

R Gordon, Macro

ch 4: Spending, the Interest Rate, and Money

This chapter opens the way to the key questions at the heart of recent economic debates:

- (1) Why do interest rates shift?
- (2) Can G crowd out I_p ?
- (3) Which is more advantageous: an increase in G, a reduction of T, or an increase in the supply of money?

4-2 The Relation of private autonomous planned spending to the interest rate.

United Airlines calculates that it can earn 3 million dollars per year from one additional DC-10 jet plane (paying all expenses except interest) costing 20 million.

If interest is 10%, and $3/20$ million is 15%, the earnings will be 5% and so one million a year.

But a second plane would not have such good routes as the first; it could earn 2 million a year, and so it could pay the 10% interest and no loss would be incurred; but a third and still more fourth plane would have less favorable routes and then the DC-10's would be ~~xxx~~ operating at a loss.

What holds for investment spending also holds for autonomous consumption spending: the marginal utility of more consumption goods and services may be positive, zero, or negative; and zero is where added marginal utility balances the interest rate.

In the left hand frame of figure 4-2 (p. 91) gives the A_p line for the various values of A_p at various interest rates.

In the ~~right~~ right hand frame are correlated values of Q ~~xx~~ with interest rates.

When the multiplier (k) is 4.0, and A_p is 500, then Q will be 2000 were the rate of interest zero; and it would be 2400 if A_p were 600 and interest zero. As interest rates increase, Q decreases.

$$\Delta Q = k \Delta \bar{A} \text{ where } \bar{A} \text{ is } A_p \text{ and the interest rate is zero.}$$

9/104 (4) What changes the slope of the IS curve?

The slope changes when $\Delta A_p / \Delta r$ changes. It increases (becomes steeper) when autonomous spending increases as the interest rate decreases, and it decreases autonomous spending ~~decreases~~ as the interest rate increases.

9/105 "A basic rationale for government action in periods of business and consumer pessimism is that its spending or its reduction of taxes can keep \bar{A} constant and thus insulate income and the IS curve from any effects of business or consumer attitudes." (roughly)

105 4-5 The money market and the LM curve.

The government also can modify the interest rate by changing the money supply; increasing the supply tends to lower the interest rate and decreasing the supply tends to raise the rate.

$$M^d = 0.5PQ$$

$$M^d/P = 0.5Q \quad \text{slants downward, correlates } r \text{ with } \frac{1}{2}Q; \text{ fig 4-4}$$

M^d the demand for nominal money

M^d/P the demand for real income

M^s/P the supply of real money (vertical graph: independent of r)

LM($M^s/P = 400$) correlates Q and r

horizontal axis: $r = 0; Q = 800;$

LM slopes upward; reveals all points at which money market is in equilibrium; money supply equals demand equals 400;

graph 4-4 RHS is $400 = \frac{1}{2}Q - 40r$

101 (1) 4-6 Learning to tilt and shift LM curve

(1) Why does LM slope upward

When M^s/P is fixed, the higher the rate of interest, the more ready people are to cut down on ready cash and current accounts; rhs of 4-4 means: for every 1% increase in r permits an 80 billion increase in Q (40 billion in $\frac{1}{2}Q$).

Alter increasing interest rate π increases velocity of money

$$v = \frac{Q}{M^s/P} = \frac{PQ}{M^s} = \frac{PQ}{M^s}$$

(2) What shifts the LM curve?

An increase in the money supply, shifts LM to the right.

When M^s equals 600, LM crosses zero interest line at Q equals 1200.

(3) ~~What alters slope of LM curve?~~

Handwritten note: An increase in autonomous spending of 40 billion increases the percentage of output...
 Higher interest rate...
 Higher interest rate...

(3) What alters the slope of LM?

$\Delta M^S / \Delta r$ the rate of increase of M^S with respect to the rate of increase of r .

$\Delta Q / \Delta M^S$ the rate of increase of Q with respect to the rate of increase of M^S

The product of these two rates eliminates M^S to give

$\Delta Q / \Delta r$ the responsiveness of income to changes in r ;
for a given change in r , how much bigger will Q be?

Changes in this ratio tilt the LM curve

Responsiveness of money demand to a higher interest rate	Slope of LM schedule
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0	Vertical
small	Steep
large	Flat
infinte	Horizontal

4-7 Simultaneous Equilibrium in the Commodity and Money markets.
Is had when the IS and the LM curves intersect.

Points on IS ~~xxx~~ guarantee equilibrium in commodity market
but if above LM the demand for real money is below the real supply;
and if below LM the real supply is below the demand

Points on LM guarantee equilibrium in the money market,
but if below IS the demand for commodities exceeds production,
and if above IS the demand for commodities falls short of
production (hence unintended inventory accumulation)