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INVESTMENTS IN EDUCATION DEVELOPMENT

Course:

Economics II (macroeconomics)

Chapter 2

2.1 The IS-LM Model. Fiscal and Monetary Policy

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Indroduction

The IS-LM model allows to determine equilibrium output, but also an appropriate interest rate. In addition, the IS-LM model allows examining the influence of both, fiscal and monetary policy. This usage of IS-LM model will be examined in next lecture.

Introduction lecture will explain the historical context of IS-LM model. Subsequently we will derive the IS curve. Then we will analyze factors of aggregate demand equilibrium product involved money and other assets, i.e. the demand and supply at the money market and the LM curve derived. In the last part of the lecture we will analyze the interaction of the commodity market (goods and services) and money market (assets). Thus the holistic model IS-LM will be examined.

1 A few remarks on the history of the IS-LM model

The IS-LM model, that best expresses the essence of traditional Keynesianism, has been developed from the model IS-LL, designed by J. R. Hicks. Consequently, this model was gradually modified by A. H. Hansen in its present form IS-LM model. The importance of model for the analysis of macroeconomic equilibrium is evidenced by the fact that it has become a standard and integral part of the contents of all college textbooks macroeconomics.

The basis of currently used textbooks graphical model of mutual macroeconomic context (real goods market and the money market) interest rates are interconnected two curves: curve IS and LM curve. Each of them represents a balance on one of the two markets, which consists economy.

Acronym LM indicates "liquidity = money supply", and "liquidity" means a demand for money and the "money supply" money supply. This is the LM curve describing the Keynesian money market and replaces the quantity theory of money. Acronym IS denotes "investment = savings" or "savings = investment", i.e. on goods market there is a balance.

2 Market of goods and services, IS curve

The initial idea for the IS curve derivation is the determination of equilibrium production in the 3-sectoral economy with spending multiplier of autonomous taxes and spending. The introduction of the interest rate as other determinants of aggregate demand required to analyze the impact of interest rates on individual components of autonomous expenditure.

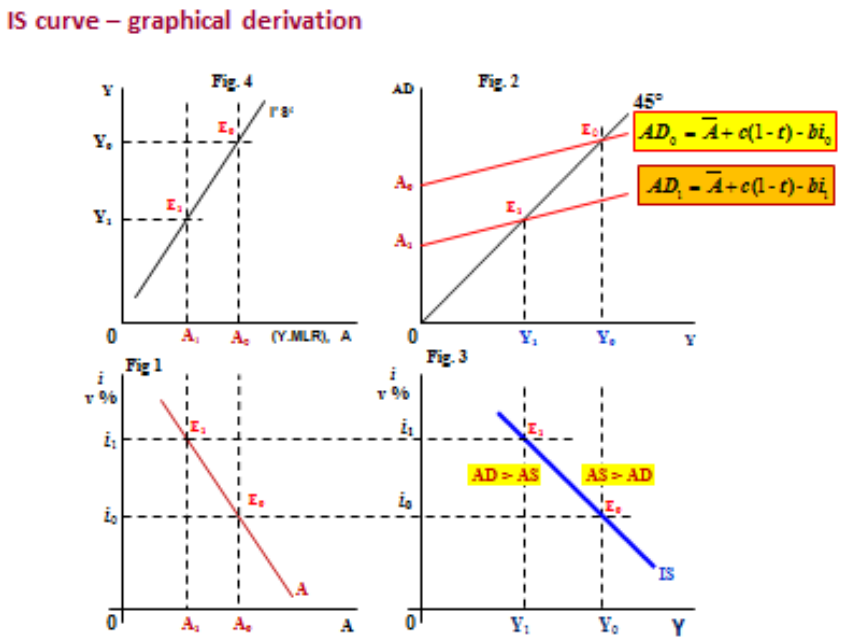
a) Interest rate and autonomous spending, investment demand function and effect of the interest rate on autonomous household consumption.

b) Shifts in the demand curve for autonomous expenditures in response to changes in government spending on goods and services, transfer payments, autonomous taxes, business and consumer confidence.

Derivation of the IS curve (see Fig. 2.1.1) that shows all combinations of interest rates (i) a level of income (Y), in which the market of goods and services in equilibrium, i.e. aggregate demand equals production:

AD = Y (AS).

Fig. 2.1.1 The derivation of IS curve



The slope of the curve IS: IS curve is the flatter (steeper), the larger (smaller) spending multiplier and the higher (lower) the sensitivity of demand for autonomous spending rate (b).

The IS curve shifts to the right and left trigger while the spending multiplier of all actors who are affected by changes in autonomous expenditures.

Points outside the curve show the nonequilibrium state of the economy (as can be seen in Fig.3). At points the left of the IS curve there is excess aggregate demand over aggregate supply, leads to involuntary drawdown of stocks, since the level of production is low. At points the right of the IS curve there is excess production (AS) of aggregate demand, and there are unplanned inventory accumulation.

