INVESTMENTS IN EDUCATION DEVELOPMENT

Course: Economics I (macroeconomics)

Study text

1st Chapter

Introduction to macroeconomics

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1 Introduction to macroeconomics

In the introductory chapter we will define macroeconomics as a discipline, to show its consistency with microeconomic theory, we will discuss the characteristics of macroeconomic subjects, key macroeconomic variables and their relationships, discuss the macroeconomic policy of the economy and deal with the complexity in understanding the macroeconomic challenges if we are to deal with the various macroeconomic streams.

It is important to note that microeconomics and macroeconomics are not separate disciplinary economic sectors, but equally important areas of economics, some authors use the metaphor, it is a different branch of the same tree. They have many of the same assumptions and methodological principles.

1.1 Macroeconomics as a science, its origin and object

As the macroeconomics is a part of economics, we have to answer the question of when and where the term „economics“ appeared. The author is most likely a Greek historian and philosopher Xenophon (431-355 B.C.), the author of text „Oikonomikos“. From there the term „economics“ occurred (from the Greek words “oikos” = house, “nomos” = rule by law). The mere economics as a discipline originated in 1776, when A. Smith published his major work The Wealth of Nations.

Macroeconomics as a science, however, is much younger. The founder of the new macroeconomics is often considered an English economist, a professor at Cambridge University Sir *John Maynard Keynes* (1883-1946). Its macroeconomic theory, after the experience with the development of the economy during the Great Depression (1929 - 1933), brought doubts about the ability of self-regulating market forces to create satisfactory conditions for effective use of economic resources (i.e. the invisible hand of the market) and search for a solution via interventions by macroeconomic policy. In fact, we can say that Keynes's theory, but also to follow him theoretical orientations represent an optimistic view of the possibility of stabilizing the market economy with the help of government intervention in the functioning of the market mechanism. His concept explained in his famous work *General Theory of Employment, Interest and Money* (1936). To create a similar macroeconomic theory at the same time directed other economists, whose contribution is for various reasons, awards and recognition they received belatedly. This applies in particular Englishman (and after some time also Keynes´s collaborator) D. H. Robertson and Polish economist, a publishing between 1938 and 1945 in Cambridge and Oxford M. Kalecki.

Regarding the introduction of the term “macroeconomics”, it is likely that the first explicitly distinguished and introduced the concepts of microeconomics and macroeconomics, was a Norwegian economist Ragnar Frisch and having done so in 1933.[1]

Macroeconomics (from the Greek word “macros” = large, great) examines the economy as a whole. It deals with aggregate (summary) economic phenomena. It examines phenomena such as the total output in the economy, employment, the price level and its changes, economic growth and social product, state budget and its role, public debt, the amount of money in circulation and its laws, examines inflation and unemployment, and many others purely practical and real economic phenomena and processes. These are areas which have the impact of a purely practical significance and impact the lives of people in each country.

Macroeconomic phenomena and context are of interest not only to economists, but also politicians, which makes the situation in macroeconomics and especially in the theory of macroeconomic policy very difficult. The economic reality is often also reflected the interests of large groups of people for their political views and ideological position from which tries to examine macroeconomic phenomena, describe and explain. Taking their positions they always call a purely scientific and guaranteed correct. As we see in everyday life, on phenomena and processes, there are several views and several positions on their interpretation. It is these interests that complicate macroeconomic interpretation in terms of macroeconomic policy. Not only economists and their theories hold the main word in it often, but also policymakers, their power and economic interests.

1.2 Macroeconomic operators and macroeconomic cycle

The economic reality is characterized by the decision-making processes of the main macroeconomic operators. These decisions and actions are aggregated at the level of the national economy. Macroeconomics examines the decisions of these bodies. These entities are classified in terms of their involvement in the so-called “macroeconomic cycle” of goods, services, factors of production, incomes and expenditures. These are households, businesses (firms), state (government) and abroad. Now their characteristics are following.

