soleadea

LEVEL 1: ECONOMICS

Reading 12 (5th out of 7): MONETARY & FISCAL POLICY

Difficulty: **hard**   Benchmark Study Time: **4h**

INTENTIONALLY EMPTY

THIS E-BOOK:

❖ is a selective summary of the corresponding Reading in your CFA® Program Curriculum,

❖ provides place for your own notes,

❖ helps you structure your study and revision time!

How to use this e-book to maximize your knowledge retention:

1. **Print** the e-book in <u>duplex</u> and bind it to keep all important info for this Reading **in one place.**

2. **Read** this e-book, best twice, to grasp the idea of what this Reading is about.

3. **Study** the Reading from your curriculum. **Here add** your notes, examples, formulas, definitions, etc.

4. **Review** the Reading using this e-book, e.g. write your summary of key concepts or revise the formulas at the end of this e-book (if applicable).

5. **Done?** Go to your study plan and change the Reading's status to green :
   (it will make your Chance-to-Pass-Score™ grow ☺).

6. **Come back** to this e-book from time to time to **regularly review for knowledge retention!**

   NOTE: While studying or reviewing this Reading, you can use the tables at the end of this e-book and mark your study/review sessions to hold yourself accountable.

MONETARY POLICY VS FISCAL POLICY

Monetary policy is a central bank activity aimed at influencing the quantity of money in an economy. Expansionary monetary policy is about increasing the money supply, while contractionary policy consists in reducing the money supply in an economy.

Fiscal policy refers to changes in the level of government spending and taxes. If the level of government expenditure is greater than the tax revenue, there is a budget deficit. Otherwise, there is a budget surplus.

MONETARY POLICY

Functions of money

Functions of money:

1. Money is a medium of exchange in transactions involving a simultaneous mutual transfer of goods and money between the parties.

2. Money serves as a store of value.

3. Money is a measure of value.

Money measures

Money measures are defined differently in different countries.

There are 3 measures in the Eurozone:

- M1, M2, and M3.
- M3 includes M2 and M2 includes M1.

Where:

- M1 consists of notes and coins in circulation and overnight deposits.
- M2 consists of M1 and deposits redeemable at notice of up to 3 months and deposits with maturity up to 2 years.
- M3 consists of M2 and repurchase agreements, money market funds units, and debt securities with maturity up to 2 years.

There are 2 measures in the USA:

- M1 and M2.

There are 4 measures in the U.K.:

- M0, M2, M3, and M4.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Money creation process – simplified version

1. If one of the bank customers decides to deposit a certain amount of money in the bank, the bank will not keep all this money.

2. The bank will decide to lend almost all of this money to other customers.

3. These customers will use borrowed money to buy goods and services.

4. If the sellers of these goods and services decide to deposit money in the bank, the bank will be again able to lend this money to other customers, and so on. The money is created and circulates in the economy.

reserve requirement = part of bank deposits that the bank cannot lend

$$\text{total amount of money that can be created} = \frac{\text{new deposit}}{\text{reserve requirement}}$$

The quantity theory of money

$$M \times V = P \times Y$$

Where:

- M - quantity of money,
- V - velocity of circulation of money,
- P - price level,
- Y - real output.

V = constant and Y = constant → M impacts P

The higher the velocity of circulation of money, the more often money changes hands.

According to this formula, if we assume that the velocity of circulation of money and real output are constant, the change in the amount of money impacts the price level only (this is a consequence of the so-called **money neutrality**). So, if the amount of money increases, the price level will also increase and vice versa. If the amount of money decreases, the price level will also decrease.

One of the implications of the quantity theory of money may go as follows:

We can control the inflation rate by controlling the growth rate of the money supply. This implication is supported by monetarists but real-world experience shows us that nothing in the economy is as simple as it looks.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Demand and supply of money

Money supply is a result of the central bank policy.

Money demand is the value of wealth held by people in the form of money and depends on 3 motives:

- the <u>transaction-related motive</u> – it is related to the function of money as a means of transaction,
- the <u>precautionary motive</u> – it is about retaining money in case of future unexpected events that would require possessing a certain amount of money,
- the <u>speculative motive</u> – it is about maintaining money balances in order to use potential benefits or reduce the risk associated with other financial instruments.

Fisher effect

$$R_{nom} = R_{real} + I_e$$

Where:

- R_{nom} – nominal interest rate,
- R_{real} – real interest rate,
- I_e – expected rate of inflation.

The Fisher effect refers to the fact that the real interest rate in the economy is constant over time, so changes in the nominal interest rate are due to changes in expected inflation.

Additionally, you should also take into consideration the risk that the inflation rate will be different than expected (it usually is). To compensate for this risk, investors expect an additional risk premium.

