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## **MACROECONOMIC THEORY OUTLOOK AND WORLD FINANCIAL CRISIS**

**Abstract.** During the world financial crisis of 2008-2010 the tools and formulas of neoclassical macroeconomics demonstrated low efficiency and discussion concerning the principles of new macroeconomics became sharply aggravated. P.Krugman and J. Stiglitz supported the necessity of the revival of Keynesian methods of economy regulation, creation of new financial mathematics and financial policy in opposition to neoclassical school. G. Akerlof and R.Schiller's viewpoint on the "behavioural" macroeconomics which takes into account the irrational basis in agents' behaviour and trust is considered and the conclusion about the necessity to start with the structural correlation in the development of economy's sectors while planning financial policy is made. Stereotype tools of financial policy (the types of financial and monetary policy) are examined for which it is suggested to consider the models change of agents' behaviour within the limits of economy sector structure and current institutional mode.

**Keywords:** depression, financial policy, structure, behavioural macroeconomics

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### **1. Lessons of 2008-2010 World Financial Crisis for Macroeconomics**

During the world financial crisis of 2008-2010 the discussion concerning the fact that modern neoclassical macroeconomics could neither foresee the crisis, and warn about it by suggesting some damping procedures nor could clearly explain and give some formulas of its overcoming after the crisis.<sup>1</sup> A posteriori "alternative" economists J. Akerlof and R.Schiller<sup>2</sup>, in particular, began to build new macroeconomics the models of which, in their opinion, should consider trust, the effect of panic or schooling habit of market's agents, etc. Optimism or pessimism epidemics of agents arising in modern financial markets due to the change of trust

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<sup>1</sup> This viewpoint is supported by P.Krugman in his book *The Return of Depression Economics?* (M.: Eksmo, 2009), J. Stiglitz in the book *Freefall: America, Free Markets, and the Sinking of the World Economy.* (M.: Eksmo, 2011) and G. Akerlof and R. Schiller in the book *Animal Spirits: How Human Psychology Drives the Economy and Why It Matters for Global Capitalism.* – M.:OOO "United Press", 2010 – p.273.

<sup>2</sup> R. Schiller was one of the few economists who warned about the crisis and even told that it was inevitable. *Author's comment.*

reproduce the crisis mechanism. Hence, if we consider such effects, “new” neoclassics will be able to explain the observable phenomena. As a matter of fact, there appears an obvious desire of the revival of neoclassical macroeconomics which has already demonstrated itself as unable to explain macroeconomic shifts in 1990s in Russia and in other countries which were reformed under the system of “Washington Consensus”. The reasons are diverse and are reduced not only to “lifeless” assumptions and in this connection to the shortened basis of the given theory as, for example, to the principle of “methodological individualism”, the blessings rarity, equilibrium, information availability, etc., but also to that important circumstance, that neoclassical macroeconomics absolutely neglects the reproduction theory and reproduction cycles which make the proved basis of regularities of modern social and economic development. Neoclassical macroeconomics does not see the economy structure, does not consider the structural changes in the aggregated models of equilibrium type. Therefore, taking into account trust or certain effects connected with it is a palliative in the solution of world financial crisis challenges and its meeting.

G. Akerlof and R.Schiller actually set the task of the revival of neoclassical macroeconomics under the pretext of the so-called “behavioural” macroeconomics. Plain enough criticism of “monetary illusion” and the value of inflationary expectations in decision-making by economic agents was reduced to the fact that the assumption of neoclassical economists as though people in their actions allow for inflation, is unreliable. According to G. Akerlof and R.Schiller, the case of making labour contract is used as a demonstrative example, when an agent does not include wages indexation according to the inflation rate in the contract. Thus, the agent operates according to an unspoken rule of “monetary illusion”, focusing on the nominal values and estimations and forgetting that only real indicators are of importance. In this case, wages should ideally focus on the change of real purchasing capacity. However, there may be the following objection.

The problem is that the agent himself cannot include indexation in the labour contract, and the employer does not wish to do it because of the restraint of labour costs growth. As a result, wages lag behind inflation, but it does not mean at all, that in the process of inflationary processes development in the economy agents do not increase wages growth demand. If wages were automatically indexed and the institutes encouraged such indexation, inflation would be, for sure, higher, thereby, providing a certain lag in the prices and wages dynamics. It is clear, that the wages in the form of labour costs are a part of the price of any product or service. Therefore, there is a correlated relationship between prices and wages dynamics. It is only important what kind of relationship this is in the short run and in the long run.

Agreeing to work under contract, agents often proceed from idea about the living standard and not from the assumption what inflation will be. So, roughly estimating the wages, they agree with some consumption and life standard, that is, such estimation considers inflationary changes, though implicitly. Thus, inflationary expectations are somehow or other being taken into account by the agents, only they

are camouflaged and are not so obvious. And the more unexpectedly the prices change, the higher the speed of such changes is. Besides, if the speed of institutional changes is high, the agents will consider inflation and other actions in labour contracts more clearly. Thus, even in these initial reasoning there is some inaccuracy which becomes an essential limitation at neoclassical macroeconomics revival.

Recommendations concerning crisis management were reduced to monetary and budgetary policy operating to provide full population employment. If there is a crisis in the country which affects financial system and trust level decreases, then how can this problem be solved? Most likely, it is necessary either to increase the government spending or to reduce taxes or to do both ways. However, if we reduce taxes in crisis, all the same, the probability of non-reductions of budgetary incomes remains very small. In this connection, it is possible to assert, that to attain both purposes simultaneously is difficult enough. It should be especially noted that taxes cut under conditions of crisis characterized by decline in output and employment recession leads not to the support of cumulative demand that would be a natural measure, but supports the rate of return of capital proprietors. Nevertheless, G. Akerlof and R. Schiller defend the idea of “intense crediting”, that is, such growth of credits that it would produce the effect of full employment provision.<sup>3</sup> For this purpose, they introduce the multiplier of trust by analogy with the multiplier of Kahn-Keynes. In general, the so-called “irrational” macroeconomics which they suggest and which is based on the principles different from neoclassical ones, assumes active use of the concepts “trust” and “the irrational basis”. It seems to me that it is a difficult enough problem - to create financial mathematics and finance theory considering irrationality and institutional restriction of agents behaviour.

The multiplier theory explained both economy growth, and depression. Multipliers of investments, consumption, government spending, etc. were developed. These indicators show how income changes at their one unity change. The same refers to trust. Growth or reduction of the trust level on a certain unit quantity can lead to income level change. However, I would like to note that such logic is not quite adequate.

First, it assumes trust estimation by exact enough methods and, moreover, the availability of a trust scale in macroeconomic sense. Such problem is rather difficult to solve technically at macroeconomic level and even for certain markets under modern condition of economic knowledge it is probably unsoluble.

Secondly, if there is a trust multiplier, as it is stated, then there should exist a multiplier of irrationality or rationality as the two models of agents' behaviour. Moreover, trust in the financial markets and trust in industrial transactions in which life cycle of a created product strongly influences trust “content”, are, probably, two different types of trust, or, at least, trust effects will be different in meaning, as

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<sup>3</sup> G. Akerlof, R. Schiller *Animal Spirits: How Human Psychology Drives the Economy and Why It Matters for Global Capitalism.* – M.:OOO “United Press”, 2010.

motives, behaviour psychology, time of financial and industrial transactions and their essence differ. In this case, indexes suitable for the estimation of trust level in the financial markets, will not be suitable for trust estimation of industrial transactions.

