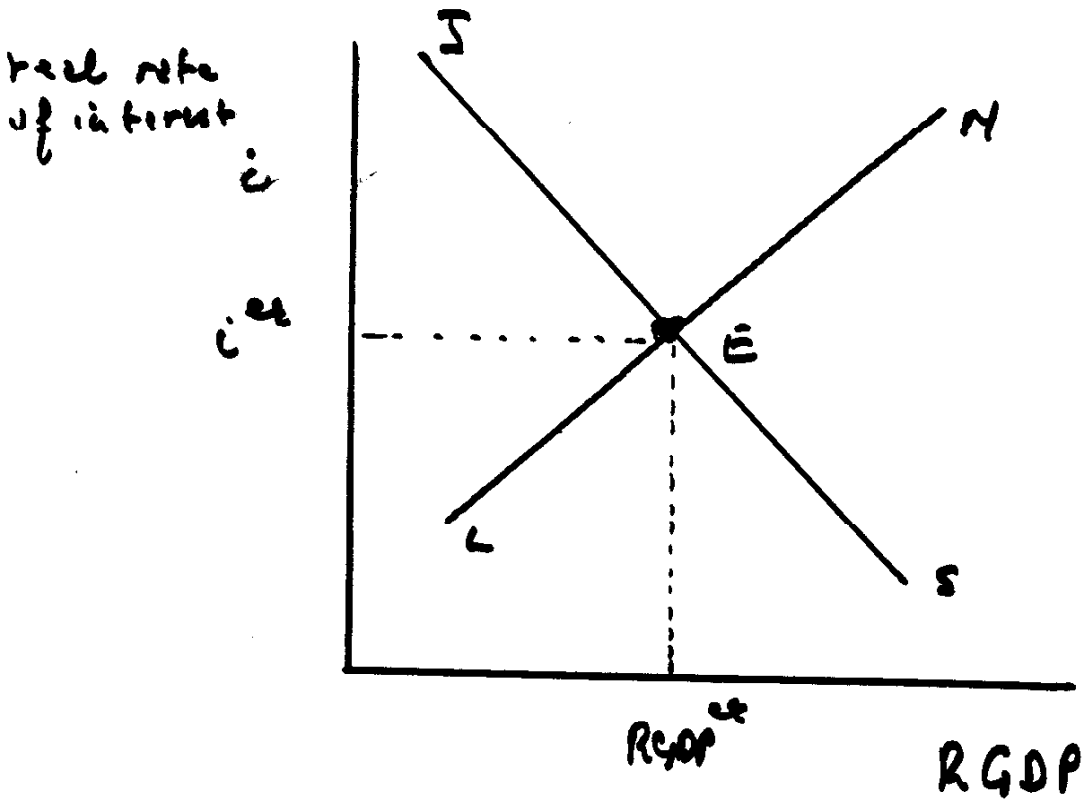
- Chap. 10
  - IS/LM model
    - variable real rate of interest
      - expenditure effect
        $$Z = \bar{Z} + I(i)$$
      - portfolio management effect
        $$M^D = M^D(i, Y)$$
    - two key endogenous variables
      - "Money Market" ← i eq
      - "Comm. Market" ← Y eq

