



# Aggregate Demand and Aggregate Supply Part IV – Self-Adjustment or Instability

In recessions the aggregate demand of economies  
falls.

John Maynard Keynes



# Leakages and Injections

- ▶ Total spending doesn't always match total output at the desired full-employment price-stability level.
- ▶ The circular flow of income illustrates how this undesirable outcome comes about and how it might be resolved.

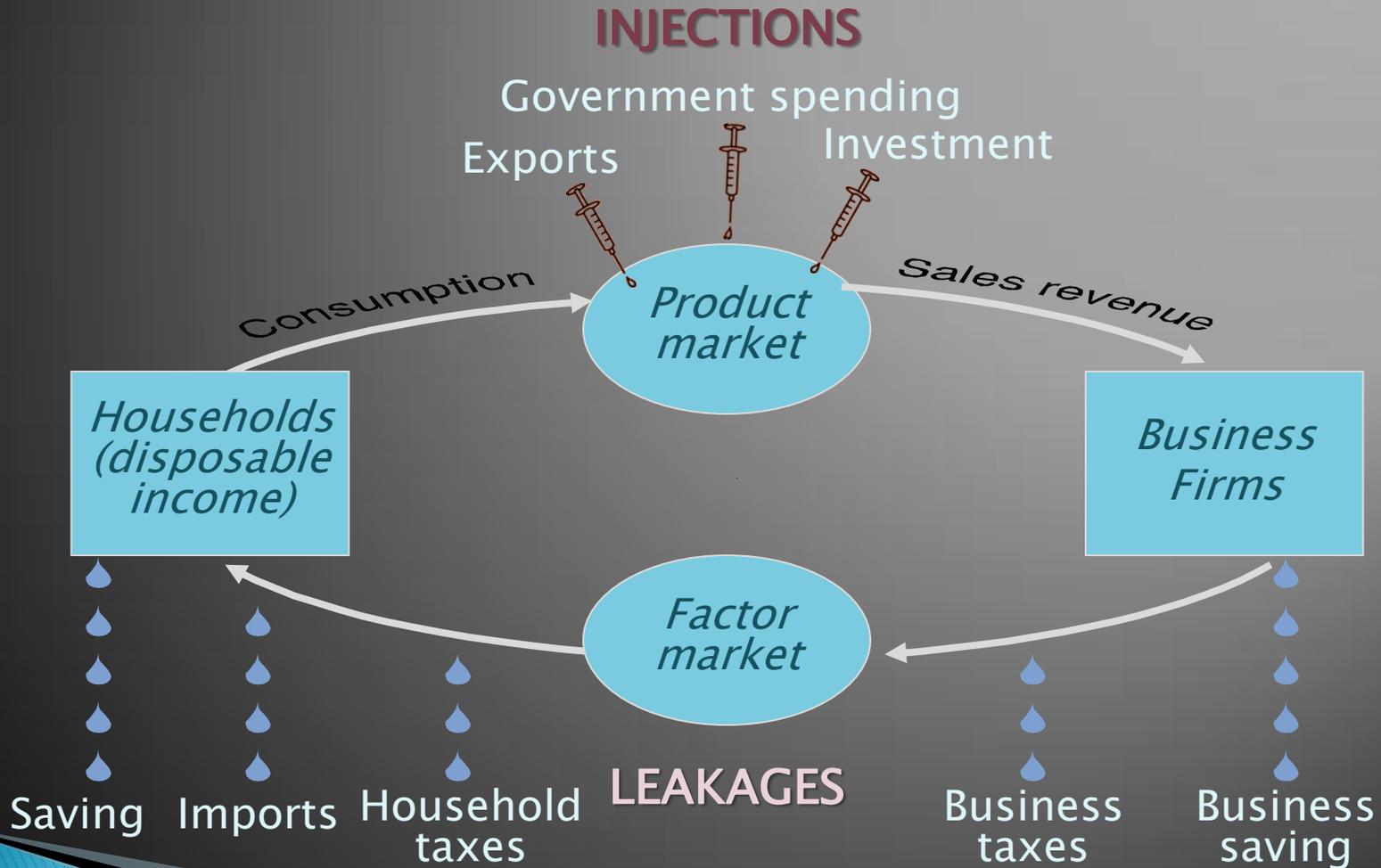


# Circular Flow

- ▶ The focus of macro concern is whether desired injections will offset desired leakage at full employment.
- ▶ A **leakage** is income not spent directly on domestic output, but instead is diverted from the circular flow.