Thus, there is a question: how can trust be aggregated and built in the financial mathematical models or models of economic growth or crisis? The above-stated work of Akerlof-Schiller which has defined the peak of the discussion on this theme, does not answer this question exactly and there are still no useful models concerning this problem. In this connection the given problem defines the outlook of economic knowledge development in this direction. It is to find the answer to this complicated question. That is one of the consequences of world financial crisis for economic science.

Thus, it should be ascertained that modern macroeconomics does not consider such effects, including the so-called trust multiplier. "Behavioural" macroeconomics asks a number of very important and useful questions and gives specifications in the development of new financial macroeconomics, financial mathematics (it is what P.Krugman spoke about). These questions are useful, but insufficient as macroeconomic dynamics is defined by the structural proportions of economy, alongside with the trust relations, in particular, correlation of financial and real sectors of economy.

The world financial system in the crisis of 2008-2010 demonstrated that for many years its development was accompanied by accumulation of many disproportions caused by the growing loss of contact of the financial system with the development of industrial sectors and real demands, inadequate definition of financial policy priorities, dedicated to the purposes which are not directly connected with the problems of economy's "real" sector development.

Thereby, P.Krugman's thesis that modern financial mathematics and macroeconomic models are not satisfactory at studying and description of arising crises<sup>4</sup>, J. Stiglitz and other experts' suggestions about the corrections of finance world system, which were presented officially in the Report of Financial Experts Commission of the United Nations in 2010,<sup>5</sup> will probably create some optimism for economy and economic science in the short run, but in the long run, in my opinion, they create only illusive hope. Meeting the world crisis with Keynesian methods is seen to be a little more constructive because of the emphasis of the role of the state and economy regulation. However, it is necessary to note that Keynesian formulas cannot be one more panacea because Keynesian policy reduced to stimulation of aggregate demand, affects the economy generally towards the increase of its debt.

The problem is not only in the maintenance of financial and other institutions responsible for various systems functioning, not only in the distinctions of fundamental features of sectors evolution and changeable mode of their interaction,

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<sup>4</sup> Krugman P. How Did Economists Get It So Wrong?//The New York Times, September 2, 2009, pp. 3-8

<sup>5</sup> About the Reform of International Monetary System. Lessons of the Global Crisis. Report of the Commission of Financial Experts of the United Nations. – International Relations, 2010. – p.328

but also in the methods of economic (financial, monetary) policy regulation approaches to which should be changed.<sup>6</sup>

First, monetary and financial policy should take into consideration the source of inflation, its fundamental principle. Because defining useful transmission mechanism of economy crediting, it is necessary to consider that percentage increase is not a useful means of inflation control as productive industry and other sectors dependent on percentage can suffer, but prices dynamics does not change greatly. Too low cost of money which was observed on the crisis eve promotes economy development “beyond its means”, provokes a hypothecary pyramid, excessively expands the consumer credit and so on. It makes the basis for crisis.

Secondly, it is necessary to identify the priorities of monetary and financial policy. These priorities should be reduced not only to the prices stabilization but to the development of real sectors of production, especially food and power industry as these sectors made significant contribution to world prices dynamics. Anti-crisis measures should be aimed at restoration of enterprises’ liquidity, solvency increase and stimulation of domestic demand.

Thirdly, it is necessary to have better coordination of financial and social-economic policy as considering real sector and financial system, not only stabilization of prices dynamics, but also stabilization of sector dynamics should become an overall objective of monetary and financial authorities’ behaviour. The unbalanced development of two basic sectors (financial and real) intensifies the risks of crisis functioning in each of them.

Fourthly, financial system dysfunction is the basic reason of crisis when functions are not carried out in the necessary volume and due quality, and resources are absorbed with accruing increase, generating effects of debt economy. Financial markets cannot control themselves and loss of functions leads to system destabilization.

Fifthly, financial system efficiency and financial policy should be estimated according to how it is possible to develop real sectors of economy instrumentally using financial resources and distributing them in the economy.

The purpose of financial and monetary policy should be in the provision of “real” sectors of economy with money. Banks should provide industrial activity with credit. In connection with the information mentioned, it will be necessary to change the view of new macroeconomic theory suggesting the tools of economy regulation. It is the main error of world finance system planning, manifested in the loss of contact of financial system with the “real” sector, and besides, the appearance of “Triffin Dilemma”, insufficiency of global demand and ideological cliché in economic policy which had no due coordination, caused “crisis” result, both in economic system, and in economic science which could not explain the scope of interconnected complicated phenomena.

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<sup>6</sup> Krugman P. How Did Economists Get It So Wrong?//The New York Times, September 2, 2009, pp. 3-8

The problem of modern world financial crisis is concentrated in the nature of capitalism and its basic institutions. Such classics as K. Marx, T. Veblen, R. Hilferding and many other their followers paid attention to this nature. The reason is that industrial capital is subordinated to financial capital, and there is a deep rupture in the development of financial and real sectors of modern economic system with obvious strengthening of speculative principles in the economy (formation of pyramidal financial structures).

Marx K. noted, that “banking capital domination over the industry is an important phenomenon of the newest time”.<sup>7</sup> Hilferding R. developing the same idea more than half a century later mentioned that “the function of industrial capital becomes more and more the monopoly of large monetary capitals both separate or associated”.<sup>8</sup> He marked these tendencies in the middle of 20<sup>th</sup> century.<sup>9</sup> Veblen T. in “The Theory of Business Enterprise» demonstrated that the basis of economic crisis was in the operation of financial institutions and money turnover. Credit inflation and deflation are the two mechanisms, providing capitalism development cycle. The causes of modern crisis are disclosed in the financial system dysfunction with its further diffusion to “real” sectors of economy.

The USA was the generator of financial crisis:

- Since 1979 up to 2004 incomes of the poorest 20 % of the population of the USA increased by 2,8 %.
- The total debt of all agents in 2007 made up 350% GDP, that exceeds 1929 debt.
- Debt on bank cards made up 900 bln. dollars.
- Debts of American families increased from 46% GDP in 1979 up to 98 % of GDP in 2007
- Increase of capital profitability took place at the expense of debts growth.
- Loss of Bear Stearns Company derivatives made about 13,4 trillion dollars by March, 2008.
- Budget deficit was 12 % of GDP, profit share in the GDP of financial sector was 14 of % in 1960 and 40 % in 2008.
- 5 % of the population of the USA appropriated 38 % of income and 50 % of national patrimony during the period 1990-2006 (P. Krugman’s data)

In other words, financial system dysfunction is provoked:

a) management of risks is broken; b) capital is inefficiently distributed; c) savings with minimum transactional costs are not used.

The reason of functions and controllability loss is in the stimulation of the “epoch of financial monetarism” which began with the work of presidential Hunt Commission in 1972. Violent growth of this epoch was in 1980s (the law concerning decontrol of deposit institutions):

- to abolish the ceiling interest rates on deposits;

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<sup>7</sup> K. Marx Capital. –M.: V. 2 – p. 79.

<sup>8</sup> Hilferding R. Financial Capital. The Newest Stage in Capitalism Development. – M.: USSR, 2011. – p. 72.

<sup>9</sup> Hilferding R. died in 1941. Author’s note.

- to eliminate the difference between banks and other credit institutions;
- to allow creation of banks' branches everywhere.