Costs of inflation

costs of unexpected inflation > costs of expected inflation

The costs of inflation:

- Costs of holding money in cash instead of investing it in instruments that bear interest.
- If inflation is higher than expected, lenders bear the costs of inflation.
- If inflation is lower than expected, borrowers bear the costs of inflation.
- In an economy with high inflation volatility, lenders require higher interest rates to compensate for unexpected changes in the inflation rates. This translates into a lower level of economic activity and a lower level of investment.
- Unexpected inflation reduces the information value of price changes.
- Unexpected inflation has a more severe impact on companies and employees than expected inflation.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

CENTRAL BANK

Roles of central banks

Central banks:

- are responsible for money supply and monetary policy,
- are banks for the government and other banks,
- regulate and supervise the national payment system and banking system,
- are the lender of last resort,
- keep national reserves of gold and foreign currencies reserves.

Objectives of central banks

> The main objective for all central banks: **Maintain price stability!**

The objectives of central banks usually include:

- controlling inflation,
- maintaining the stability of the currency,
- maintaining full employment,
- maintaining positive economic growth,
- maintaining a stable level of interest rates.

Qualities of an effective central bank

Central banks should be:

- independent of political influence,
- characterized by reliability and credibility,
- transparent.

Monetary policy tools

Monetary policy tools:

- a policy rate,
- reserve requirement,
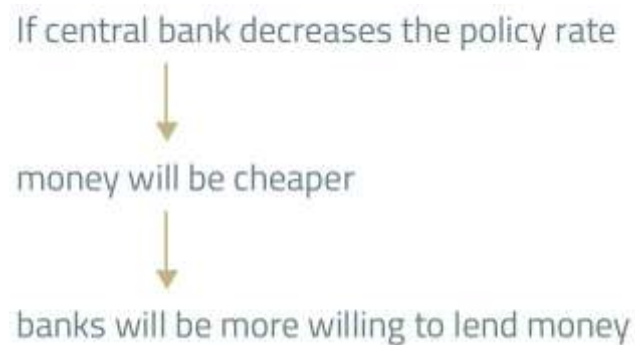- open market operations.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Policy rate

policy rate = interest rate at which commercial banks can borrow money from the central bank

If central bank decreases the policy rate

↓

money will be cheaper

↓

banks will be more willing to lend money

> Repurchase agreement = when a central bank buys bonds from a commercial bank and the commercial bank
>
> agrees to buy back the bonds in the future (repo maturity: overnight – 2 weeks).
>
> In this case, the central bank is the lender and earns the so-called repo rate on the money
>
> that it lends to the commercial bank.

Reserve requirement and Open market operations

- Reserve requirement is a part of bank deposits that must be held as reserves.
- Open market operations involve the purchase and sale of securities by the central bank. The central bank increases the money supply by purchasing securities from commercial banks and this translates into a decline in interest rates. Selling securities has the opposite effect.

Implications of monetary policy

The monetary policy affects:

- inflation,
- interest rates,
- exchange rates, and
- economic growth.

Inflation targeting

Most central banks set inflation targets usually at the level ranging from 1 to 3%.

If inflation is expected to rise above the target, the money supply is reduced to reduce economic activity.

If inflation is expected to fall below the target, the money supply is increased to stimulate economic activity.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

<u>Exchange rate targeting</u>

In some developing countries, the main target of central banks concerns the exchange rate of the domestic currency against developed countries' currencies. Thus, when the currency goes below the target, the central bank buys the domestic currency to raise its exchange rate.

<u>Stimulation of economy & quantitative easing</u>

the central bank purchases securities from commercial banks

↓

short-term interest rates decrease

↓

investment and consumer demand increase

↓

domestic currency depreciates

↓

net exports increase

↓

employment, GDP and inflation go up

Quantitative easing is like open market operations but on a very large scale.

Limitations of monetary policy

Limitations of monetary policy:

- Monetary policy can affect inflation expectations so much that long-term interest rates may be changing in the opposite direction to short-term interest rates.
- The central bank may lack credibility.
- Banks are not willing to lend too much money, even if they have large excess reserves.
- Liquidity trap (consumers are willing to hold more cash, regardless of changes in short-term interest rates): liquidity trap goes hand in hand with a deflationary environment.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

FISCAL POLICY

Fiscal policy refers to changes made in the level of government spending and taxes to impact the national economy.

- The government should implement fiscal policy to influence the aggregate demand and stabilize the economy.
- Because the political cycle affects the fiscal policy and its timing, governments not always use fiscal policy to stabilize the economy.

Automatic stabilizers

automatic stabilizers = automatic processes that adjust the level of aggregate demand in the economy

Objectives of fiscal policy

Objectives of fiscal policy:

- influence the level of economic activity,
- redistribute income, and
- allocate resources in an economy.

Fiscal policy tools

Fiscal policy tools:

- spending tools,
- revenue tools.

Spending tools:

- transfer payments,
- current government spending,
- capital expenditure.

Transfer payments:

- redistributive character,
- examples: unemployment benefits, child benefits, house benefits.

Current government spending:

- includes ongoing spending on goods and services provided by the state,
- examples: spending on health, education, army, police.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Capital expenditure includes investment in infrastructure.