3 The market of financial assets (money) and the LM curve

The demand for money (L) or the demand for real money balances depends on the level of real income, price level (shifts of curve) and the interest rate (shifts along the curve).

The dependence of the demand for real money balances cost of holding money, i.e. foregone interest rate (interest) in the case of holding money instead of holding other (alternative) financial assets.

Basic motives of "cash" money (Keynes):

- transaction motive,
- precautionary motive,
- speculative motive.

The higher the rate, the more expensive it is to hold money instead of bonds, and therefore the less cash will hold at a given level of income.

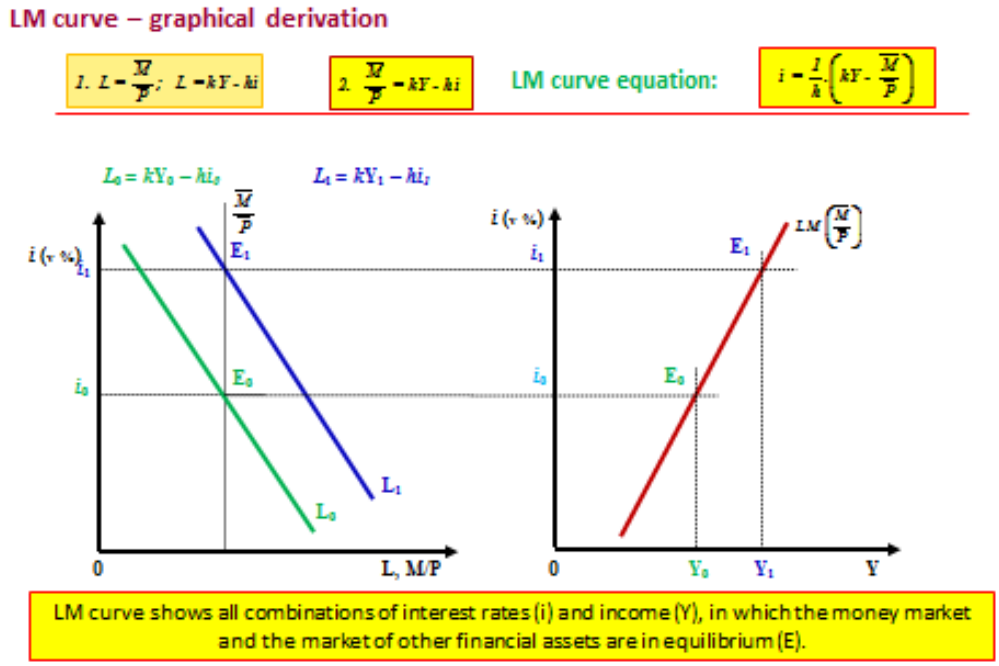
The sensitivity of the demand for real money balances a) income (k) and b) the interest rate (h).

Summary: the demand for real money balances at a given income decreasing function of the interest rate.

Money supply: the model is the nominal amount of money (M) in the economy (money supply) controlled by the central bank, and is therefore completely independent of the interest rate.

Deriving the LM curve, which represents all combinations of interest rates (i) and income (Y), in which the money market (and other financial assets) in balance.

Fig. 2.1.2 The derivation of LM curve



LM curve has a positive slope, and it is because when the fixed supply of money must increase the level of income that increases the demand for real money balances, accompanied by increases in interest rates (rising demand for money, and hence their price – interest). Rising interest reduces the quantity demanded money and keeps the money market in equilibrium.

LM curve shifts to the left and right are dependent on the supply of real money balances: the growth in the LM curve shifts to the right, in its decline, the LM curve shifts to the left.

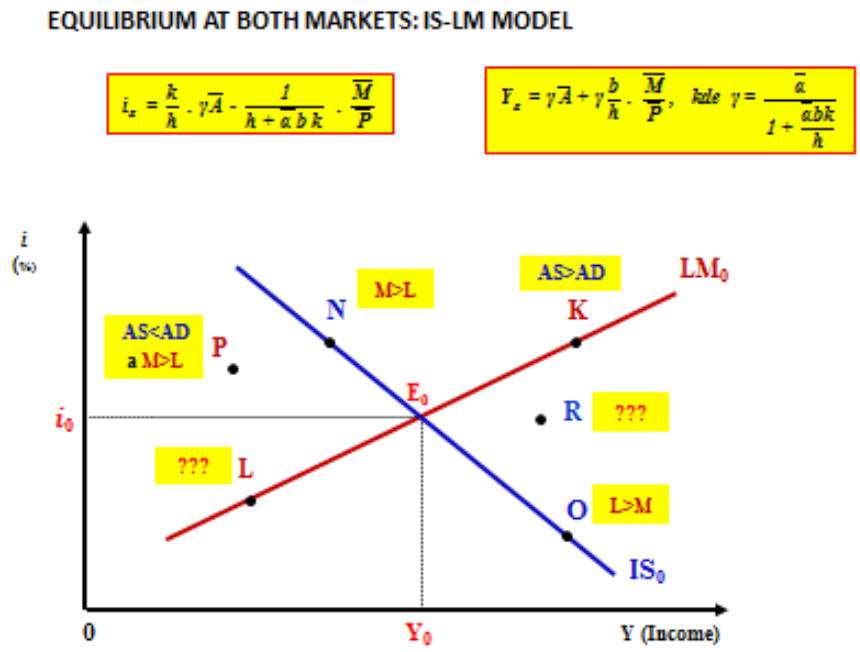
Points outside the LM curve are the points of imbalances of supply and demand at the money market (and other assets). At points to the left of the LM curve there is in the money market surplus money supply over demand for money (at a given interest rate and the income), while the market of other financial assets excess of demand over supply, as income is low enough to create a demand for money. In paragraphs LM curve to the right the situation is reversed, i.e. at the money market surplus money demand over supply, and therefore, the market of other assets there is the excess of supply over demand their because of the income at a given interest rate generates a higher demand for money.