A. Households

Households act as owners of the factors of production (inputs), i.e. land, labor and capital. These factors of production are distributed and used in companies (enterprises) to produce various goods. For this use (rent) of inputs households receive income from companies (firms) in various types (wages, rents, profits, dividends, rents etc.). In addition to these incomes households receive also transfer payments from the government, in the form of various social benefits, subsidies, allowances, especially in various difficult situations in life.

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[1] TINARI, F. D. Macro/Micro – The False Division? Economic Affairs. August-September 1986, p. 57. See HELÍSEK, M. *Makroekonomie. Základní kurz.* 2nd edition. Slaný: Melandrium, 2002.

With these acquired income households dispose and thus participate in the macroeconomic cycle. These incomes they use to pay for the necessary consumer spending to achieve a certain standard of living. Household consumption expenditures are used to purchase consumer goods and services. Households use their income also to pay for taxes. Then social transfers and other public payments can be paid from taxes (defense, health, education, etc.). If the household incomes exceed consumer spending, savings are generated.

This sector includes in particular individuals or families. In addition to this form of households, there are also so-called “institutional households”, such as orphanages, retirement homes, convents, etc. Households are approaching their characteristic category of “consumer”, which we know from microeconomics, but it is clear that this is not an analogy, because they not only supply inputs in the macroeconomic cycle, but some of households also act as tradesmen and stand as a source of income especially for the public sector.

B. Firms

Firms play a key role in the national economy. We use to designate them often various synonyms such as “enterprise” or microeconomics designation of “producer”. These are all businesses on the supply side (including self-employed).

Businesses need factors of production from households and use their services in order to be able to produce the necessary and desired goods and services. Firms sell goods and services at markets of final production. But a relatively large part of the production remains in this sector, as some firms sell their production to other firms as semi-processed or raw materials, which are used as inputs for further processing. It is then referred to as intermediate (intermediate goods).

Firms receive both, revenues from sold production from other sectors, and transfers from the government – the subsidies, when the state in some way “rewards” of the companies for conduct that corresponds with its model of the state economic policy.

Disposable incomes *of the firms are subsequently used to:*

a) *cover the costs for the services of production factors in operational, production costs* (wages for workers, but also co-owners of shares in the form of rent, interest or dividends), including the costs of raw materials, energy and the necessary intermediate goods);

b) pay mandatory contributions and taxes for the state.

In companies remain gross savings of companies, which take the form of revenues accepting depreciation of capital (amortization), and also still detained and unpaid profits.

Companies exist in different organizational and legal forms. Information about the legal forms of companies in the Czech Republic are compiled from information kept in the Business Register, which is managed by the Czech Statistical Office, based on the law No. 89/1995 Coll., On the State Statistical Service. Economic entity providing some economics activity, according to information from statistical surveys or administrative sources, is considered as a “firm”.

In the national economy there are different types of businesses, i.e. companies focused on material production and the provision of services, companies in public and private property etc. Moreover, the firms must also include persons who have property that has the economic activity, such as owners of buildings and other properties, although these owners are not mentioned in statistics.

C. State (the Government)

In English-speaking countries is used synonym “Authorities”. This is a subject that affects the economic reality through various regulatory instruments. Such regulation has many forms, is used when handling budget revenues and expenditures, influencing the lending policies of commercial banks, or price and wage controls are used and some other measures, which we will mention in the text.

As we use the term “the government”, it often means the government in terms of public (state and municipal) sector. In this context, we keep in mind companies with property-legal form of public ownership - the companies from the areas of health, energy, defense, banking, transport and others.

The primary source of revenues for the government sector is taxes and obligatory payments received from citizens and business entities in statutory form. This income is used primarily by the government to providing the necessary government purchases of goods and services and government transfer payments.

D. Abroad

Economies today are highly interdependent with other countries and operate in a multilateral, complex and dynamically changing environment. In this context, we recognize the terms “resident” and “non-residents”. The term “residents” means the entities that have their headquarters in the national economy. Decisive is the place of residence of the company or persons, regardless of who owns the firms (nationality). From this perspective, all foreign entities “non-residents” refer to a sector abroad.