2 key Keynesian Propositions

to be determined simultaneously

The Heart of the Matter : Chap 10

10.2.2



. along IS : the commodity market is in equilibrium

. along LM : the money market is in equilibrium

. at E : both the commodity and money markets are in equilibrium

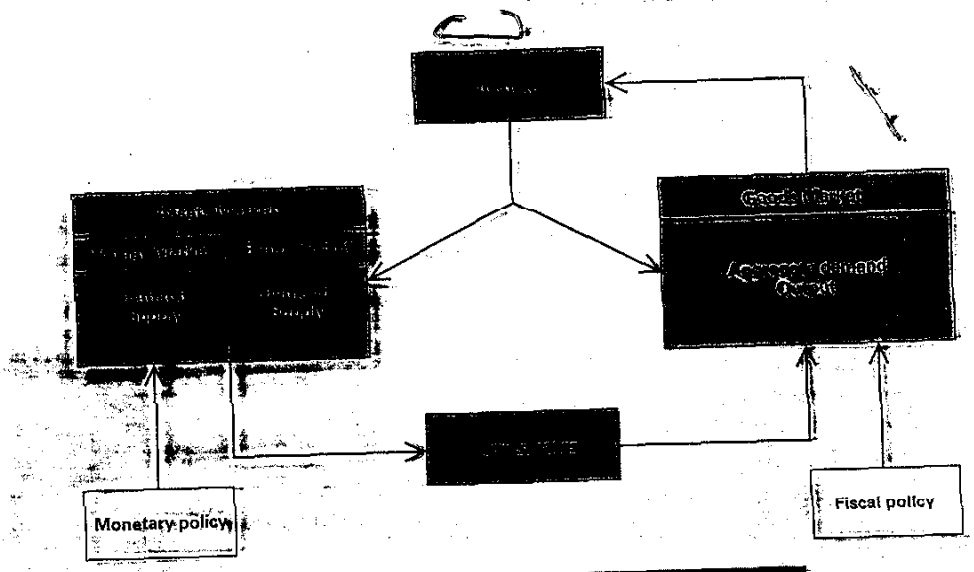


FIGURE THE STRUCTURE OF THE *IS-LM* MODEL. The *IS-LM* model emphasizes the interaction between the goods and assets markets. The model of Chapter 3 looks at income determination by arguing that income affects spending, which in turn determines output and income. Now we add the effects of interest rates on spending, and thus income, and the dependence of assets markets on income. Higher income raises money demand and thus interest rates. Higher interest rates lower spending and thus income. Spending, interest rates, and income are determined jointly by equilibrium in the goods *and* assets markets.

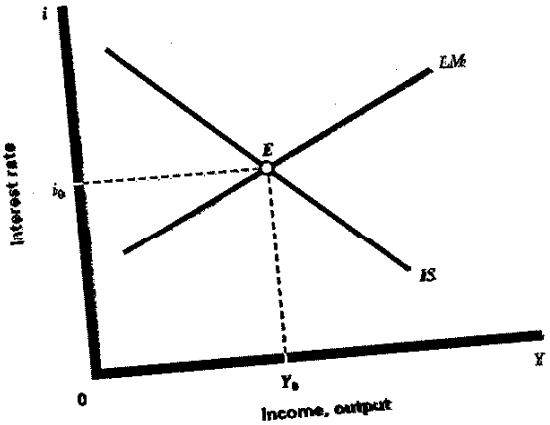


FIGURE 12
GOODS AND ASSETS MARKET EQUILIBRIUM. Goods and assets markets clear at point *E*. Interest rates and income levels are such that the public holds the existing stock of money and planned spending equals output.

↑
Key figure.

2 eqns.
2 unknowns
- i^*
- i
- Y^*

3 Tools

(1) derive IS curve
(2) derive LM curve
(3) Solve for i^*, Y^*

IS-LM analysis

Simultaneous eq. in the goods and money markets

$$y = y(\bar{G}, \bar{T}, i)$$
$$i = i(\bar{P}, y, \bar{M}^s)$$

Structure of model

2 equations

2 unknowns (y, i)

3 policy variables (G, T), M^s

(G, T) ← fiscal policy

M^s ← monetary policy

Solution technique

Solve 2 simultaneous eqs. expressing the unknowns (y, i) in terms of $(G, T$

10.2.6

KEY TERMS

IS curve
LM curve
IS-LM model
Bond
Money
Portfolio decisions
Real balances (real money balances)
Wealth budget constraint
Monetary policy multiplier
Fiscal policy multiplier

Expected results from IS-LM model

	ΔG	ΔT	ΔM^S
Δy	+	−	+
Δi	+	−	−

Keynesian version

	ΔG	ΔT	ΔM^S
Δy	+	−	0
Δi	0	0	0

↑
"only fiscal policy matters"

Monetarist version

	ΔG	ΔT	ΔM^S
	0	0	+
	0	0	+

↑
"only money matters"

Major problems to be resolved

① Derive the IS curve

② Derive the LM curve

③ Show that i, and y will tend towards a unique, equilibrium (simultaneous)

