

## Ontological Problems of Modern Macroeconomics

*Michail Olegovich Likhachev*

Sholokhov Moscow State University for the Humanities, Moscow, Russia

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**Abstract:** The article examines the ontological problems of modern macroeconomics. The theoretical and methodological principles of modern philosophy and methodology of science are used as a methodological basement. Particularly the term of "ontological landscape" is used as a systematic description of economic reality corresponding to different economic theories and models. The author shows a versatile way of approach to the "ontological landscape" analysis of modern macroeconomic theories and uses it to reveal all pros'n'corns of ontological problems and contradictions of modern and neo-classical and other ancient macroeconomic conceptions. As a result of his analysis, the author concludes that the main reasons of the theoretical discrepancies in the modern macroeconomics are in the difference of the image of knowledge basements about the behavioral union of the economic environment and the degree of complementarity of governmental objectives with the objectives of the private economic sector. This forms the "ontological landscape", which forms all present macroeconomic conceptions and all macroeconomic models. This author's thesis is grounded by the different theoretical treatments analyses of different theoretical problems of modern macro economics, such as a problem of «underemployment», as a problem of choosing the state macroeconomic politic and a problem of its potential efficiency analysis.

**Key words:** Macroeconomics • Ontology • Neoclassical macroeconomics • Neo-Keynesianism • Post-Keynesian macroeconomics post-valras macro economics JEL: B22 • B41 • B50

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### INTRODUCTION

Macroeconomics claims a holistic description of the economic system functioning process. There's a special language of macro aggregates and macro dependencies for this purpose, which assume the huge volumes of data about activities of a great number of economical subjects. That's why every fact about any kind of stable dependencies between macro aggregates holds quite an unclear statement about the process of interaction between the economical subjects and their typical reactions to economical incentives. Any kind of macroeconomic doctrine includes a certain image of an economical existence, which it matches to. That is why-there's one's own ontology in the macroeconomic theory. In the same sense as T.Louson stated "...the doctrine or the theory that reveals the basic properties and structure of the area of studying" [1, p. 493]. The main interest to the ontological basements in the modern macro economics is mainly in the form of description of behavioral model, which are the basement of

different macroeconomic theories. The results of such modeling may be shown as an attempt of conversion of modern methods of making decisions, which people make every day to the language of modern economical science.

Such type of transfer is necessary for the creation of a description of economical behavior, which would be compatible with science researches aims and purposes. Davidson has noticed that "if we can't find a way to interpret the speech and behavior of another entity as the disclosure of many of his views largely consistent and true by our own standards, we have no reason to believe that that creature is a rational one who may have one's opinion or ability of saying anything at all". [2, p. 197]. According to the analysis of economic behavior which means that if we can't make any model where the behavior of economical subjects would be interpreted as a result of consciously made decisions, we may not explore their actions as targeted to the exact purpose. And this fact makes the building of behavior models absolutely senseless.

The whole problem lays in the science of starts' interpretation from the results and the concrete actions instead of simple logic of economic decision-making. But these actions may be justified by the usage of different decision-taking technologies. As a result we have a certain multiplicity of interpretations which coordinates with the easily observed behavior. That problem is getting bigger and bigger in scope of macroeconomic analysis where the whole macro effects are observed. But, however, the separate economic subjects' activities are not noticed. It certainly gives an additive basement to the multiple interpretations of the observed types of behavior.

The multiplicity of behavioral interpretations is made not because of some facts of economical reality that may be observed, but with the help of several differences due to fact that the different interpretations that correspond the same one reality. That is why it is necessary to put a quite wider context of macroeconomic reality perception related to the modern type of thinking.

**The "Ontological Landscape" Structure of Macroeconomic Theory:** Macro economics as a branch of independent scientific discipline was formed as a theory of cooperation between the government and private sector of market economy. The macroeconomic theory involves a clash of centralized ruling impact which is implemented by the governmental agencies with the spontaneous reaction of the market environment that is a result of the myriad of decentralized decisions. The presentation of multiple subjects of private sector as macro-subjects (households, firms, etc.) is a theoretical fiction that shades apart the fundamental difference between the centralized mechanism of decisions making and a random reaction of private sector based on the number of decentralized decisions. This difference is a basement in the process of interaction of subjects on the macro-level and makes the definite economical theoretic problems which may be solved only by the theory of economics.

The reaction of private sector is a result of decentralized decisions and is a form of uncertainty in the process of decisions making which form the macroeconomic way of government. This policy is based on the waiting of some response on the part of the private economic sector and of some not rather clear type of model of one's behavior. Nevertheless the economical subjects of private sector could include the possible outcomes of the government regulation in one's calculations. It's connected with the both the formations

of their plans or expectations of ex ante and in response to the ratio of these plans with the final result of the ex post number.