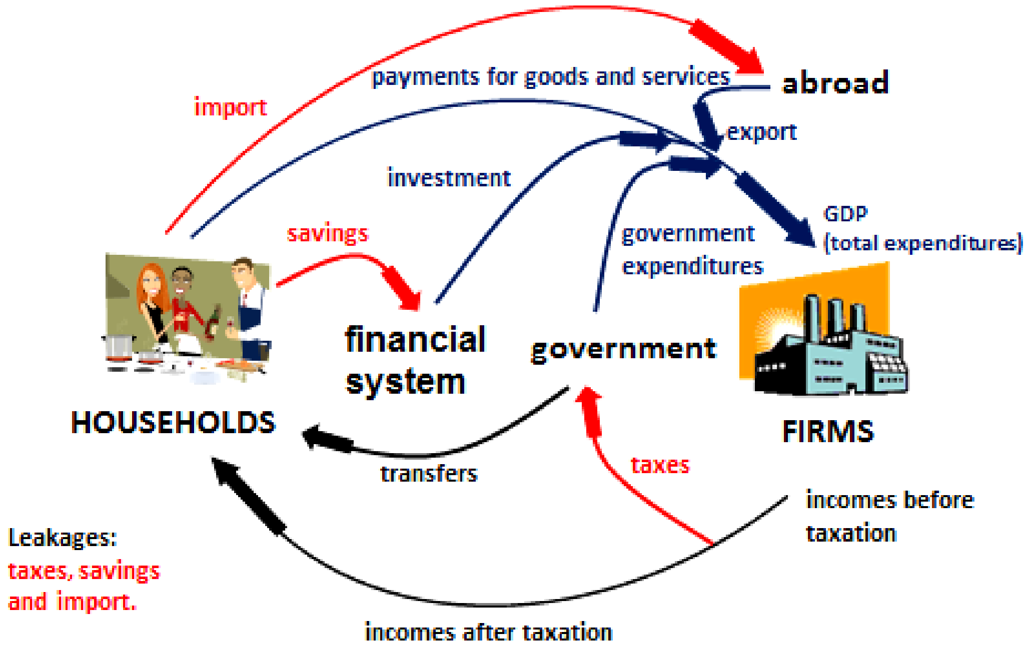
This sector has become the crucial segment of the growing economic prosperity of the Czech Republic, especially as a major purchaser of domestic products and services. And also imported goods are important for the Czech Republic. In macroeconomic context we monitor the volume and structure of exports and imports, in the form of so-called net export balance.

In the global economy concrete phenomena and situations can affect significantly the economic opportunities, particularly in smaller countries (such as the Czech Republic, which is a very open economy to foreign countries), so we pay attention to this sector.

Macroeconomic cycle

Macroeconomic cycle shows the relationships of the four basic sectors in the form of individual flows of goods, services, inputs, revenues and expenditure. In Fig. 1.2 it can be seen all four sectors - households, firms, state and abroad. There is also financial system included, respectively capital market, where household savings and firms investment are in intersection. The figure illustrates only financial flows among sectors. In the background there are hidden flows of goods and services and inputs flow. There are some arrows in the figure. Households receive incomes from firms, because they are paid for their service production factor, and buy goods and services from domestic and foreign producers. Firms pay incomes to households for the services of factors of production and their revenue consists of payments for goods and services by households, funds obtained at the capital market and further payments of exported products abroad and goods and services for the state in the form of government expenditure on purchase of goods and services. There are also intermediates (intermediate goods) in the sector of firms. Sector “State” directed taxes that make up the revenue side of the state budget. Taxes are a prerequisite for performing government spending and transfers. What does not appear in the total expenditure of the economy (in GDP), is referred to leakage from the economy and the leakages are taxes, savings and import.

