

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 ($i\%$)

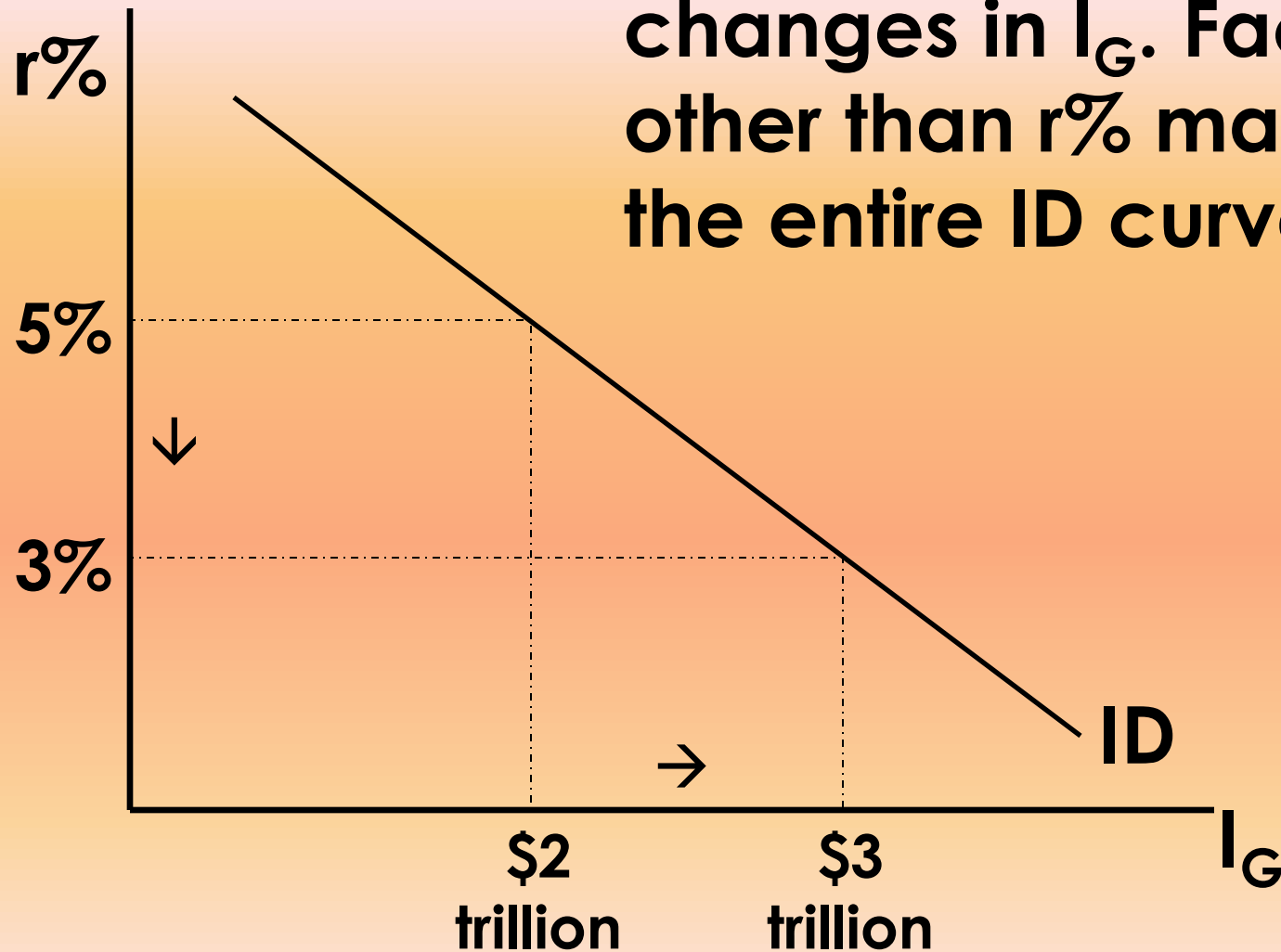
- **What's the difference?**
 - Nominal is the observable rate of interest. Real subtracts out inflation ($\pi\%$) and is only known ex post facto.
- **How do you compute the real interest rate ($r\%$)?**
$$r\% = i\% - \pi\%$$
- **What then, determines the cost of an investment decision?**
 - The real 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 ←