The two aspects of the "ontological landscape" become major in the following cases: the behavioral uniformity of the private sector and the complementary goals of the private sector with the public policy objectives. The behavioral homogeneity implies the maximum total or the vast majority of economic agents that could be used in the same process of decision-making. In this case the decision of finding the optimal solution to the problem of public policy options will depend on the level of complementarity purpose of the government and private sector entities. If it's rather high enough, the task of the government is to find a rational type of leading impact which would maximize its own objective function and the objective functions of private subjects. When the degree of complementation is low, the problem for the government is getting more and more complicated. It should establish a system of counter-stimulus which would limit the ability to maximize the objective function of the private sector in order to minimize the arising limitations and its own objective function.

The behavioral heterogeneity suggests the existence of different models of decision-making. In this case, the reaction of economic subjects to the regulating effect of the state is also non-united. The reaction of some groups of the private sector will contribute to the achievement of governmental goals and the reaction of others-will limit the opportunity of its execution. The optimal choice of macroeconomic policy would be more complicated. It is necessary to find such a ratio that would maximize an objective function of the governmental policy from the point of the fact that one group of economic subjects would be contributed to the maximization of the objective function of public policy while the other group will simply prevent this.

**The Ontology of Neoclassical and Neokeynsian Macroeconomics:** The concept of complete behavioral unity of the private sector is a characteristic of the neo-classical macro economics in all its modern spheres and types: monetarism, the concept of rational expectations, real business cycle theory, etc. This unity is based on the universal principle of rational maximizing of behavior and is embodied in models of "representative agent" which differ from each other by several functions (households, firms, etc.) using the identical model of decision-making described as a rational maximization of

some regular function. Economical subjects do maximize one's own functions, reacting exclusively to real long-term changes in the economic situation. Their purposes are non-complement to the objectives of macroeconomic regulation based on the maximization of short-term periods (the volume of national production and the level of employment). The involvement of the government leads to deviation from the optimal parameters of the objective functions of private sector, which are being maximized on the basis of infinite and does not allow the economic subjects to maximize the overall level of life in the long term context. Therefore, the relationship between the governmental sector and the private sector of the context is regarded as antagonistic game in which the victory of one party is the loss of another. From this point of view, the best solution is the "self-restraint" of the state. It means the rejection of maximization of short-term goals in a favor of a stable policy which may be performed by the "transparent" rules.

The model of rational maximizing behavior is the basement of the old "Keynesian-neoclassical synthesis" and the modern neo-Keynesianism. However, several restrictions are strictly connected with the theoretical idea of the direction of rational decision-making. Achieving the optimal parameters of individual objective functions of the private sector is complicated by the presence of various "rigidities" in the modern economic system (the "rigidity of prices and wages" based on long-term contracts, "menu costs", etc.). The economic actors in the private sector face the inability to achieve the short-term optimization. In this case, there is a strong complementarity between the objectives of the short-term government policies and purposes of the private sector due to fact that this policy allows them to overcome the existing system of "rigidity" and bring the "real" state to the "optimal" increasing the level of general well-being. Thus, the interaction between the state and firms takes the form of a non-zero-sum game, which may have a maximizing solution of the grand prix for all the participants. However, it is preferable to make certain rules for effective interaction between the state and the private sector participants as they need to be sure that the public policy will be carried out for them in a favorable direction. That principle was perfectly formulated by M. Woodford in the context of monetary policy. He wrote: "... if the society is able to recognize the mode of action of the central bank, as it is suggested by the hypothesis of rational expectations and if the bank whenever would act in the way, which won't allow to conclude that the further

behavior (and he is not associated with any type of previous commitments), the company will choose the way of behavior, which would differ from the optimum systematically" [3, p. 15].

The behavioral unity of the private sector, which is based on a rational model of decision-making, is fully connected with the certainty of the basic parameters of the economical system. The maximization of objective functions of economic agents becomes possible only under the condition when the function's expected values of the arguments are known for the economic subjects, who are responsible for a decision-taking. However, it makes a significant problem with the ratio of present model and the concept of reality. It is possible to bypass the factor of uncertainty in reality, which may be associated with both a diverse of external shocks and with the actions of the state. The uncertainty which is connected with the policy of the state may be excluded by assigning the state of a certain objective function, which is attributed to private sector members. That function is not necessarily to maximize the social welfare, but it may well be in the model of the policy cycle, for example-to maximize the chances of retaining power in the ruling party. The main thing in this function is to be defined and its parameters were known to all members of the private sector. Then the actions of the government would be clear and predictable. And the private sector entities will be able to ensure the maximization of their own objective functions. However, if the goals of the state and private sector are non-complementary, there is a paradox: in order to ensure that public policy would be effective, the government action must be unpredictable. In other case, actors of the private sector, predicting the action of government on the basis of their rational expectations, would negate their effectiveness. It means that in order to maximize the value of its objective function, the government should not strive in for it. Consequently, the government can only be rational while being irrational.

