HE2002 Macroeconomics II
Short Summary of the First Half of HE2002

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1 Summary of Lecture 1

- GDP is the sum of consumption, investment, and government spending in the closed economy.
- In the short run, demand determines production. Production is equal to income. Income in turn affects demand.
- The consumption function shows how consumption depends on disposable income. The propensity to consume describes how much consumption increases for a given increase in disposable income.

2 Summary of Lecture 1

- Equilibrium output is the level of output at which production equals demand. In equilibrium, output equals autonomous spending times the multiplier. Autonomous spending is that part of demand that does not depend on income. The multiplier is equal to $1/(1 - c_1)$, where c_1 is the propensity to consume.

- Increases in consumer confidence, investment demand, government spending, or decreases in taxes all increase equilibrium output in the short run.

- An alternative way of stating the goods-market equilibrium condition is that investment must be equal to saving-the sum of private and public saving. For this reason, the equilibrium condition is called the IS relation (I for investment, S for saving).

3 Summary of Lecture 2

- Demand for money depends positively on the level of transactions in the economy and negatively on the interest rate.
- The interest rate is determined by the equilibrium condition that the supply of money be equal to the demand for money.
- For a given supply of money, an increase in income leads to an increase in the demand for money and an increase in the interest rate. An increase in the supply of money for a given income leads to a decrease in the interest rate.

4 Summary of Lecture 2

- The way the central bank changes the supply of money is through open market operations.
- Expansionary open market operations, in which the central bank increases the money supply by buying bonds, lead to an increase in the price of bonds and a decrease in the interest rate.
- When money includes both currency and checkable deposits, we can think of the interest rate as being determined by the condition that the supply of central bank money be equal to the demand for central bank money.

5 Summary of Lecture 2

- The supply of central bank money is under the control of the central bank. When people hold only checkable deposits, the demand for central bank money is equal to the demand for reserves by banks, which is itself equal to the overall demand for money times the reserve ratio chosen by banks.

- The market for bank reserves is called the federal funds market. The interest rate determined in that market is called the federal funds rate.

6 Summary of Lecture 2

- The interest rate chosen by the central bank cannot go below zero. When the interest rate is equal to zero, people and banks become indifferent to holding money or bonds. An increase in the money supply leads to an increase in money demand, an increase in reserves by banks, and no change in the interest rate. This case is known as the liquidity trap. In the liquidity trap, conventional monetary policy no longer affects the nominal interest rate.

7 Summary of Lecture 3

- IS-LM model characterizes the implications of equilibrium in both the goods and financial markets.

- IS relation and IS curve show the combinations of the interest rate and the level of output that are consistent with equilibrium in the goods market. An increase in the interest rate leads to a decline in output. IS curve is downward sloping.

- LM relation and the LM curve show the combinations of the interest rate and the level of output consistent with equilibrium in financial markets. Under the assumption that the central bank chooses the interest rate, the LM curve is a horizontal line at the interest rate chosen by the central bank.

8 Summary of Lecture 3

- A fiscal expansion shifts the IS curve to the right, leading to an increase in output.
- A monetary expansion shifts the LM curve down, leading to a decrease in the interest rate and an increase in output.
- The combination of monetary and fiscal policies is known as the monetary-fiscal policy mix, or simply the policy mix. Sometimes monetary and fiscal policy are used in the same direction, sometimes in opposite directions. Together, a fiscal contraction and a monetary expansion can, for example, achieve a decrease in the budget deficit while avoiding a decrease in output.

9 Summary of Lecture 4

- Nominal interest rate tells you how many dollars you need to repay in the future in exchange for one dollar today.
- Real interest rate tells you how many goods you need to repay in the future in exchange for one good today.
- Real interest rate is approximately equal to the nominal rate minus expected inflation. $(r_t \approx i_t - \pi^e_{t+1})$
- Zero lower bound on the nominal interest rate implies that real interest rate cannot be lower than expected inflation.

10 Summary of Lecture 4

- The interest rate on a bond depends on the risk that the bond issuer will default and the bond holder?s degree of risk aversion. A higher probability or a higher degree of risk aversion leads to a higher interest rate on a bond.

- Financial intermediaries receive funds from investors and lend these funds to others. In choosing their leverage ratio, financial intermediaries trade off expected profit against the risk of insolvency.

11 Summary of Lecture 4

- IS-LM model must be extended to take into account the difference between the nominal and the real interest rate, and the difference between the policy rate chosen by the central bank and the interest rate at which firms and people can borrow.

- A shock to the financial system leads to an increase in the interest rate at which people and firms can borrow for a given policy rate. It leads to a decrease in output.

12 Summary of Lecture 5

- The labor force consists of those who are working (employed) or looking for work (unemployed). The unemployment rate is equal to the ratio of the number of unemployed to the number in the labor force. The participation rate is equal to the ratio of the labor force to the working-age population.

- Unemployment is high in recessions and low in expansions. During periods of high unemployment, the probability of losing a job increases and the probability of finding a job decreases.

- Wages are set unilaterally by firms or by bargaining between workers and firms. They depend negatively on the unemployment rate and positively on the expected price level.

13 Summary of Lecture 5

- The price set by firms depends on the wage and on the markup of prices over wages. A higher markup implies a higher price given the wage, and thus a lower real wage.

- Equilibrium in the labor market requires that the real wage chosen in wage setting be equal to the real wage implied by price setting. Under the additional assumption that the expected price level is equal to the actual price level, equilibrium in the labor market determines the unemployment rate, which is known as the natural rate of unemployment.

- In the short run, unemployment and output are determined by the factors we focused on in the previous lectures, but, in the medium run, unemployment tends to return to the natural rate and output tends to return to its natural level.

14 Summary of Lecture 6

- Labor market equilibrium delivers a relation between inflation, expected inflation, and unemployment. Given unemployment, higher expected inflation leads to higher inflation. Given expected inflation, higher unemployment leads to lower inflation.

- If expectations of inflation are anchored and expected inflation is roughly constant, the Phillips curve takes the form of a relation between the inflation rate and the unemployment rate.

- As inflation became higher and more persistent in the 1970s, expectations of inflation became de-anchored, increasingly reflecting past inflation. The Phillips curve took the form of a relation between the change in the inflation rate and the unemployment rate.

15 Summary of Lecture 6

- Starting in the 1980s, the Fed committed to keeping inflation low and stable. By the 1990s, expectations of inflation had become re-anchored. The Phillips curve became, again, a relation between the inflation rate and the unemployment rate.

- The natural unemployment rate is the unemployment rate at which the inflation rate is equal to expected inflation. If expectations are anchored and expected inflation is equal to the target rate of the central bank, this implies that, at the natural unemployment rate, actual inflation is equal to the target rate. When the actual unemployment rate exceeds the natural rate of unemployment, the inflation rate is lower than the target rate.