UNIVERSITY OF THE PEOPLE

BUS 2203-01 PRINCIPLES OF FINANCE 1 - AY2024-T2

WRITTEN ASSIGNMENT UNIT 7

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Introduction:

According to Wright and Quadrini (2009), the IS-LM model, developed in 1937 by economist John Hicks, is a Keynesian framework that illustrates the interaction between the market for goods and services (IS curve) and the money market (LM curve). As Anderson (2021), explains IS-LM stands for "investment-savings" (IS) and "liquidity preference-money supply" (LM). The model graphs the IS and LM curves intersecting to demonstrate the short-run balance between interest rates and output. This essay aims to derive the IS-LM functions from given data and analyze how the goods and money markets behave in each area defined by the IS-LM intersection.

The IS-LM model can examine economies under different conditions. ***For example***, it could analyze an economy undergoing both fiscal stimulus and monetary tightening. Fiscal stimulus means increasing government spending or reducing taxes, while monetary tightening refers to decreasing the money supply. To build the IS-LM model, we first need to formulate the IS and LM curves. As Wright and Quadrini (2009), state the IS curve is: Y=C+I+G+NX. Using the assignment data: Y=100+0.50Y+100−20r.

Y=100+0.50Y+100−20r

To solve for Y, we can first simplify the equation by combining like terms:

Y−0.50Y=100+100−20r

0.50Y=200−20r

Then, to solve for Y, we divide both sides of the equation by 0.50:

Y=0.50200−20r

$Y=400-40r$

So, the solution to the equation is $Y=400-40r$

The LM curve is: $M=Mt+Ms$. With the assignment data: $80=0.10Y+100-10r$.

To solve for Y, we can first simplify the equation by subtracting 100 from both sides:

$-20=0.10Y-10r$

$-2=0.01Y-r$

Then, to solve for Y, we add r to both sides of the equation:

$Y=100(-2+r)$

$Y=-200+100r$

So, the solution to the equation is $Y=-200+100r$

Equating IS and LM: $400-40r = 100r-200$. Solving gives $r=4.29$ and $Y=229$. Hence the equilibrium point is (229, 4.29) - output of 229 and interest rate of 4.29%.

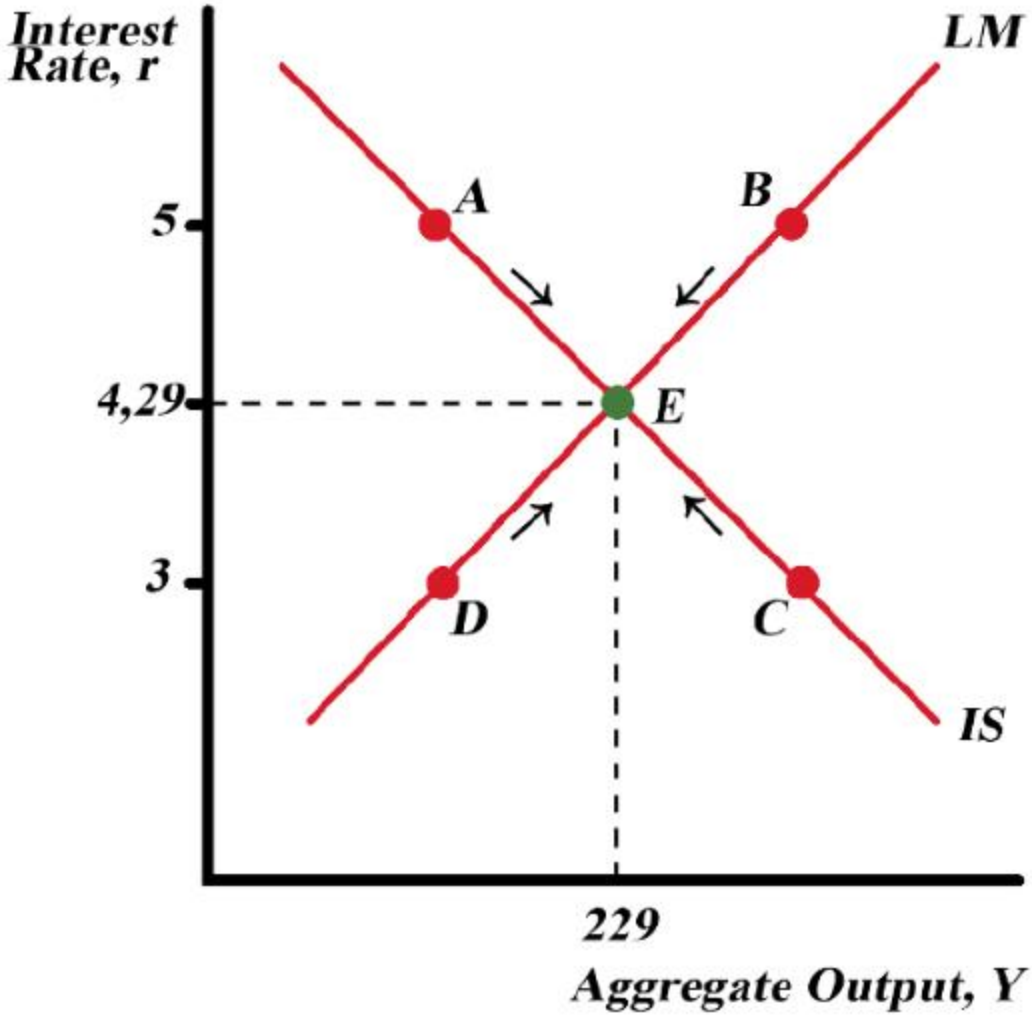
If investment rises by 100 units:

New IS curve: $Y=600-40r$

Unchanged LM curve

New equilibrium: $r=5.71$, $Y=371$

Thus, higher investment shifts the IS curve right, raising both equilibrium output and interest rate.



The intersection of the IS and LM curves divides the graph into four quadrants, each indicating pressures on output, interest rates, and curve shifting:

In the upper quadrant between points A and B, interest rates exceed the equilibrium rate. This puts downward pressure on rates, causing either the IS or LM curves to shift in opposite directions to restore equilibrium.

In the right quadrant between points B and C, output surpasses the equilibrium level. This exerts downward pressure on output and supply to return to equilibrium.

In the bottom quadrant between points D and C, interest rates fall below equilibrium. This creates upward pressure for rates to rise back to equilibrium, shifting the IS and LM curves in tandem.

Finally, in the left quadrant between points A and D, output drops below equilibrium. This produces upward pressure on output and supply to increase toward equilibrium.

In summary, the IS-LM framework offers an alternative view on determining short-run real GDP, with fixed prices and interest rates as an endogenous factor, distinct from the aggregate spending model (John & Cooper, 2009).

Example:

Suppose an economist originally purchased a home for $7,000, but due to an urgent need for cash, is now willing to sell it for just $5,500. This situation may pressure a wealthy investor to buy the underpriced property with the intention of reselling it later at a higher price to turn a profit. This type of speculative demand can reduce money circulation, like how lower asset prices lead to less spending, just as lower interest rates typically spur greater spending and money circulation.

Conclusion:

In essence, the IS curve maps out interest rate and income level combinations where the market for goods and services is in equilibrium – that is, where total demand across the economy equals total income (Wright & Quadrini, 2009). The IS curve shows where savings and investment are balanced at different levels of GDP and interest rates. It slopes down because higher income levels lead to more saving, creating equilibrium at lower interest rates, while lower income leads

to less saving, requiring higher interest rates to incentivize the additional desired investment. Mapping these demand-supply balances for goods and services results in a downward sloping IS curve.

References:

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