# Diagram: Leakages and Injections





# Consumer Saving

- ▶ Saving is a primary leakage from the circular flow.
- ▶ It represents income not directly returned to the product markets.



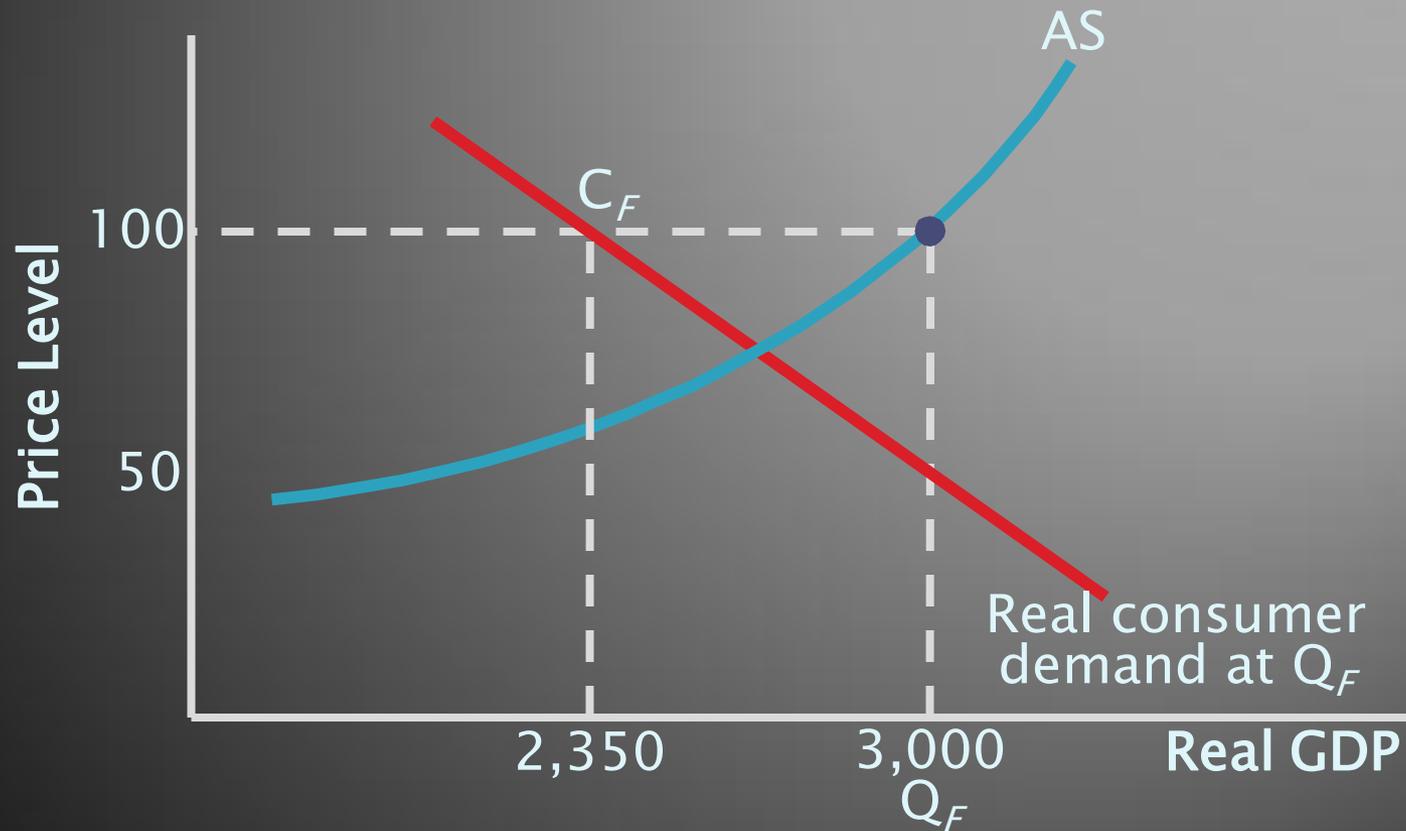
# Consumer Saving

If full-employment income is \$3 trillion, then consumption would equal \$2350 billion.