In the law about decontrol of deposit institutions and monetary control of 1980, propositions of Hunt's report were implemented and developed:

- the norm of obligatory reserves was established;
- interest rates ceilings were cancelled, possibilities of savings institutions were extended,
- lending interest rates were connected with discount rates,
- credit conditions became simpler,
- a number of preferences concerning banks operation both for members and non-members of Federal Reserve System was introduced.

It was "a launching trigger" of "financial monetarism". Since the beginning of 1990s financial sector lost touch with "real" sector in its development.

Simultaneously G.Macmillan's report was forgotten, and it was this report where the basic imperatives of financial and real sectors (industry) co-evolution had been formulated:

- financial system is obliged to satisfy the demands of industry;
- monetary policy should counteract the instability of production and employment reduction;
- it is necessary to satisfy the demand for large-scale financing, corporations financing, and grantings long-term capital to small and average enterprises.

In practice it is this financing that was insufficient. Thus, issue of shares for these not so large companies could not solve the problem providing them with sufficient capital. This revealed "rupture" in requisite capital was called "Macmillan's rupture". The basis of economic policy, financial system, should overcome Macmillan's "rupture".

The so-called "behavioural" macroeconomics, unfortunately, can hardly answer the questions of modern capitalism crisis convincingly.

## **2. "Behavioural" Macroeconomics**

According to G Akerlof and R.Schiller<sup>10</sup>, modern (neoclassical) macroeconomic theory describes economy well when there are rational reactions of agents during the action of economic motives of behaviour. However, as to cases with irrational reactions of agents at operation of economic motives of behaviour and non-economic motives (at rational and irrational reactions), the non-classical macroeconomics does not provide convincing description and explanation of economic events. But in practice it is such models that prevail.

The irrational principle of agents and the factor of trust define the shift of the

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<sup>10</sup> G. Akerlof, R. Schiller *Animal Spirits: How Human Psychology Drives the Economy and Why It Matters for Global Capitalism.* – M.:OOO "United Press", 2010.

demand curve of either to the right upwards, or to the left downwards, depending on the fact whether trust increases or decreases. At the same time with the importance of “trust” factor, it is necessary to note that a set of other significant factors - technological, structural, changes of preferences and competitive replacement, etc. - can influence the shift of the demand curve. “The multiplier of trust” shows how the income changes (whether it increases or decreases), when the trust level grows (changes) by one point. However, just as G. Akerlof and R.Schiller introduced “the multiplier of trust” on the basis of law of assimilation in their book, it is possible to speak about the multiplier of health<sup>11</sup>, for example, on which the reactions of agents and their contribution to GDP depend, or the technological multiplier and the volume of knowledge multiplier. All these parameters can influence the development of economy to some extent and at the present historical period they are essential enough, so it is impossible to neglect them.

As it is known, the neoclassical macroeconomics has the theory of natural level in its basis. Macroeconomists who include the problem of trust in the analysis and information asymmetry at decision-making correlate their reasonings to this theory though with a proviso. The theory of natural level is also used while working out measures of macroeconomic policy. But critics of neoclassical macroeconomics do not deviate from this idea, G. Akerlof and R.Schiller, in particular. Submission of macroeconomic instruments to full employment achievement when the relationship of labour markets and institutions regulating these markets and the instruments is weak, looks inadequate even if we include trust and the multiplier of trust in this analysis. Measures in the form of discount window expansion, direct investments in banks for economy saturation with liquidity and besides softening of restrictions in enterprises financing by the state are directed on the revival of demand and, certainly, are not perfect. Effectiveness of macroeconomic actions of the government will be defined by what stage of crisis these measures will be applied at.

The reasons of world financial crisis were not only low demand and high energy costs, but also the appearance of stock, hypothecary, technological “bubbles” and, besides, the arisen “credit” deficit. Actually, there was a tangle of a specified set of reasons, the main of which was in the infringement of economy reproduction mechanism and capitalist organization. According to the viewpoint of neoclassical economy “re-animators”, to reach full employment at macroeconomic level the necessity of struggle against credit deficit results from this very position. This logic seems to me “linear”, self-evident and not quite adequate and it ignores the principal cause. It reduces all formulas of crisis overcoming to cosmetic measures of influence. And the suggested measure is extremely insufficient to provide manageable way out of the crisis and to prevent its re-emergence. Certainly, it is necessary to limit gamble on derivatives and other securities, and to regulate the process of securitization. For this purpose management instrumentalization of financial system in whole and its

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<sup>11</sup> Sukharev O.S. The Theory of Economy Effectiveness. – M.: Finances and Statistics, 2009.

updating are necessary. The part of the activities follows from procedural character of financial system management. However, it demands drastic changes. The need for comprehension of such change is even higher. The general overestimated and unjustified optimism which is generated by gamble and the difference between the issue of short-term and long-term credits (when money is taken for short term, and given out to agents for a longer period) provided low efficiency of basic financial bank institutions. As a result, liquidity collapse for all economic system happened. To solve the problem of agents' psychology change, generated under the influence of operating institutions by simple taxes cuts quickly, budget expenses growth and percent decrease is difficult (these measures are opposite in realization, it is difficult to lower taxes and to increase expenses simultaneously). Though the specified measures will not be useless. It is necessary to isolate them from possibilities which in essence destroyed macroeconomic stability, having generated the crisis, gamble opportunities and getting the blessings which do not correspond to their contribution into public production.

Let's pay attention that 2007-2010 crisis was caused not by the fact that agents had taken out their capitals (capital "flight") as, for example, in Thailand in 1997 that caused downfall devaluation. In the present case there were no strong devaluation anywhere. I believe, that it was updated crisis of global capitalism, crisis of its financial institutions "swallowing" monetary resources and depleting industrial sectors with credit. In other words the gap between production of goods and financial system has reached such a level, that non-crisis development of economy is impossible.

Planning of macroeconomic policy on the basis of the natural level theory with credit binding to the necessity of full employment seems to be not quite correct and out-of-date method of macroeconomic policy. Introduction of the multiplier of trust of Akerlof-Schiller type does not provide a new theory of macroeconomics as the authors of the work designated above declared. The reasons may be the following.

First, inflation cannot be determined by a single factor and so rigidly connected only with it in the short-term or long-term period. Unemployment factor is meant. The higher the unemployment, the lower the inflation, at low unemployment level inflation becomes high enough. Besides, it is difficult enough to confirm mutual determination, proceeding from Phillips curve, because unemployment phenomenon depends on labour markets condition and structural changes in the economy (inter-sector dynamics). In other words, such correlation is a model, stagnation of 1970s having visually demonstrated the deviation from this model when inflation and unemployment were high.

Secondly, besides unemployed who has original motivation and very rigid restrictions of personal income and consumption level, there are agents with absolutely different model of behavior in the economy, those having job, but showing different activity, that is, innovators and conservatives (the variety of conservatives is simulators). Co-operating, testing various transitional conditions they define the

process of prices dynamics, that is, inflation most of all.

The theory of natural level proceed from the position, that “monetary illusion” is unusual for agents, so they make the decision concerning prices and inflation and other events rationally. Economy equilibrium and its greatest efficiency would be ostensibly reached in the point of full employment where a certain rate of unemployment remains, but it does not make its contribution either to inflation, or to deflation, that is, it is neutral to prices dynamics. It is considered, that there is always unemployment in the economy of markets as a certain indicator of system’s flexibility. Its development is not on the curve of manufacturing feasibility, that provides the possibility of maneuver and augmentation of the result in all directions, instead of transfer of resources from one development direction to another. The value of the natural level for each country is its own and can change in the course of time. For example, it can increase. It means the admission of relative growth of unemployed in the economy as a norm. It is necessary to consider structural characteristics of the economy , the necessity to use the tools of macroeconomic policy for achieving necessary structural correlations at forming the models of “new” macroeconomics, as well as to define changing sensitivity of economic policy tools in the course of economic changes.