Fig 1.2 Macroeconomic cycles in an open economy



1.3 Objectives and instruments of macroeconomics

Real political, social and military destiny of every country depends largely on its economic success that can be achieved. That is why so much attention is paid to macroeconomics. Countries learned to create their reality through their own macroeconomic policies. They look at how successful progress is in countries, what caused their success and at the same time trying to avoid the mistakes of the countries whose economic performance is relatively low. A country may direct its economic activity, can use appropriately selected tools. It can create its macroeconomic policy that ensures its economic stability (optimal development of macroeconomic variables).

If we look at the indicators that describe the national economy of the country, or when we read reports about its economic success or failure, easy to see why there are several variables whose significance exceeds the others.

For performance measurement in macroeconomics there are crucial four main objectives, whose concept is general consensus:

PRODUCT	EMPLOYMENT	PRICE STABILITY	EXTERNAL ECONOMIC BALANCE
Requirements:	***Requirements:***	***Requirements:***	***Requirements:***
- real GDP growth rate	*- high level of employment (low natural rate of unemployment)*	*-price stability (low rate of inflation)*	*- Balance of Payments (balanced)* *-stable exchange rates*

Product. Ability to create demanded amount and structure of products and services for the population of the country is not the main goal of any economy, but it is also a measure of the economic success of the country. By measuring the performance of the national economy the second chapter of the textbook is engaged in. Meanwhile we can operate with the idea that the product is understood the sum of all goods and services produced in a given one year. Later we will see that the value and structure of the product varies and depends on the existence and operation of a wide range of internal, as well as external factors.

Employment. In order to be able to create the desired product, we have an adequate number of basic factors of production and between them and their work. This means that a certain amount of product is also linked to certain jobs. It is not just the absolute number of workers, but also their actual knowledge, skills and experience (qualification) and their distribution (allocation) at the market. People want to be able to easily find convenient and well-paid job. But it is not easy and has to be long for this to create the appropriate conditions.

Price level stability. People like certainty and each product and service has its value at the market, and this value is expressed by a price. And we are aware that these prices are changing. Price growths and declines take place with different ranges and different rates. It is impossible to monitor the development of any price of each product for a certain period (calendar year), and therefore we use special price indexes to express the development of prices of various goods and services. If the price during this period is rapidly changing, it reduces the confidence of market players, changing the terms of the product selling, cease to be a favorable long-term contracts and the price system is gradually losing its importance. Price stability is also monitored because many people believe that stable prices allow the economy to allocate resources effectively and in addition so that the results can respond to customer preferences. In connection with the stability of the price level we are often faced with the problem of inflation.

External economic balance. Individual countries have recently become increasingly interconnected system of trade and financial relations, which affect how the domestic economy will perform in the future. External environment affects largely the economic stability of individual national economic units (states). Individual economies are more or less open to these relations. Macroeconomists monitor and evaluate carefully the position of the national economy to the rest of the world (external economic position). This process is expressed by the results of the balance of payments of the state as a systematic record of all transactions by residents of one country with residents of all other countries in a given period, usually for one calendar year. Surpluses or deficits of individual balance of payments accounts are a whole great importance for the economy of the country.

International trade (including the flow of capital goods) is fulfilled under the condition of currencies exchange. Therefore, the individual countries monitor carefully their exchange rates, i.e. the price of their home currency expressed in the currencies of other countries. Fluctuations in the exchange rates affect significantly the country´s trading options at the international market.

These above-mentioned basic macroeconomic objectives are supplemented by a number of other important variables. Their formation and regulation are derived from primary objectives. We have in mind the issue of aggregate demand and aggregate supply, the state budget, and the balance of public budgets and their changes, public debt and its structure, money supply, foreign debt and other variables.

For external economic balance it is important primarily if on the domestic economy is able to react to strategic changes in their surroundings adjust their own economic structure gradually and flexibly, so that it will be able to compete in the next period at the world market, but also in the long term to stabilize the domestic economic situation, and also get a stable position in the world economy, as it want to be a good business partner for other countries.