$$C_F = \$100 \text{ billion} + 0.75(\$3 \text{ trillion}) = \$2350 \text{ billion}$$



# Chart: Leakage and AD





# Imports and Taxes

Imports and taxes represent leakage from the circular flow.



# Business Savings

- ▶ Business saving is also a leakage from the circular flow of income.
- ▶ **Gross business saving** is depreciation allowances and retained earnings.

# Injections into the Circular Flow



- ▶ Injections of investment, government expenditures and exports help offset leakages from saving, imports and taxes.
- ▶ An **injection** is an addition of spending to the circular flow of income.

# Diagram: Leakages and Injections



## LEAKAGES

Consumer saving  
Business saving  
Taxes  
Imports

## INJECTIONS

Investment  
Government spending  
Exports



# Self-Adjustment?

- ▶ Classical economists believed that flexible interest rates and flexible prices equalize injections and leakages.
- ▶ This flexibility would lead to full employment.



# Flexible Interest Rates

According to classical economists, if interest rates fell far enough, business investment (injections) would equal consumer saving (leakage).



# Changing Expectations

- ▶ Keynes disagreed with classical economists concerning the role of flexible interest rates in reaching full employment.
- ▶ Keynes argued that investment would *fall* in response to *declining* sales.



# Flexible Prices

Classical economists believed that a falling price level would prompt consumers to buy more output.

