

Multiplier, accelerator and the Keynesian cross

k · Accelerator · Cross · IS-LM sketch

Explanatory Lecture Slides

Macro Economics · Major-6 · Semester IV

MACRO ECONOMICS

Topics covered in this unit

01

Derive the investment multiplier

02

State its leakages and limits

03

Explain the accelerator

04

Combine into a super-multiplier idea

05

Read the Keynesian cross

06

Sketch IS-LM in words

How this unit is organised

01

Multiplier

02

Leakages

03

Accelerator

04

Super-multiplier

05

Keynesian cross

06

IS-LM

Investment multiplier

$k = \Delta Y / \Delta I = 1 / (1 - MPC) = 1 / MPS$. Process: I spends, becomes income, a fraction is re-spent, and so on.

- A 16-mark: definition, formula, process, one numerical, two limits.
- Also: tax multiplier, balanced-budget multiplier (≈ 1), foreign-trade multiplier $1 / (MPS + MPM)$.

Investment multiplier

CLOSED SIMPLE

- $k = 1/\text{MPS}$.

OPEN WITH TAX

- $k = 1/(\text{MPS} + \text{MPT} + \text{MPM})$.

Leakages and limits

Saving, tax, imports; full employment (then prices, not Y); lags; crowding-out if r rises; capacity; distribution (whose MPC?).

- Always two limits in the hall. A multiplier without spare capacity is an inflation machine.

Leakages and limits

NEED

- Spare labour and plant.
- MPC high.
- Closed-ish economy.

KILL K

- Imports.
- Taxes.
- Full capacity.
- Crowding-out.

Accelerator

Net $I = v \Delta Y$. v is the capital-output ratio. Works when firms are at capacity and believe the ΔY will last.

- Asymmetric: capital is not un-invented as fast as it is installed — downturns can be inventory and replacement stories.
- A 10-mark with two limitations (excess capacity, expectations).

Accelerator

NEED

- No excess capacity.
- Stable v.
- Credit.

FAIL

- Spare plant.
- A one-period boom firms do not believe.

Super-multiplier

Hicks: multiplier and accelerator interacting — the engine of a cycle. A 6-mark idea: a rise in autonomous I raises Y (k), which induces more I (v), which raises Y again.

- Unstable if v is large — the cycle unit (Unit V) begins here.

Super-multiplier

UP

- k and v feed each other.

DOWN

- The same machine in reverse.

Keynesian cross

45° line (planned spending = income) against $C+I(+G)$. Intersection is eqm Y . A gap to full-employment Y^* is a deflationary gap; above is inflationary.

- The diagram the valuator wants in words. Policy: raise G or cut T to close a deflationary gap.

Keynesian cross

DEFLATIONARY GAP

- AD short of Y^* .

INFLATIONARY GAP

- AD above Y^* .

IS-LM sketch

IS: goods eqm, Y and r inverse (higher r , less I , less Y). LM: money eqm, Y and r positive (higher Y , more transactions demand, r up unless M rises).

- Intersection: simultaneous eqm. Monetary policy shifts LM; fiscal shifts IS. Liquidity trap: LM flat, fiscal wins. Crowding-out: LM steep, fiscal loses.
- A 10-mark of shapes, not algebra. Optional if the paper is 80-marks packed — but it is the modern caption of this unit.

IS-LM sketch

FISCAL

- IS shifts.
- Works if LM is not vertical.

MONETARY

- LM shifts.
- Fails if LM is flat (trap).

Super-multiplier

Hicks: multiplier and accelerator interacting — the engine of a cycle. A 6-mark idea: a rise in autonomous I raises Y (k), which induces more I (v), which raises Y again.

- Unstable if v is large — the cycle unit (Unit V) begins here.

Cases a KSLU answer should name

CASE

RBI v Jayantilal N. Mistry

(2016) 3 SCC 525

The monetary side of IS-LM is a public institution, not a veil.

CASE

S.R. Bommai

(1994) 3 SCC 1

Federal political shocks shift G — IS can jump for non-economic reasons.

CASE

Swiss Ribbons

(2019) 4 SCC 17

Credit channel of the multiplier — IBC as a repair of I.

Provisions & materials to quote

FRBM Act 2003

A legal brake on using k without limit.

Art. 112 / appropriati

G that is to multiply must first be voted.

RBI Act — MPC

The LM shifter with a 4% CPI mandate.

MGNREGA 2005

A statutory autonomous- G with a high MPC population.

Customs / WTO

MPM — the open-economy leakage from k .

10 / 16-mark frames from this unit

Q1

Explain the working of the investment multiplier. What are its limitations?

Q2

What is the accelerator? How does it differ from the multiplier?

Q3

Explain inflationary and deflationary gaps.

Q4

Write a note on IS-LM / the balanced-budget multiplier / leakages.

Unit recap

- 1 $k = 1/(1-MPC)$; then add leakages.
- 2 Accelerator needs capacity and belief.
- 3 Super-multiplier is their interaction — and a cycle.
- 4 Deflationary gap: $AD < Y^*$; raise G or cut T .
- 5 IS-LM: fiscal vs monetary depends on the slope of LM.