To achieve the desired objectives the country must be able to create and use instruments to fulfill the objectives. The structure of appropriate tools and their use shall be kept constant controversy among economists, in reality; their using is even more influenced by the decisions of policymakers.

In macroeconomics there is used the term “economic-political tools” because their selection and use is governed not only by the economic logic, but also by the political situation to a significant extend (the positions and interests of political representation).

Economic-political tool is an economic variable that is directly or indirectly controlled by the government, and changes in the structure and use of various instruments affect ultimately the performance of macroeconomic objectives. This means that the government can manage the economy by changes in macroeconomic instruments (combinations of timing, the power etc.), to achieve the goals.[9]

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[9] Compare SAMUELSON, P. A., NORDHAUS, W. D. *Economics.* 13th edition, 1995. p. 83.

The first group of tools of macroeconomic management can be fiscal policy. Fiscal policy is determined by the level of taxation and government spending influencing the macroeconomic performance of the economy (employment, the price level). The basic tool is the state budget, with its budget structure, which sets rules for flows in the economic system of the country. Government spending directly affects the market situation and creates opportunities for revitalizing the economy of certain entities that deal with contracts for the state. The opposite is the function of taxes, which the state within its budget policy affects not only the market prices, but also the costs for manufacturers. We will discuss in detail the problem of how government spending and government tax policy affect gross national product and the overall price level in the economy.

Monetary policy is another major instrument of macroeconomic policy. It includes lending regulation and banking system regulation, by the central bank. The central bank may own a wide range of measures and methods to influence not only the quantity of money in circulation, but the terms of trade. Fundamental problems, that various models of monetary policy address, consist of forming the supply of money and relationships between money, product and inflation. Influencing the running a turnover of cash resources is one of the essential features of monetary policy.

External economic relations are important for stable and steady development of each national economy for positive macroeconomic development. As the increasing openness of the economies, economists and politicians have devoted increasing attention to the management of external economic relations. States, these trends affect either the formation of external trade policy, or regulation of the currency market. The aim is to know how to get the most from the currently existing advantages and face existing risks and threats. In this respect, there is very important ongoing coordination of the interests of national economies in order to create an environment that will bring common synergies. The aim is to stabilize the international monetary system and achieve commercial balance between the major partners in the field of international trade.

Income policy is not the meaning of the last groups of instruments of macroeconomic policy. The system of income policy is among the most discussed instruments of macroeconomic policy. Income policy has long been used and seen as an essential tool in the fight against inflation. It consisted in the regulation of prices and wages and the state often featured as a major guarantor of stability. These interventions, however, gradually emerged as a less efficient and ultimately very costly. The high price and wage regulation by the state led to excessive dirigisme and constrain personal activity and entrepreneurial initiatives. Especially conservative politicians and economists criticize the ardor of the state in regulating market forces.

1.4 Stabilization of the macroeconomic situation

When you study the economic literature carefully, then you come to the realization that all macroeconomic analysis aimed to identify the conditions for the balance of economy and optimal use of all possibilities (source, personnel, technical, technological etc.). The fundamental problem is, however, that in these conditions the economy should remain stable without significant fluctuations that could worsen its future development.

The term “stability” is usually referred in economic theory to one of the qualities of balance, where, despite the dynamic evolution, the variable remains constant. We can also say that the plans of economic operators are met without serious changes. The concept of macroeconomic stability is not uniform at all. The problem is to formulate a desirable condition of the economy in the form of prescriptive and subsequently maintained level of the main macroeconomic variables that determine the possibility of achieving set economic goals. Macroeconomic stability is represented by (regardless of the political organization of the state, its size or geographic location):

- *the growth rate of real output,* which should move as close as possible the development of potential product. It's not about the highest growth rate of the product, but about natural rate corresponding with momentary possibilities of the national economy, to enable further development and not absolute resource depletion and economic devastation in the following period;

- *low unemployment rate, which is closed to the natural rate of unemployment;*

- *price level stability,* while in reality it is usually a requirement of a moderate inflation maintenance;

- *external economic balance* as an indicator of the stable position of a state in the process of international exchange. It is considered as the balanced balance of payments or compensating balances of capital and current accounts of the balance of payments.