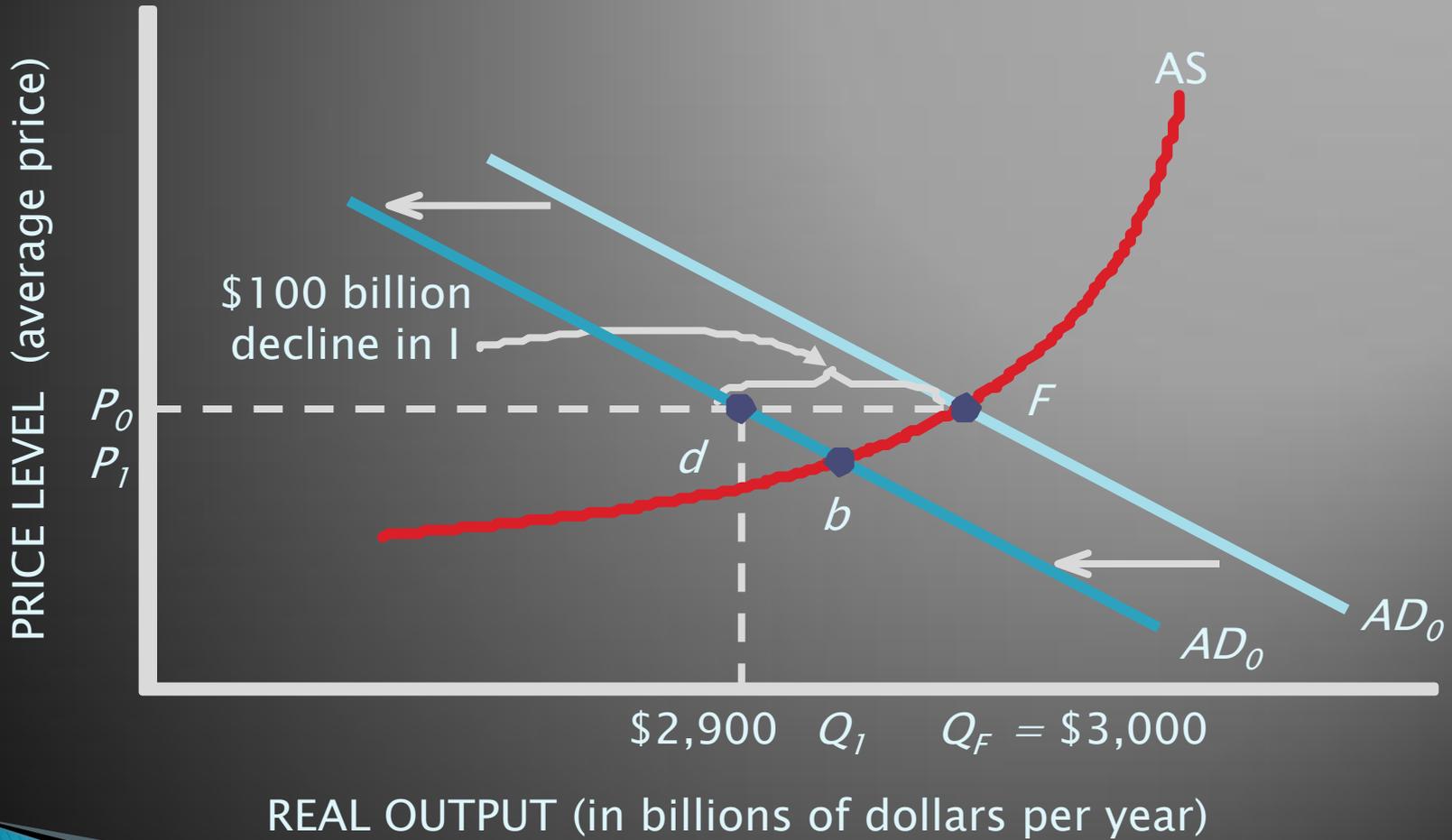


# Expectations (Again)

- ▶ Keynes disagreed with classical economists concerning the role of flexible prices in reaching full employment.
- ▶ Keynes argued that declining retail prices were likely to prompt investment cutbacks.



# Chart: AD Shift





# The Multiplier Process

Keynes argued that things were likely to get *worse* once a spending shortfall emerged.



# A Decline in Investment

- ▶ Suppose expectations fall so that businesses cut back on investment spending.
- ▶ Accumulated inventories of unsold capital goods will result.



# Undesired Inventory

Economists distinguish desired (or planned) investment from actual investment.

$$\text{Actual investment} = \text{Desired investment} + \text{Undesired investment}$$



# Falling Output and Prices

Business firms are likely to react to undesired inventory buildups by cutting prices and reducing the rate of new output.



# Household Incomes

- ▶ A reduction in investment spending implies a reduction in household incomes.
- ▶ Firms usually cut wages and employment as they cut back production.

# Income-Dependent Consumption



- ▶ If disposable income falls, we expect consumer spending to drop as well.
  - The **marginal propensity to consume (MPC)** is the fraction of each additional (marginal) dollar of disposable income spent on consumption.
  - It is the change in consumption divided by the change in disposable income.



# The Multiplier

The **multiplier** is the multiple by which an initial change in aggregate spending will alter total expenditure after an infinite number of spending cycles.

$$\text{Multiplier} = \frac{1}{1 - MPC}$$



# The Multiplier

The change in total spending equals the multiplier times the initial change in aggregate spending.

$$\text{Total change in spending} = \text{multiplier} \times \text{initial change in aggregate spending}$$



# The Multiplier

- ▶ The cumulative decrease in total spending is equal to the gap multiplied by the multiplier.
- ▶ A recessionary gap of \$100 billion per year would decrease total spending by \$400 billion per year ( $MPC = 0.75$ ).