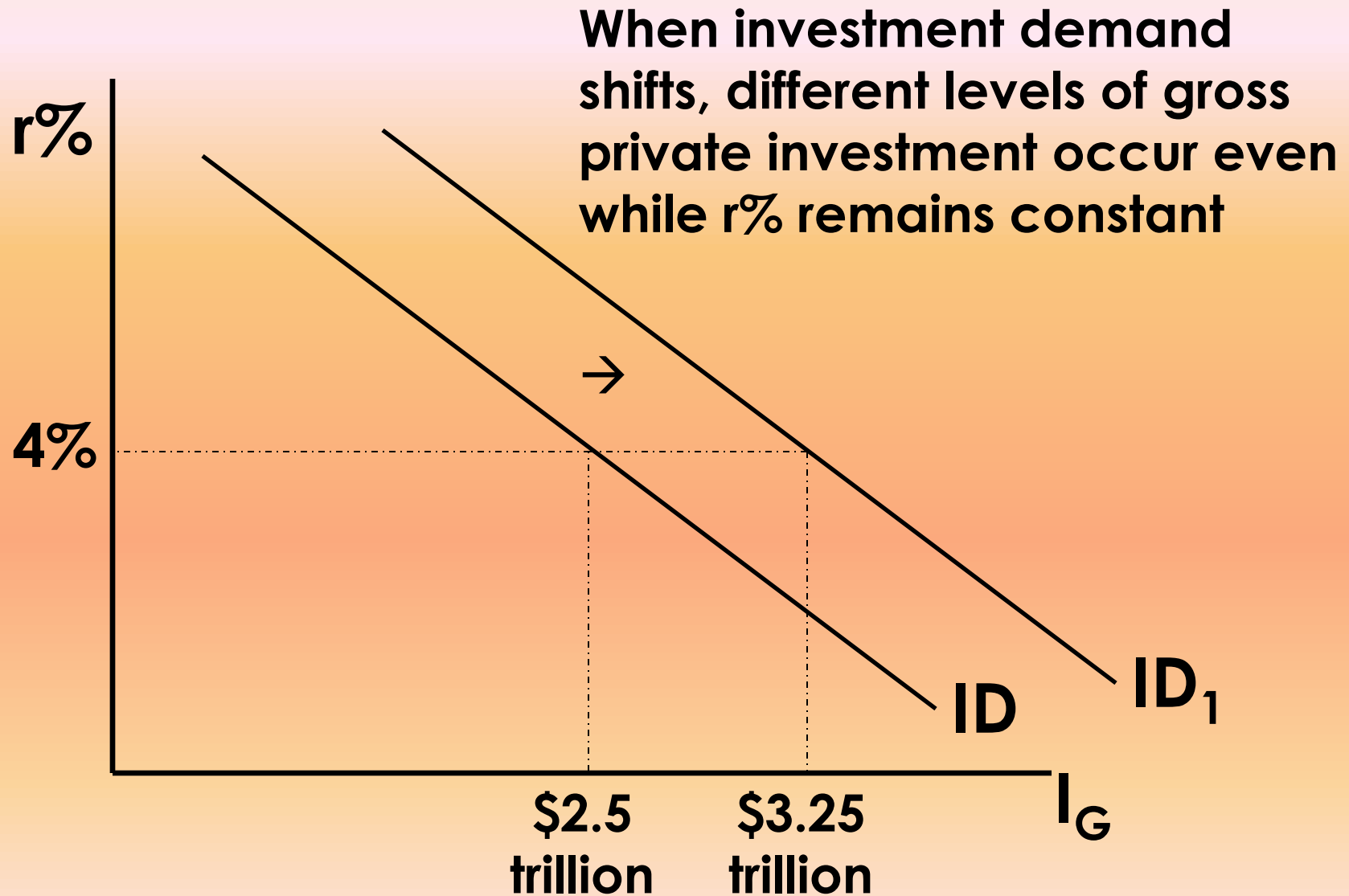
– Stock of Capital

- 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



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.