The criteria of macroeconomic stability mentioned above are also called normative ones. In particular form they are included e. g. in the programs of political parties and later corrected by government programs and statements, where you can find the specific definition for the following periods. In this sense, various measures are gradually taken in these areas with the help of the government draft laws and regulations designed to ensure the achievement of these criteria in various areas of economic life of society.

Instability (fluctuation) of macroeconomic variables

The development of macroeconomic variables is not stable in reality and it is characterized by recurrent fluctuations in real output, oscillating levels of unemployment and inflation changing and often by unforeseen results in the form of balance of payments surpluses or deficits. Such manifestations of macroeconomic instability (fluctuations) are referred to as disturbances in the macroeconomic system.

These disorders are normal in economic reality and we will focus on them in the text. We will try to identify their causes, and also there is a problematic topic of the suitable tools selection to respond to these disturbances. The question which we are not able to find a consensus in macroeconomic theory is whether and how the authorities should respond to these disturbances. Just as there are diverging views in microeconomics on how to create and formulate competitive environment by the government, as well as in macroeconomics there are at least two fundamentally different views on the application of government regulation in the macroeconomic environment. If we want to divide them roughly, then we can talk about the conception of liberalism and interventionism.

A. Liberalism

Liberalism is one of the main directions of economic thought. It is based on the assumption of market flexibility. Prices adapt to changes in supply and demand. According to this perspective, the economy is stable in the meaning that it maintains automatically effective rate of utilization of available inputs. If there is a violation of macroeconomic stability, then the cause is seen primarily in inappropriate corrections by the government (it is called as a government failure).

Proponents of this stream of thought see the role of the state (government) up in the following activities:

- creation of *a legal framework for business* (in the form of guaranteed property rights protection and contractual relationships),
- creation of conditions for the functioning of a competitive environment and preventing cartel activities,
- ensuring the production of *public goods* (defense, health, education, etc.)
- ensuring the *equilibrium at the money market* by influencing the amount of money in the economy.

On the basis of liberal principles various streams of economic thought have been arising starting with classical political economics of Adam Smith and David Ricardo, but others as well. We can also appoint neoclassical economics, which was followed by conservative economics (monetarism, rational expectations school, supply-side economics, or the public choice theory).

B. Interventionism

Interventionism is a way of thinking that it is the polar opposite of liberalism. Various concepts are based on the assumption of market inability of the market to stay in balance. In this approach, market failures, such as unemployment or cyclical fluctuations in the level of the product, are justifying as a failure of the market mechanism (we talk about market failure). According to the representatives of this view, governments should to intervene in the workings of the economy to ensure the stabilized situation of the economy. It must be said that it does not mean state intervention promotion in all cases, but just not to refuse these activities.

The approaches depending on the idea of intervention in the economic system are represented by various streams of Keynesian economics, such as institutional and non-institutional economics in the United States.

1.5 Main streams (schools) of economics

It should be pointed out again that the economic interpretation of the same economic reality is often very different. Economic views and attitudes do not originate in a vacuum, but they reflect the goals, interests, attitudes and life experiences of their carriers. And they are often very different. And interpretations of individual authors are also different. Representatives of various theoretical streams tend to divergent views. Macroeconomics has no exception here and we can study several major streams of thought. Their detailed analysis is described in the subject of history of economic theories. Here is a brief overview for initial orientation.

Classical a neoclassical economics

At the beginning of creation of economics as a science there was a stream called Classical Political Economy and its representatives - Adam Smith, David Ricardo and others. This school of economic thought is characterized by markets functioning, that means their ability to point to macroeconomic equilibrium. This principle was personalized by the assumption of “invisible hand of the market”. Tracking individual benefits of buyers and producers tends to market equilibrium and leads to efficient use of available resources. Government intervention into the “natural” market environment was rejected generally. This attitude, however, represented a natural reaction to the economic reality of that time.