Economic policy is linked with this natural level and seeks to lead the system to the point of natural level as to the position of the greatest efficiency as it is usually considered according to M.Friedman's theory and other representatives of Chicago economic school. Let’s pay attention to the fact that the given theory says nothing about other factors of unemployment and inflation, about the state duration in the point of natural level, about tools flexibility of macroeconomic policy and their ability to lead the situation to the given equilibrium. The scale estimation of such phenomenon as unemployment depends strongly on the definition of this phenomenon and the accounting method. To be more precise, it depends on the rules according to which unemployment is registered. The agents operating according to these rules and finding ways of deviation from them or using these rules for acquiring additional benefits, can be motivated in their actions by the level of social protection and the volume of governmental social programs which influence the decisions concerning change of job and acquisition of the unemployed status. Besides, institutional effects of economic system functioning are not considered.

When the agents’ level of trust is low, it is difficult enough to expect the massive dissemination of innovations in the economy. One and the same agent can be both an innovator, and a conservative, or a simulator depending on institutional conditions, monetary maintenance of the activity and governmental measures. Permanent switching of strategy depending on these or those conditions is observed. Trust is formed during the laborious efforts and is connected with consistent actions actually confirmed which bring satisfaction and are connected with the expected result. In case when one is expected, and another is done, the trust is quickly lost, as it disappears at massive opportunism. It can damp the risk of income loss as a result of

competition. Therefore, the trust factor is important enough in the formation of agents' economic motivation.

The existence of innovators, conservatives, simulators in the economy, their activity during these or those periods can influence prices dynamics greatly. This influence can be such that, in particular, number growth of innovators and innovations will be accompanied by upward prices dynamics and unemployment growth, and measures undertaken by the government on the assumption of "the theory of natural level" will lead in this case to collapsing of the specified tendency. Domination of conservatives and simulators can support growth of prices rates at some stable level. However, the reduction of "innovators" will cause unemployment growth. The correlation between the contribution to inflation of various agents' groups and economic development actually defines and explains deviation from Phillip curve model when both high inflation and high unemployment and relatively non-increasing inflation with employment reduction can exist.

Thirdly, the employers representing a special type of economic agents, carrying out wage and employment policy at microlevel, have learnt to calculate the labour costs to be able to reduce actual wage preserving the profit rate which is important for them and for owners. For this purpose, the employee is paid fixed salary and the whole system of premium and bonuses is introduced which is as though connected with the results of work and frequently with profit. At crisis in the economy, or at crisis period for a specific firm, the employer simply abolishes these bonuses which, as a rule, are not regulated by labour law and each firm or organization can have its own premiums. Hereupon, worker's wage actually paid is reduced, and to appeal against such actions is practically impossible or it is very difficult (transactional costs are high). Thereby, the effect of the ratchet seems to exist, that is, the prices for various factors of production are rigid to fall, they are tenacious to decrease but according to the "labour" factor there are obvious possibilities of wage reduction (the price of labour). It is one of the factors of savings reduction during the crisis periods, savings being reduced also due to financial destabilization, devaluation, reduction of banking system liquidity and, etc.

Hence, signing such labour contract having fixed salary and the system of bonuses the employee does not only include expected inflation, but de facto and de jure signs the consent to the possibility of the value of his labour deflation. These institutional results are not taken into consideration by neoclassical macroeconomics. Thereby, the problem of receiving "microreasons" for macroeconomics still remains unsolved. The analysis and study of technological changes can make the tool which can be used in coordination with the tools of financial regulation as an original microbasis for new macroeconomic.

Thus, summarizing the given reasoning, it is necessary to note that behavioural macroeconomic theory can arise not at the expense of inclusion of certain psychological effects and updated parametres (kind of trust multiplier) in old and already inadequate analytical design, but at the expense of using microeconomic bases

of macroeconomics with receiving an accurate picture of models change of agents' groups behaviour, institutions, tools of economic policies aimed at achievement of steady non-equilibrium states and expected behaviour changes of microeconomic agents on the basis of the reproduction structure analysis of national economic system.

### **3. Financial and Monetary Policy in “New” Macroeconomics**

From the theory of financial policy it is known that there are three types of financial programs: balanced budget, built-in flexible stabilizers and compensation programs<sup>12</sup>. These three types of financial policy are aimed just at the specified purpose of economy development.

Financial policy presupposing balanced budget proceeds from the fact that during the periods of economy upsurge there is an increase of tax revenues that allows increasing expenses which stimulate economy growth, and reduction of tax revenues during the recession periods that leads to reduction of expenses. The state of financial system is estimated according to the budget balance. If expenses do not change during the periods of growth and recession, tax rates usually should increase during the recession to support the level of expenses at invariable level.

Financial policy of built-in flexible stabilizers type presupposes the invariable expenses level of the state. In this connection tax rates are fixed, and a certain quantity of unemployment is admitted. But the purpose remains the same - the balanced budget.

Financial policy of compensation programs type is, in essence, a working out and realization of federal and regional financial plans for the development of separate sectors or activities.

In Russia it is target federal and regional programs and National Plans. In total these plans and programs present the integrated long-term financial plan or, anyway, they should present such a plan. If the purposes of such programs and plans and the expenses are set proceeding from macroeconomic tasks of financial stabilization, in particular, the task of inflation reduction is one variant of financial policy which is called anti-inflationary. Otherwise, if these purposes and guidelines on expenses proceed from the needs of each sector, in this case the given approach is not connected with anti-inflationary policy. There appears an important question: is it possible to design the parameters of such plans without any connection with anti-inflationary policy? If the factor basis of inflation is defined incorrectly, then binding the plans or programs with the problem of anti-inflationary development, the government automatically sacrifices the purposes of the given plans and programs. Let's imagine Chukchi Peninsula or Northern territories of Russia, or the Far East where transport and energy expenses make the basic contribution to inflation, where

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<sup>12</sup> Hansen A. Monetary theory and Financial Policy. – M.: Business, 2006. – p. 245.

there is so-called northern delivery of foodstuffs and other products. How can the factor basis of inflation for these areas of the country be the same as in Moscow? The answer is obvious, that it is quite different. Therefore, first, there cannot be identical methods of counteraction to this phenomenon with reference to such economic areas defining the specific character of economy organization; secondly, plans and programs realization demands logic which would proceed not from the necessary resources and expenses estimation for them, but proceeding from expenses estimation for production and achievement of specific goals. In other words, expenses should be planned in conformity with the purposes. The logic of the market and the balance becomes irrelevant at the solution of such problems.

The following features are characteristic for the three named types of financial policy known in the macroeconomic theory and realized in practice:

First, they are connected with a business cycle expressing interchange of growth and decline stages in the economy. Hence, the financial tools are bind with conjuncture change, and not to the factors which define the essence of these changes.

Secondly, in connection with the first thesis, it is desirable to have deficit in depression period and surplus (budgetary surplus) in the periods of economy growth. It is considered that during the periods of economy growth the government withdraws the larger part of the created income from agents than during the periods of crises, and the larger part in comparison with the expenses by means of tax system (with the assumption of tax rates non-changes). In other words, the government hampers the growth at the expense of private expenses reduction by means of tax withdrawals, and aggregate expenses counteract the recession. Certainly, this approach is not satisfactory not only under conditions of permanent tax changes covering a considerable period of time. And not only because the borders of fluctuations during the economic cycle blur a little, and it is impossible to provide precisely the connection of growth and recession periods in the financial plan. That is why it is difficult to provide equivalence of budget incomes rise over the expenses under conditions of growth and then a return correlation during economy recession due to the lags of agents' reaction and the effect of system's inertia. As a result there is not a balanced, but relatively stable budget.