④ Show how monetary and fiscal policy affect i and y

• the community market is in equilibrium

$$AS = AD$$

$$Y = C + I + G + (X - M)$$

$$C = \bar{C} + c\,YD$$

$$YD = Y + TR - TA$$

$$TA = \bar{T} + t\,Y$$

$$I = \bar{I} - b * i \quad \leftarrow \text{new}$$

$$G = \bar{G} \;;\; TR = \overline{TR}$$

$$(X - M) = (\overline{X - M})$$

• <u>successive substitutions</u>

$$Y = \bar{C} + c\,(Y + \overline{TR} - \bar{T} - t\,Y) + \bar{I} - b * i + (\overline{X - M})$$

$$(1 - c + ct)\,Y = \bar{C} + c\,\overline{TR} - c\,\bar{T} + \bar{I} + (\overline{X - M}) - b * i$$

• <u>transposition</u>

$$b * i = \bar{A} - (1 - c + ct)\,Y$$

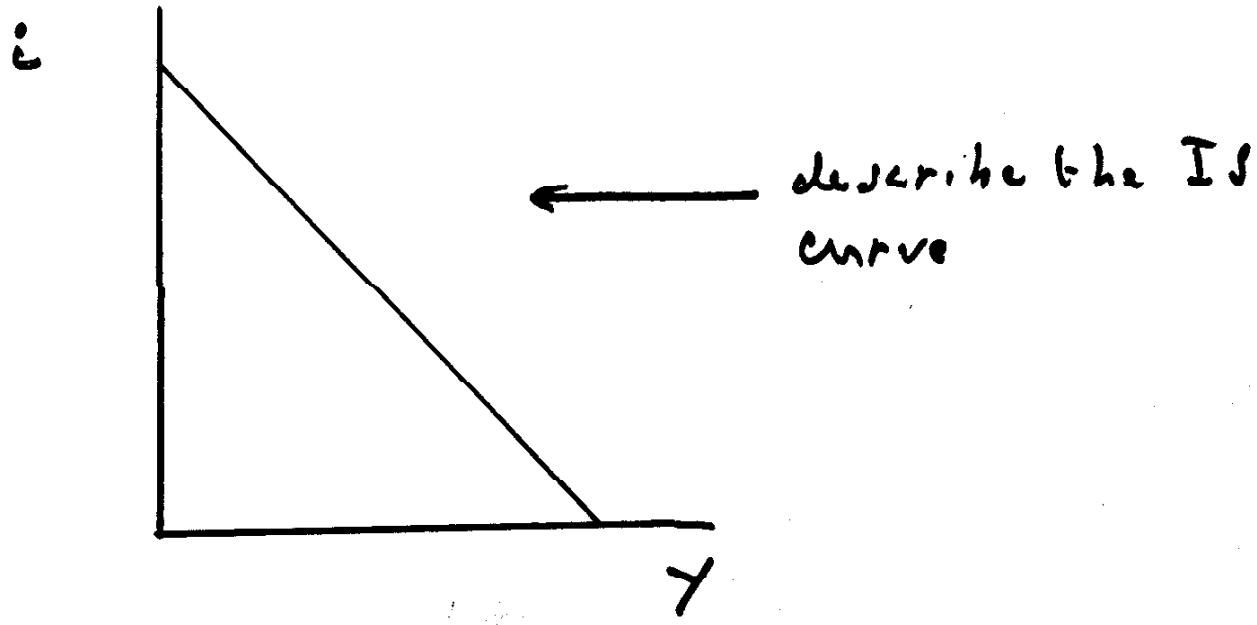
10.2.10

$$b * i = \bar{A} - (1 - c + ct)\, Y$$

the IS curve

$$i = \frac{\bar{A}}{b} - \frac{(1 - c + ct)}{b} * Y$$

(+) on $\bar{A}$, (+) on b, (+) on $(1 - c + ct)$, (+) on b



- identify the intercept
  - positive, negative?
  - what changes the intercept?
- identify the slope
  - positive, negative?
  - what changes the slope