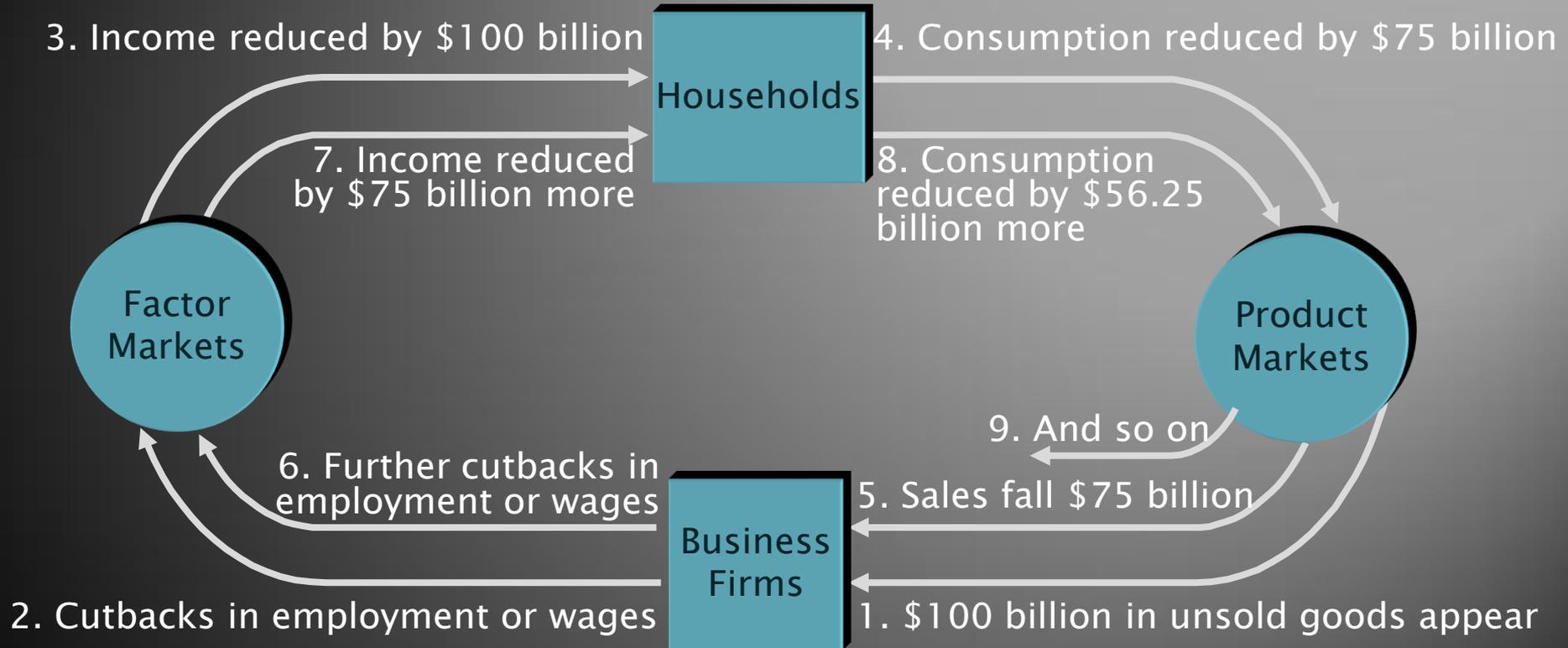


# Formula: The Multiplier

$$\begin{aligned} \text{Total change in spending} &= \frac{1}{1 - MPC} \times \$100 \text{ billion per year} \\ &= \frac{1}{1 - 0.75} \times \$100 \text{ billion per year} \\ &= 4 \times \$100 \text{ billion per year} \\ &= \$400 \text{ billion per year} \end{aligned}$$



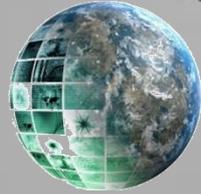
# Diagram: The Multiplier Process





# Table: The Multiplier Cycles

Spending Cycles	Change in Spending During Cycle	Cumulative decrease in Spending
First cycle	\$100.00	\$100.00
Second cycle	75.00	175.00
Third cycle	56.25	231.25
Fourth cycle	42.19	273.44
Fifth cycle	31.64	305.08
Sixth cycle	23.73	328.81
Nth cycle		400.00



# Continued in Aggregate Demand and Aggregate Supply Part V