Thirdly, if the system's effectiveness decreases and competitiveness is reduced, then big expenses from private agents and the government as a compensation are required and the persistent deficit tendency increases with the appearance of debt economy. In the modern world expanding competition problems in technologies and knowledge, the demand for expenses growth increase, and consumer effects and aspiration for certain living standard also promotes the effect of reluctant expenses reduction at a simultaneous tax arrears. As a rule, it becomes the major factor of state and private internal and external debt increase and budget deficit.

Stereotypic methods of inflation counteraction usually proceed from the fact that it is necessary to influence the factors causing inflation, budget deficit or monetary policy of expansion usually being admitted by those factors which

additionally provoke inflation.

At inflation acceleration governments of different countries usually restricted consumer credit, credits for real estate purchase, limited deposits growth, actively sold state bonds in the open market, counteracted wages growth, proceeding from the fact that such growth should not outstrip labour productivity growth, that is, it should be “earned” somehow.

The government has the following sources of expenses financing: loans from the banks in the country and abroad (loans from the governments), loans from agents in the country, tax incomes received within the limits of taxation operating system (progressive or proportional as in Russia). If financial policy promotes or leads to the situation when at the positive rate of inflation there is a deflation on the single factor of production, i.e. labour, and the only way for financial crisis management is to help the bank system, it is difficult to provide expenses support by means of the enumerated tools. The policy of wages growth control and income deflation control usually turns out to be still bigger reduction of expenses with the following blocking of investments.

At the same time it is necessary to note that labour productivity depends on capital supply. However, the change of production prices of means of production represents, as a matter of fact, capital inflation. In other words, at forming macroeconomic policy it is important to consider the interaction of two processes of inflation, capital and labour. It is better to say, the two components of the inflation process. If inflation is different in economy sectors, then, having allocated the elements of national wealth (resources, capital, labour, technology, knowledge, etc.) it is, certainly, quite justified to estimate price level change on these elements, that is, inflation on the elements of national wealth. For Russia the following effect is notable when at inflation of aging fixed capital the real cost of which was reducing from year to year, there was labour deflation. Devaluation of this factor of production was observed both in 1990s, and in 2008-2010 at world financial crisis. Thus expenses structure in macroeconomics strongly influenced the parameters of social and economic dynamics, including prices dynamics and evolution character of economy and its structure change.

In the case when the principle of consumer independence ceases to operate and thereof the demand is determined and defined by the supply, neoclassical models of balance have no leg to stand on as the behaviour of the supply and demand curves are not in this case independent. The important result for macroeconomics is that it is also difficult to divide inflation of demand and supply (costs) when supply and demand are non-linear dependent. In connection with the stated above, the level of instrumentalization of macroeconomic theory should increase, that is, the suggested government activities should not only be verified from the point of view of sensitivity of the agents and economic system to them, but also proceed from the interdependence between the system's elements which they influence, giving its movement a certain necessary direction.

Now let's illustratively consider the elementary (simplified) scheme of economy which we will think to be "an abstract economy", consisting only from the agents who exercise expenses in the following directions. Relying on the analysis of these expenses according to the groups of economic agents it is possible to single out the savings modes for such system. The properties of each mode should be considered at the formation of macroeconomic policy mechanism.

Economic agents expenses to such hypothetical scheme can be presented by six basic groups: 1) purchase of products of day-to-day need (food, clothes, electrical (household) appliances); 2) purchase of durable goods (cars, garages, houses, apartments, summer residences, durable devices); 3) expenses on medical services and medicine; 4) expenses on education, re-training, advanced training; 5) expenses on leisure and rest; 6) expenses on fictitious capital acquisition (securities, shares, bonds, bills, etc.) . The part of agents' income spent, is spent uneven for the named groups. The distribution structure of expenses defines the general vector of economy development which should be reflected in financial policy activities. There is Ernst Engel's law in economics according to which the share of agents' expenses on foodstuffs is an indicator of their well-being, that is, the lower this share, the higher the living standard. At the same time, expenses are distributed between six groups of the goods specified, and if we allocate five groups of agents according to the average income level then within the limits of each group of agents there will be its own distribution structure of expenses, as well as there will be its own saved income part for each group. We will designate the average income as  $d_j$  in profit group  $j$ ;  $z_{ij}$  is a share of expenses by  $i$  kind of welfare ( $i$  group of six designated) for agents' profit group  $j$ .

There is a dependence of expenses on each type of welfare from the growth of the average income within the limits of profit group. This dependence as a variant, in the elementary case (generally, it will be nonlinear) can be presented as:  $z_{ij} = a_i + b_i d_j$ . If we consider, that all expenses are spent on consumption of welfare and services, that is, they are connected with acquisition of a certain utility, including, according to this idea, the utility from possession of a fictitious asset, then the relationship of expenses change (the share of expenses always presents the expenses concerning the given object, welfare or group) to the change of the average income  $\Delta z_{ij} / \Delta d_j$  is marginal propensity for consumption, and the relationship of absolute expenses and average income is an average propensity for consumption. The relationship of marginal propensity to average propensity for consumption will be a demand elasticity within the limits of the given group on the given welfare and services. It is clear, that for agents of different groups this elasticity on each kind of welfare-services will vary, and the character of expenses change on each group of welfare will differ. In fact there will be 30 equations, 6 for each group of welfare-services and for each of five profit groups. If the aggregate income of  $j$  group is equal to  $y_j$  (the product of the average income  $d_j$  on the number of agents in  $j$  group), and expenses in

j group are equal  $c_j = \sum_{i=1}^M z_{ij}$ , where  $M=6$ . Then the balance of expenses-incomes in j agent group will be equal:

$$s_j = y_j - c_j = y_j - \sum_{i=1}^M z_{ij} = y_j - \sum_{i=1}^M (a_i + b_i d_j) = y_j - \sum_{i=1}^M a_i - d_j \sum_{i=1}^M b_i$$

In all j agent groups the balance, or savings will be equal  $S = \sum_{j=1}^L s_j$ , where  $L = 5$ . Thus, if  $S > 0$ , there is an accumulation economy (“Gobseck economy “), at  $S < 0$  - we have debt economy, at  $S = 0$  – the economy of zero savings.