At points outside the curve LM the economy is unbalanced and there is pressure on its provisions.

4 The current balance on goods market and the money market (assets)

The “general equilibrium” of the economy means that are both the goods market and the money market (in other assets) are in balance, respectively interest rates and income levels must be such that both markets are simultaneously in equilibrium. The corresponding interest rate and income are the equilibrium interest rate and steady income.

Fig. 2.1.3 The IS-LM model – the Equilibrium



The mechanism of appointment of the equilibrium operates through:

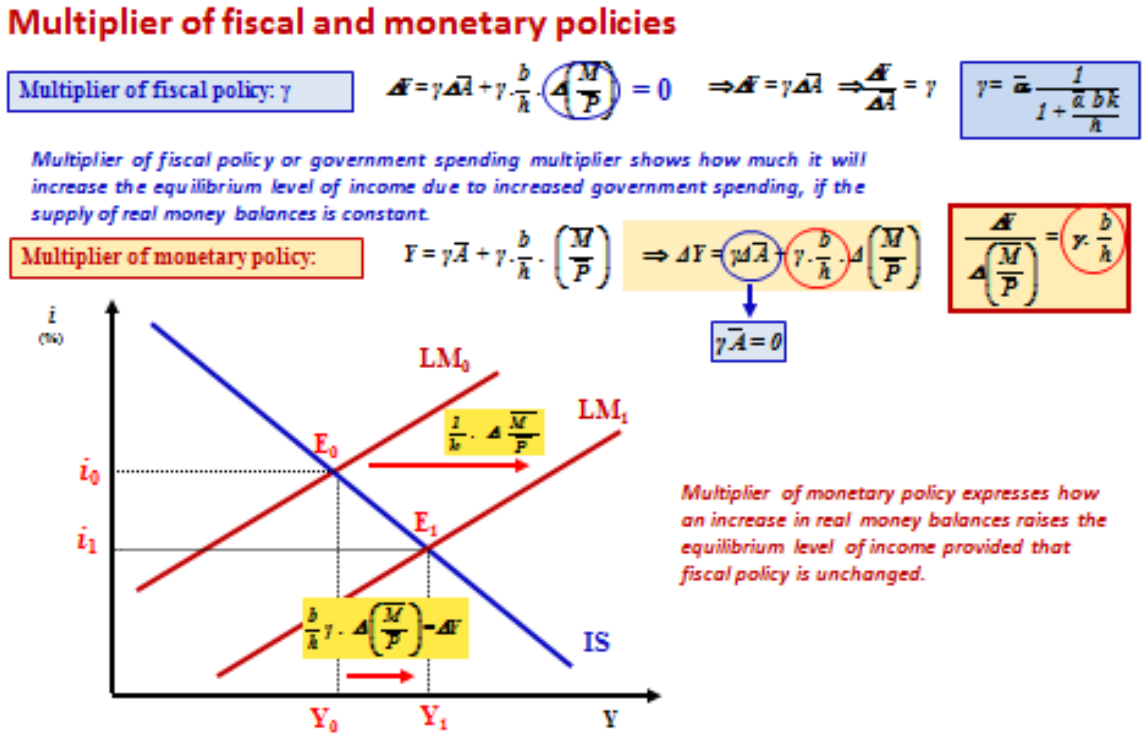
a) mechanism of unplanned inventory (unplanned accumulation and unplanned withdrawal from stocks), which is a source of pressure on the appointment of equilibrium at the goods market;

b) interest rate adjustment mechanism that raises the equilibrium in the money market (assets), while the mechanism of action of unplanned inventories may also establishes equilibrium at the goods market.

Fiscal policy multiplier, respectively government spending multiplier of fiscal policy, shows how much the level of equilibrium income will increase due to an increase in government spending on goods and services, if the supply of real money balances is constant. Except when LM curve is horizontal, the fiscal policy multiplier is smaller than the simple spending multiplier. Fiscal policy multiplier is zero, while the LM curve is vertical.

Multiplier monetary policy expresses how an increase in real money balances raises the equilibrium level of income provided that fiscal policy is unchanged.

Fig. 2.1.4 Multiplication in IS-LM model



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