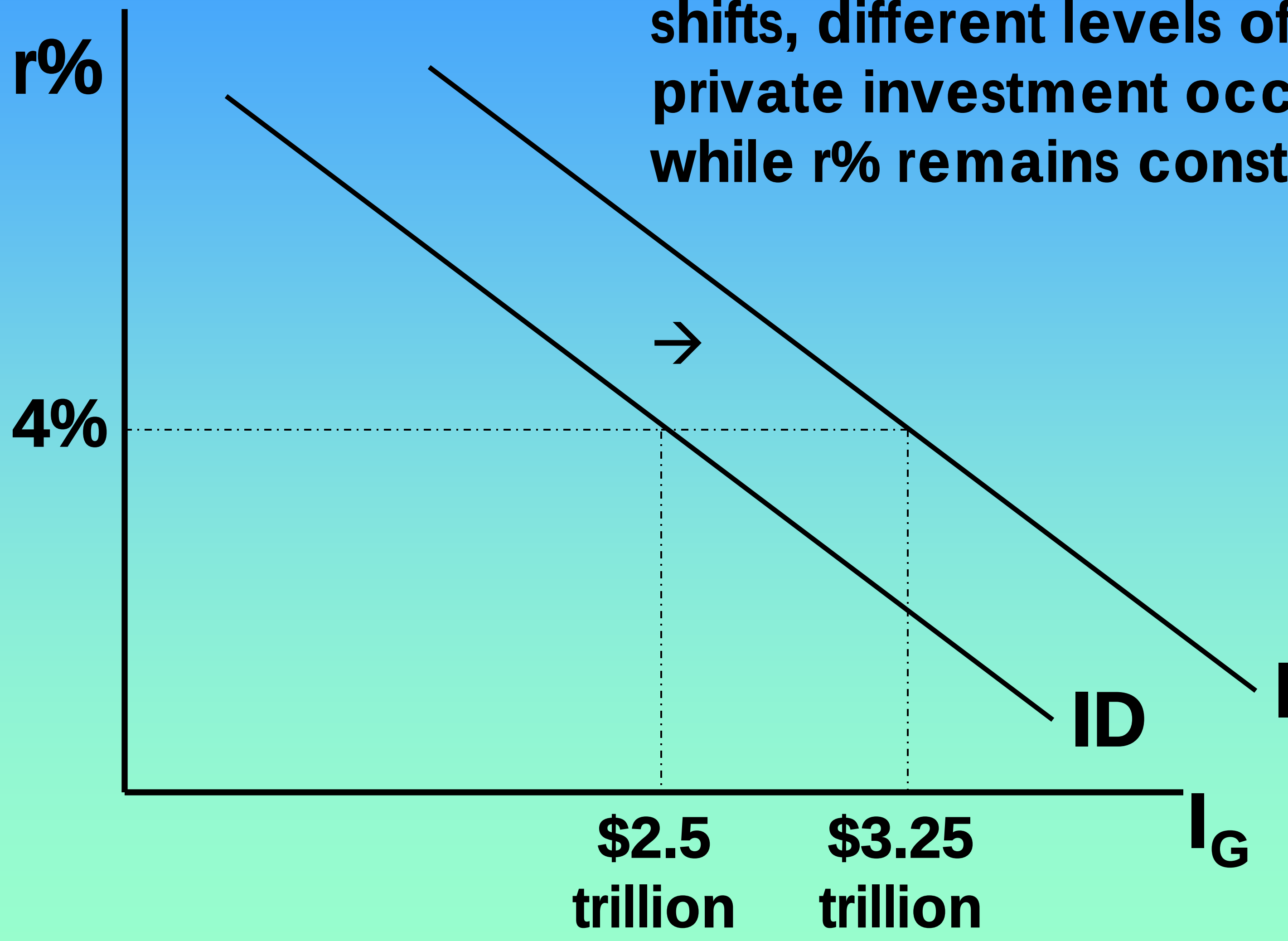


Shifts in Investment Demand (ID)

- **Cost of Production**
  - Lower costs shift ID →
  - Higher costs shift ID ←
- **Business Taxes**
  - Lower business taxes shift ID →
  - Higher business taxes shift ID ←
- **Technological Change**
  - New technology shifts ID →
  - Lack of technological change shifts ID ←
- **Stock of Capital**
  - If an economy is low on capital, then ID →
  - If an economy has much capital, then ID ←
- **Expectations**
  - Positive expectations shift ID →
  - Negative expectations shift ID ←

Shifts in Investment Demand

When investment demand shifts, different levels of gross private investment occur even while r% remains constant



Instability of Investment

- **Durability**
  - Capital has a long life-span, therefore once it is built there is no immediate need for further investment
- **Irregularity of Innovation**
  - Innovation does not proceed in a smooth linear fashion, instead there are bursts of innovation followed by periods of relative stability
- **Variability of Profits**
  - Profitability is subject to the forces of competition, cyclical changes in the economy, and human management decisions
- **Variability of Expectations**
  - Political, social and natural phenomenon shape our positive and negative expectations of the future

Instability of Investment

- Many economists believe that investment instability is the chief cause of the business cycle.