If at some interval of time there are cycling periods of debt and accumulation economy, then, on the average, future accumulation can be used for debts repayment on the specified interval. In this case at all the intervals the economy mode of zero savings will be observed. When savings in our conventional economic system are either present or absent, but financial institutions are in such condition that they cannot be used for the solution of development problems in a proper volume, we can speak about the economy’s neutral relation to savings. Having substituted the expression on  $s_j$  for the savings in economy  $S$ , we will receive three modes of economic system development, in a binding to the amount of national income  $Y$  of economic system.

$$1. \quad \frac{\sum_{j=1}^L \sum_{i=1}^M a_{ji} + \sum_{j=1}^L \sum_{i=1}^M b_{ji} d_j}{Y} < 1, \text{ where } M = 6, L=5. - \text{“Gobseck” economy (accumulation mode)}$$

$$2. \quad \frac{\sum_{j=1}^L \sum_{i=1}^M a_{ji} + \sum_{j=1}^L \sum_{i=1}^M b_{ji} d_j}{Y} > 1 - \text{debt mode of economy;}$$

$$3. \quad \frac{\sum_{j=1}^L \sum_{i=1}^M a_{ji} + \sum_{j=1}^L \sum_{i=1}^M b_{ji} d_j}{Y} = 1 - \text{zero savings or development without saving income.}$$

Thus, the undertaken elementary reasoning leads to an important conclusion: influence on factors  $a_{ji}$  and  $b_{ji}$  at the given level of per capita income and national income at a certain time interval, and management of these parameters structure which actually define the structure of expenses on the agents’ profit groups within the limits of these groups and between groups, can provide this or that financial mode of economic system development. The purpose of the stated correlations is to show that the agents’ expenses structure and the sensitivity of expenses on agents’ groups influence the accumulation mode in the economy at elementary reasoning. That means that they influences the financial policy variant as well. When there is an external factor, state and others complicating institutional conditions, corresponding

the reality in greater degree, the result of this influence becomes complicated, but the problem itself remains. Besides, the solution of the problem from the point of view of expenses structure will allow correcting and detailing the tools of financial policy so that to support structure balance in macroeconomic sense depending on the problems of development stimulation of these or those sectors or spheres of human activity. Thereby only formulation of “structural” aspect of macroeconomic policy is carried out.

The equilibrium model of Mundell-Fleming known in neoclassical macroeconomics, connects effectiveness of fiscal and monetary policies (according to their influence on GDP growth) with the kind of exchange rate. At the floating rate monetary policy is effective, at the fixed rate fiscal policy is effective. But it does not consider at all the effect of expenses “viscosity” resulting from reproduction structure of the economy, influencing “accumulative” mode of economy functioning, with arising problems for macrofinance and development. At floating rate of exchange money supply and real money growth cannot lead to growth of production at all with the gradual return of reduced interest rate which has caused the capital outflow and devaluation to former level, as in the model of Mandell-Flemming for the following reasons.

First, the capital outflow and devaluation can be considerable. So at the agents’ structure of expenses in which the share of import prevails, the price rise of the latter will cause prices rise with the decrease of real money in the economy.

Secondly, the part of real money can be spent in the stock market, depending on what mode of accumulation existed in the country at the initial moment of monetary expansion. Capital outflow can reduce the volume of savings, and inefficiency of financial and bank system will not allow using available savings for the needs of production growth. In this case there will be a model “failure”, it explains nothing, and monetary policy at the floating rate of exchange will not be valid.

It is necessary to note, by the way, that the model also operates in the assumption concerning the correlation connection between money and interest. If there is more money in the economy, interest should decrease, however, institutional restrictions of this process are obviously not considered. In Russia such interdependence was not obvious at all for a long enough time. Fiscal policy reduced to government spending growth at floating rate of exchange should not be productive according to the model of Mandell-Flemming. It should not lead to the growth of product.

The logic is the following: government spending growth will increase the cost of money (again there is an assumption about the interrelation between the money supply in the economy and interest which is based on nothing). This will attract capital to the country, providing currency revaluation, expansion of cheap import and export reduction. Deterioration of current operations account will provide an original indemnity to government spending growth, and measures to cover the deficit of foreign trade balance will be required.

However, direct injections in production oriented for export can support export reduction and even not admit it. And increase of export prices and tension on foreign markets will stimulate manufacturers of export production to improve quality and production's technical and economic parameters, to improve service abroad and, etc. The purpose is to preserve sales volume. Besides, the percent can slightly grow for essential inflow of capital to the country, and if there are no capital investment spheres, it will cause moving the property to assets. The expenses structure of top profit fractiles may change, and this change will absorb the available increment. At fixed rate of exchange, according to Mundell-Fleming, there is an opposite situation when monetary policy is powerless, and fiscal policy is the most effective. However, for this case similar arguments are possible which evidently are not considered in the given model. In other words, it seems to me that it is impossible to apply general models, so-to-say, abstractly received for educational purpose to a real economic system. Models of specific factor action are necessary which co-ordinate goals and objectives of economy development with the existing restrictions, conditions, established interrelations of chosen parameters and consider structural parameters of the economy and reproduction mechanisms of the basic resources and welfare. Only such models will provide necessary differentiation on tools to various kinds of economic policy. For example, most likely the expenses structure in the economy will define both the inflation rate, and the rate and quality of economic development.

Certainly, monetary policy is a defining component of modern macroeconomics, created models and macroeconomic policy.

Within the limits of the credit channel theory there are some mechanisms of monetary policy impulsion: bank crediting, balance, cash flow mechanism unexpected changes of the price level and households' liquidity.

This mechanism is based on the assumption that money authorities can influence not only the interest rates, but also the award level (excess over riskless rate) for various financial assets. Hence, the firms face the correlation change between the cost of external loans (by bills or shares issuing) and alternative costs of investing their own means.

The bank lending channel reflects the influence on aggregate demand by means of change of credit volume and availability. This mechanism is the most effective in the economy in which bank lending is the basic source of borrowed current assets for firms.

It is possible to present the mechanism of channel influence as follows:

$M \uparrow \rightarrow L \uparrow \rightarrow I \uparrow \rightarrow Y \uparrow$  (1), where L is the volume of banks' lending resources.

Thus, the system of signals passing through the channel of bank lending allows to find out how the money supply increase is reflected in the dynamics of the commercial banks' deposits volume forming the resource base for issuing loans to business entities.

The information flow continuity is extremely important for pricing process, that is, the ability of market participants to estimate the real cost of a specific financial

asset. However, during the crisis there is a deformation of information flows, and the possibilities of real pricing are reduced. The risks accompanying the crisis, decrease in demand for financial assets are the natural consequences of the increased uncertainty of the investors following the deformation of information flows.

Tension in the financial market has adverse consequences for economy as a whole and can affect output and employment. In turn, economic recession provokes greater uncertainty of financial assets estimation which further affects functioning of the financial market negatively, and so on. In foreign economic literature this process is called financial accelerator.<sup>13</sup> It is necessary to note that this economic phenomenon operates not only concerning the firms, but also concerning households.

The working scheme of the channel of assets and liabilities balance is as follows: money supply  $\uparrow \Rightarrow$  capitalization  $\uparrow \Rightarrow$  risk (information asymmetry)  $\downarrow \Rightarrow$  credits  $\uparrow \Rightarrow$  investments  $\uparrow \Rightarrow$  output  $\uparrow$ .

Concerning the channel of monetary flows the decrease of crediting risk is explained by the growth of firms' monetary flows at money supply increase, i.e. increase of firms' liquidity which raises the probability of credit repayment. In other words, money supply  $\uparrow \Rightarrow$  monetary flows  $\uparrow \Rightarrow$  risk (information asymmetry)  $\downarrow =$  credits  $\uparrow \Rightarrow$  investments  $\uparrow \Rightarrow$  output  $\uparrow$ .

For the channel of unexpected growth of price level the decrease of crediting risk is connected with the assumption that in case of growth of the general price level (inflation) the firms' financial position improves. Financial obligations of real sector are expressed, as a rule, in nominal values and depreciate accordingly at price rise. At the same time, the firms possess real assets the cost of which does not change at price level increase in the economy: money supply  $\uparrow \Rightarrow$  prices  $\uparrow$  (unexpected growth)  $\Rightarrow$  net wealth  $\uparrow \Rightarrow$  risk (information asymmetry)  $\downarrow \Rightarrow$  credits  $\uparrow \Rightarrow$  investments  $\uparrow \Rightarrow$  output  $\uparrow$ .