Revenue tools:

- ► direct taxes, and
- ► indirect taxes.

Direct taxes are:

- ► levied on income and wealth,
- ► used to redistribute income.

Indirect taxes:

- ► are levied on goods and services,
- ► can be used to reduce the consumption of certain goods and services.

Problems related to fiscal policy tools

Whether, when, and **how** will a given government action influence the economy?

Indirect taxes:

- ► can be deployed immediately,
- ► immediately affect the economy.

The effects of direct taxes or capital expenditure are delayed in time.

> the Austrian school of economics vs. Keynesian economics
>
> government interventions are harmful vs. government interventions are necessary and beneficial

Expansionary fiscal policy vs Contractionary fiscal policy

Expansionary fiscal policy is when the government spending increases relative to tax revenues, which means that the budget deficit increases or the budget surplus decreases.

Contractionary fiscal policy is when the government spending decreases relative to tax revenues, which means that the budget deficit decreases or the budget surplus increases.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Implementation of fiscal policy

Difficulties in executing fiscal policy include:

- the recognition lag = the time required to diagnose problems in the economy,
- the action lag = the time required to implement specific actions,
- the impact lag = the time between the implementation of a particular action and its real impact on the economy,
- the crowding-out effect, which is when expansionary fiscal policy 'crowds out' private investment,
- supply shortages, which refer to a situation when the poor condition of the economy is the result of limited access to factors of production,
- multiple targets, which refer to a situation when fiscal policy is implemented as a response to a variety of targets and, in consequence, doesn't serve its function.

Arguments for the importance of national debt

If the national debt is big:

1. there may be problems with financing the budget deficit,

2. the crowding-out effect occurs → increase in interest rates → reduction of private sector investments,

3. to decrease the government debt and national deficit, governments very often increase taxes → people are less willing to work → the economic growth decreases.

Arguments against the importance of national debt

The size of the national debt is not important, because:

- capital expenditure may increase the productivity of the economy,
- the budget deficit may signal a need for tax reforms,
- if the economy is operating below full employment, government spending doesn't crowd out private investment.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Interaction of monetary and fiscal policy

Interaction of monetary and fiscal policy:

1. Expansionary fiscal policy and expansionary monetary policy,

2. Contractionary fiscal policy and contractionary monetary policy,

3. Expansionary fiscal policy and contractionary monetary policy,

4. Contractionary fiscal policy and expansionary monetary policy.

Expansionary fiscal policy and expansionary monetary policy:

- aggregate demand increases,
- interest rates decrease,
- inflation increases.

Contractionary fiscal policy and contractionary monetary policy:

- aggregate demand decreases,
- interest rates increase,
- inflation decreases.

Expansionary fiscal policy and contractionary monetary policy:

- higher output because of the impact of the fiscal policy,
- increase in interest rates as a result of higher government spending and lower money supply,
- lower activity of the private sector.

Contractionary fiscal policy and expansionary monetary policy:

- lower interest rates because of lower government spending and increased money supply,
- higher consumption,
- higher production,
- higher activity of the private sector.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Summarizing key concepts:

☐ Money – functions, measures, creation process

My summary:

☐ The quantity theory of money

My summary:

☐ Demand and supply of money

My summary:

Summarizing key concepts:

☐ Fisher effect & Costs of inflation

My summary:

☐ Roles & objectives of central banks

My summary:

☐ Qualities of an effective central bank

My summary:

☐ Monetary policy tools

My summary:

☐ Limitations of monetary policy

My summary:

☐ Objectives of fiscal policy

My summary:

☐ Fiscal policy tools

My summary:

☐ Expansionary fiscal policy vs Contractionary fiscal policy

My summary:

☐ Implementation of fiscal policy

My summary:

☐ Importance of national debt

My summary:

☐ Interaction of monetary & fiscal policy

My summary:

Reviewing formulas:

$$\text{total amount of money that can be created} = \frac{\text{new deposit}}{\text{reserve requirement}}$$

Write down the formula:

The quantity theory of money

$$M \times V = P \times Y$$

Write down the formula:

Fisher effect

$$R_{nom} = R_{real} + I_e$$

Write down the formula:

Keeping myself accountable:

TABLE 1 | STUDY

When you sit down to study, you may want to **try the Pomodoro Technique** to handle your study sessions: study for 25 minutes, then take a 5-minute break. Repeat this 25+5 study-break sequence all throughout your daily study session.

Tick off as you proceed.

POMODORO TIMETABLE: study-break sequences (25' + 5')													
date		date		date		date		date		date		date	
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TABLE 2 | REVIEW

Never ever neglect revision! Though it's not the most popular thing among CFA candidates, regular revision is what makes the difference. If you want to pass your exam, **schedule & do your review sessions.**

REVIEW TIMETABLE: When did I review this Reading?													
date		date		date		date		date		date		date	
date		date		date		date		date		date		date	