Roughly from the last third of the 19th century neoclassical streams caught on greatly, promoting and explaining the dynamics and changes in the economic structure using enhanced standard economic analysis. The representatives of this stream were A. Marshall, A. C. Pigou, J. B. Clark, V. Pareto, and more.

Keynesian economics

In the early 30s of the 20th century British economist John Maynard Keynes responded to manifestations of the Great depression, characterized by high rate of unemployment and deep economic recession. Economic theory found itself intricately some way, because the previous assumptions and judgments had emerged as ineffective. J. M. Keynes examined the possibility of government regulation through fiscal (budgetary) policy. The basis of the economic recovery was in his opinion the encouragement of demand activities.

Keynes´s original theory was gradually expanded in the following streams, e. g. in post Keynesianism (N. Kaldor, J. Robinson). Some elements of neoclassical methods were added in neokeynesian stream (the authors are R. F. Harrod, E. D. Domar or P. A. Samuelson). During the 80 years of the 20th century the new Keynesianism was established and reflected some parts of Keynes´s theory, especially thinking of G. N. Mankiw and J. Stieglitz, in a modified form. This stream enriched the Keynesianism by microeconomic foundations.

Conservative economics

In the 60s and 70s of the 20th century the views of new economic theories shaped gradually, roughly based on neoclassical economics with conservative principles. The central role began to be attributed to money and the effectiveness of monetary policy, while the role of the state was considered not so important. We can talk about the M. Friedman´s Monetarism. More recently, the School of rational expectations (new classical macroeconomics) was formed and has been profiled during the two last decades of the 20th century. Its representatives are R. Lucas, R. Barro or N. Wallace. Other streams, based on principles derived from neoclassical economics stream, include the supply-side economics, public choice theory and later real business cycle theory.

References:

FRANK, R. H., BERNANKE, B. S. *Principles of Macro-economics.* 3rd Edition. NY: McGraw-Hill/Irwin, 2007. 561 p. ISBN 978-0-07-325594-1.

FUCHS, K., TULEJA, P. *Principles of Economics.* 2nd expanded edition. Prague: Ekopress, 2005. 347 p. ISBN 80-86119-74-2.

HOLMAN, R. *Economics.* Fourth updated edition. Praha: CH Beck, 2005. 710 p. ISBN 80-7179-891-6.

HYNKOVÁ, V., NOVÝ, J. Macroeconomics I - for Bachelor, Part I. 1st ed. Brno: University of Defence, 2008. 125 p. ISBN 978-80-7231-278-8.

HYNKOVÁ, V., NOVÝ, J. Macroeconomics I - for Bachelor, Part II. 1st ed. Brno: University of Defence, 2009. 82 p. ISBN 978-80-7231-578-9.

HYNKOVÁ, V., NOVÝ, J. Macroeconomics I - for Bachelor, Part III. 1st ed. Brno: University of Defence, 2010. 75 p. ISBN 978-80-7231-734-9.

LIPSEY, R. G., CHRYSTAL, K. A. *Economics.* Tenth edition. Oxford, NY: Oxford University Press Inc., 2004. 699 p. ISBN 978-0-19-925-784-1.

MANKIW, G. N. *Principles of Economics.* 2nd edition. South-Western Educational Publishing, 2000. 888 p. 978-0030259517.

MANKIW, G. N. *Essentials of Economics.* Prague: Grada Publishing, 2000. 763 p. ISBN 80-7169-891-1.

McCONNELL, C. R., BRUE, S. L. *Macroeconomics: Principles, Problems, and Policies.* 7th ed. McGraw-Hill, Irwin, 2007. 380 p. ISBN 978-0-07-110144-6.

SAMUELSON, P. A., NORDHAUS, W. D. *Economics.* 15th ed. McGraw-Hill, 1995. 1013 p. ISBN 0-07-054981-9.

SCHILLER, B. R. *The Macro Economy Today*. 13th edition. McGraw-Hill, 2013. 544 p. ISBN 978-0077416478.