The channel of monetary transmission connected with effect of households' liquidity influences through consumption. It is possible to present this channel schematically as follows: money supply  $\uparrow \Rightarrow$  the prices of financial assets  $\uparrow \Rightarrow$  households' net wealth  $\uparrow \Rightarrow$  the probability of financial difficulties  $\downarrow \Rightarrow$  consumption of durable goods and expenses on the real estate  $\uparrow \Rightarrow$  output  $\uparrow$

The channel of assets cost became the most significant channel of transmission mechanism in the developed countries.

$M \uparrow \rightarrow Sh \uparrow \rightarrow q \uparrow \rightarrow I \uparrow \rightarrow Y \uparrow$ , where Sh - the price of shares, bonds and other corporate securities, the prices for real estate; q - market price of firms' assets.

The increase of money supply provides the excess of the demanded money quantity at the existing level of interest rates, income and prices, thereof, there is an

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<sup>13</sup> See, for example: Bernanke B., Gertler M., Gilchrist S. The Financial Accelerator in a Quantitative Business Cycle Framework // Review of Economics and Statistics, 1996, Heitor A., Campello M., and Liu C. [The Financial Accelerator: Evidence from International Housing Markets](#) // Review of Finance, 2006, vol. 1

aspiration to replace financial assets (for example, promissory notes of the government and corporations debt instruments) for money. That is expressed in the reduction of income on these assets and their prices increase. The prices of existing assets increase relative to the prices of re-produced capital, the latter becoming more attractive, and demand for it should rise. Hence, expansion (extensive) monetary policy leads to investments growth. Besides, the general reduction of interest rates lowers the price of current consumption, and consumer demand will increase due to the private savings. Expenses grow, thus increasing aggregate demand. On the one hand, the general increase of aggregate demand operates in the direction of production stimulation, but, on the other hand, it, certainly, promotes increase of the general price level, that is, inflation, especially, in greatly monopolized economic system. Simultaneously, the demand growth in the economy where import dependence is strong, essentially worsens trade balance and the balance of payments, strengthens the effect of imported inflation and increases the structural dependence of economic system, including the dynamics of internal prices.

Thereby this policy and the ideas of the presented transmission mechanism act both as tools of inflation suppression or its effective control, and a stimulant of production development within the limits of the theory of “crediting channel”. However, it is necessary to consider that the presented influence of money supply growth on the growth of pure assets can be carried out only due to the productive changes in the industrial sectors.

Generalizing, it is possible to say, that G. Akerlof and R. Schiller are trying to add behavioural aspect to neoclassical macroeconomics not deviating from it cardinally, developing their idea on the basis of the “natural level” theory.

Fast change of trust in the financial markets changes the direction of financial flows in the economy. However, to consider this factor as a macroeconomic factor for creation of a new macroeconomic theory is necessary, but not sufficient. The reason is that by means of this factor it is possible to estimate short-term and, at best, medium-term macroeconomic effects, but long-term prospect is not taken stock of. Therefore, there will not be any essential change of macroeconomic theory. Macroeconomic tools should affect economic structure, stimulus, motives and reactions of agents’ behaviour and in this aspect they should form or influence trust including long-term prospect of financial markets functioning.

If there are hierarchical chains in the economy on which resources  $I_1, I_2, \dots$  are distributed according to the scope of activity  $n$  making a hierarchy and giving income  $y_1, y_2 \dots y_n$  at each level with risk  $r_1, r_2, \dots r_n$ , losses  $b_1, b_2, b_n$ , then the situation in the channels of hierarchical system will be characterized by the proportion on the relation indicator of the created net profit  $d_i = y_i - b_i$  to the value of the resource (investments)  $I_i$ . In other words:  $d_i/I_i = y_i (1-r_i)/I_i$ . It is possible to single out the hierarchy on the degree of branch/sector domination in gross national product creation in macroeconomics which will be characterized by this indicator and there will be a special risk in each sphere (probably it will be incomparable, because it is

different, but it is possible to conduct some comparison from the point of view of loss of income from the activity).

Then influence on distribution structure of resources/incomes and/or risk profile of economic activities and profitability of activities becomes the central problem. This should make up a basis of macroeconomic policy, and the trust will be measured by the indexes not only with reference to financial markets, but also separately with reference to other sectors, as it will, certainly, be connected with risk in the transactions. Negative selection of decisions and tools in macroeconomics can happen because of institutionalization (stabilization) of the negative quality (system's dysfunction). Meanwhile, the change of agents' trust cannot, in principle, lead to any shifts of the demand curve. In other words, the degree of the demand sensitivity to the given factor is important. Thus, it is necessary to consider not only demand, but the sensitivity of the supply to the same change of trust as well, because the general macroeconomic result is defined by such aggregate change.

New combinations provide dynamism to macroeconomic system. Fundamental and technological innovations possess the property to set the level of imitating and product innovations. In other words, there is a partial transfer of knowledge, achievements and possibilities to get innovations at lower levels of hierarchy together with the corresponding resource and possible profitability. It is obvious, that if financial system cannot provide industrial sectors with medium-term and long-term credit, then with the lapse of time there are no possibilities for product, imitating and updating innovations. Raw materials orientation of the economy will automatically mean orientation on updating, imitating and, partly, product innovations, the share of imitating ones increasing, and product ones decreasing.

Let's introduce the following parameters for the economic system:  $e_1$  and  $e_2$  – the volume of the “processed” and “raw” export;  $P$  – the number of employed,  $Y$  – output (created income),  $K$  – structural independence factor,  $Z$  – “closeness” of economic system,  $i_1$  and  $i_2$  – the value of “processed” and “raw” export. It is possible to present a product as having two components: domestic consumption (processing and raw materials -  $vp_1$  and  $vp_2$ ) and export (processing and raw materials -  $e_1$ ,  $e_2$ ) or  $Y = vp_1 + vp_2 + e_1 + e_2$ . Then it is possible to accept  $K = e_1 / e_2$  as an indicator of region's structural independence. It is clear, that pursuing the aim of economy switching from raw orientation to the innovative-technological one the process of such switching itself should be manifested in the increase of parameter  $K$ . In other words, it is possible to formulate the task of production structure optimization in the following way:  $K = e_1 / e_2 \rightarrow \max$ . Let's introduce the indicator of economic sector (system)'s closeness  $Z = Y / (e_1 + e_2)$ , output value (product level per one employed)  $y = Y / P$ , and the value of “processed” and “raw” export per one employed  $i_1 = e_1 / P$  and  $i_2 = e_2 / P$  correspondingly (it characterizes the degree of raw orientation or dependence). Then it is possible to receive that  $y = Z (i_1 + i_2)$  and  $K = i_1 P / (i_2 P) = i_1 / i_2 = (y - Z i_2) / (Z i_2) = y / (Z i_2) - 1 \rightarrow \max$ . Optimum analysis of function  $K(t)$  considering that  $y = y(t)$ ,  $Z = Z(t)$  and  $i_2 = i_2(t)$ , gives the following:

$$\frac{\partial y}{\partial t} = y \left[ \frac{1}{Z} \frac{\partial Z}{\partial t} + \frac{1}{i2} \frac{\partial i2}{\partial t} \right]; \quad \frac{1}{y} \frac{\partial y}{\partial t} = \frac{1}{Z} \frac{\partial Z}{\partial t} + \frac{1}{i2} \frac{\partial i2}{\partial t},$$

Having received this correlation, let's formulate the theorem of optimum economy structure designing:

The optimum structure of economic system production (at:  $\frac{\partial K}{\partial t} > 0, t < t_0$ ,  $\frac{\partial K}{\partial t} < 0, t > t_0$  - we have the optimum structure of "non-raw material" development, and at  $\frac{\partial K}{\partial t} < 0, t < t_0$ ,  $\frac{\partial K}{\partial t} > 0, t > t_0$  - we have stable structure of "raw material" development; full structural, resource dependence) is achieved, when product (output) change per one employed in this region is proportional to the output itself with the proportionality factor equal to the sum of relative increments of the indicator of sector's openness/closeness and its raw material dependence indicator (i2).

In a more convenient variant this theorem can be presented in the following way: the optimum production structure of the economic system is achieved under condition of the scenario of "non-raw material" development of the economy, when a relative output increment is equal to the sum of relative increments of the indicator of closeness and the indicator of raw material dependence of the economy sector.

$\frac{\Delta y}{y} = \frac{\Delta Z}{Z} + \frac{\Delta i2}{i2}$  ) The same is true for the economic system as a whole, either resource-intensive or dependent on certain raw materials.

Thereby the structural analysis allows solving difficult enough problems of inter-sector interactions in the economic system and receiving recommendations about the development of real and financial sectors of economy. This development is necessary for developing two principles - specialization and coordination of functions. The problem of influence on the branch structure of the economy with administrative tools should become central at planning macroeconomic policy. The concept of optimum structure or structure optimization concerns the creation of the mode of optimum development of economic system as a whole. And the optimization problem can assume the presence of several criteria (criterion functions) and imposed restrictions, for example, on the general amount of used resources (including financial ones), the expected income, the size of ecological damage, and etc.

It seems to me important to note, that there is only an attempt to designate the directions of modern discussion concerning the creation of "new" macroeconomic theory, the possibility of "behavioural" macroeconomics, and "structural" macroeconomics proceeding from the problems which were aggravated by financial crisis and the current financial policy and institutions.

For modern macroeconomic theory it is required to proceed from the necessity of influence on economic system structural parametres, providing the essential

proportions of economic development on considered time intervals to provide product growth at achieving necessary efficiency parameters, agents stimulus, institutional infrastructure development, and estimations of total change of players' behaviour models and some most significant markets. That is the essence of the formation of the so-called "structural" macroeconomics which replaces neoclassical macroeconomics gone bankrupt and found its tools on the basis of theoretical view on national reproduction. Here appears the range of growth and development problems, management problems of national riches, maintenance of economic proportions and the set rate of gross social product augmentation. Thus, there is a hierarchy of macroeconomic purposes, where one purposes obviously result from and subordinate to other purposes.

As we see, the unfitness of neoclassical equilibrium macroeconomics underlined by world financial crisis demands new macroeconomic thinking the elements of which assume taking into account the institutional conditions and restrictions of economic system functioning and, what is especially important, structural relationship.

### **Political recommendation**

Fall of the refinancing interest rate which is necessary under conditions of finance "disappearance", nevertheless, is required to carry out systematically, accompanying this change by controllable resources overflow from financial and raw sectors to productive sectors of economy. Such should be the deblocking strategy of already created raw materials orientation and dependence of Russian economy. Application of «interest portfolio» method should be the following: in agreement with the average profitability of various economy sectors it is necessary to establish interest portfolio, that is, interest rates on credit for each sector selectively but not more than this average rate, and banks, in turn, providing the completeness of such portfolio, that is, supplying credits to sectors whose development is necessary to stimulate, will receive preferences at refinancing interest or other institutional-organizational possibilities. Specification of such policy requires financiers, bankers, representatives of the Central bank of Russia participation. Such method can become one of the main tools of "a structural warp» of Russian economy development liquidation and with further elaboration, modelling, calculations, it may help to reduce a mismatch in financial and technical systems development, both in Russia, and in the world, creating a stronger basis for the future economic development. This tool at its designing and use in economy will allow to unite financial system development and technical system of economy. In this case, finance will be provided with real creation processes of welfare and services, and self-increase of financial sector which is self-sufficient in modern economy and periodically causes its destruction, will be blocked;

at least, the separation scale can be reduced, and the probability and destructiveness degree of "disappearance" crisis of finance are cut.

Stimulation of banks to work in the priority branches whose functioning is characterized by low profitability and high risk should be the purpose of a macroeconomic policy. There is a list of such sectors in Russia according to the list of critical and macro technologies confirmed by the government.

It is required to provide R&D with the credit first and then, serially introduce their results. It is possible to recommend the application of «bad balance» principle as a tool of such macroeconomic policy. What does it mean?

As a matter of fact it is possible to present bank credit portfolio having four blocks: financial-bank operations, raw materials sector, commercial-trading operations and real sector. Portfolio balance is bad when the fourth component is insignificant, and the first three, especially the second and the third dominate in their share.

To correct «bad balance» is possible, having established an original scale of rates on credit to raw materials sectors, say,  $b$  % if their share in a credit portfolio of the given bank exceeds  $x$  %, and for real sectors -  $a$  %. And, if a share of operations with real sector is above recommended or legislatively established in a bank credit portfolio, then it is possible, for example, to admit a notable decrease in the rate of refinancing for the given bank. Thus, bank liabilities should be differentiated according to the sectors in a credit portfolio and the norm of obligatory reservation should be appointed according to each liability type to correct structural "warp", to equalize intersector profitability and to provide industrial chains with credit. But the interest should not exceed profitability of sectors.

As we see, ensurance of co-ordinated financial and technical systems development should become a state policy prerogative. For that purpose it is required to form not only a vector of structural economy modernization and management, but also to select a corresponding coordination toolkit of various economic system sectors.

To achieve this purpose it is necessary to raise management efficiency of the state property under crisis conditions. Making the maximum profit from this property is possible by means of its use for the organization of new manufactures mainly in hi-tech sector and with reference to mass productions creating necessary product mass on domestic market. In other words, it is necessary to direct all the state resources for creation of state corporations of transnational level functioning on the basis of vertical

integration principle. It is also required to use lease, and for separate kinds of property with the possibility of its buying-out, say, in 15, 25 or 50 years. It is necessary to stop, at last, the privatization process wasting the state assets. The major trend of government work should be exact estimation of state property and creation of intellectual property accounting system of Russian state enterprises, list creation and monitoring this type of property in order to use the most profitable intellectual resource in future while establishing new production, products and technologies in public sector and on domestic and foreign markets.

As for the state support system of small and medium-sized businesses about which the first officials of the state are speaking, it is not a simple problem. Here one or two instruments or a certain professional opinion are not enough as much depends on, whether the help will be apprehended as the help to a small-scale business, whether it is effective and adequate and in what volume.

Today legislation revision concerning small and medium-sized business is actual. The main tasks are:

- Simplifications of starting a business,
- Minimum registration and control; up to elementary indicators, for example, it is necessary to exclude tax stratifications,
- Incomes legalization. For what it is required to simplify taxation, for example, having imposed only one income tax and/or sale tax (property tax is also possible for the medium-sized enterprises - but its rates should not be exorbitant)

And the scale of sales tax should function incentively towards small-scale business development so that small firms are interested in developing properly. In other words it is necessary to levy taxes on total revenue instead of profit. Sales tax is possible to bring the scale of intermediary and trading small and medium-sized business down, encouraging productive business.