This contradiction disappears only in the case of complement purposes of government and private sector entities. That is why the Keynesian theory provides strong complimentary goals of the government and private sector subjects in the administration of their models of various "rigidities", which prevent the rapid achievement of equilibrium. The governmental policy is a mean of overcoming or mitigating all these "rigidities" and making the optimal parameters closer to balance, maximizing of the objective functions of the private sector. However, with the existence of many "rigidities", such as long-term contracts, which fix the nominal values

of wages and prices, it is sometimes rather complicated to explain in a world, where the certainty and the rule of rational expectations dominate and the uncertainty is an exceptional phenomenon. The recognition of the existence of "rigidity" is the first step towards the recognition of the fact that these "rigidity" provides the necessary basis for the determination of the parameters and the expected values of the arguments of the objective functions of economic agents. It also states that without them, the maximization of these functions is principally impossible.

### **The Ontology of Post-keynesian and Post-walrasian**

**Macroeconomics:** Alternative flow of macroeconomic theory and ontology is widely represented by a wide range of "post-Keynesian" and "post-Walrasian" theories. [4, 5, 6]. For all the differences that exist in these areas, they are united by a commitment to the concepts of behavioral heterogeneity of the private sector. This implies the existence of more than one model of decision-making, which would inevitably create uncertainty, as economic subjects (including the state) won't be able to predict the response of other entities, simply projecting them onto their own decision-making model. One of the major post-Keynesian methodologist- J. Jespersen-describes the situation: "Managing of expectations is associated with considerable uncertainty at the level of individual subjects and generates significant differences between the expectations of different actors at a time when the future is unknown" [7, p. 123]. In this situation, economic agents have to make decisions, the final result of which is unknown for them. Even if the behavior of all actors is rational, it may have multiple interpretations in the conditions of uncertainty: the subject may choose from a continuum of options that lie between the two extremes-the maximization of the potential gains and minimize potential losses (risk). Any of these combinations may be interpreted as a rational choice of the subject due to its preferences, regarding any risks. R.W. Cooper has mentioned in his scientific work that "...the process... the probability distribution among all members of the set of possible equilibrium is based on the choice of economic agents. This probability distribution may reflect the view that the selection of the equilibrium states is in terms of Pareto-dominance. Only the Pareto-dominant equilibrium will be associated with positive probabilities in that case. The probability distribution may either reflect the dominance of the concept of risk, which... also has attractive property" [8, p. 344].

Consequently, the classification of the diverse behaviors may be used by the widespread division of economic actors in the risk-neutral and characterized by risk aversion. The first will choose such solutions, which would be closer to maximizing the potential payoff, the second - to minimize the risk. However, in terms of behavioral heterogeneity and associated uncertainty, the concept of macroeconomic risk is complicated. In a homogeneous environment, based on the predominance of models of rational behavior, the source of macroeconomic risk factors are external to the private sector: the impact of regulation change in the state or foreign economic conditions. In terms of behavioral heterogeneity of these risks added to the specific risk associated with the ability to match/mismatch decisions subject to the decisions of which are accepted by the majority. The economic results of each subject depend on what kind of strategy that will be the overwhelming choice of entities acting in a similar functional role with him. In the terminology of game theory, this situation is described as "Every player has the choice between a safe strategy that brings a fixed gain and a risky strategy, the payoff of which depends on the number of players who have chosen the same strategy. If the number of players who chose the risky strategy is small, the gain will be low, but if there will be quite a lot, the winnings with a risky strategy may be greater than the fixed gain when choosing a safe strategy. Consequently, there is a conflict between wise -dominance and dominance by winning [9, p. 1013].

The distribution of gains and risks depend on the situation and on the functional role that each individual person plays.

If we take one of the most discussed issues of macroeconomics-the problem of imbalance in the labor market and the existence of a long-term "involuntary" unemployment as an example, it would look like a result of the myriad of decisions made by workers and employers in the face of uncertainty. The presence of excess labor supply at the current market wage puts all the subjects of this market to difficult position. Each worker must decide to accept it at a low level of wages or not. In this case, the result of his choice essentially depends on the decisions that have to be taken by the majority of workers and the majority of employers. If the elected price of his labor is higher than that of other workers or higher than demand prices, the level of salaries, on which the employers are oriented, the risk of unemployment will increase. And if its price is lower than that of most other workers in the market, it will significantly reduce his winnings.

Employers also face a difficult choice-to invest additional funds in the creation of new jobs in the expectation that workers agree to wage cuts or not to do such steps. If they overestimate the willingness of workers to lower wages, the part of their investment would be redundant, and they did not reach the expected profit. In addition, each employer bears risks that his individual price of labor demands will be higher than that of the others and in this case his investment would also be redundant, since he will not be able to fill in job places. The multiplicity of possible plots, lack of information and lack of unity of behavioral models leads to the fact that the only clear point of reference is the current rate of nominal wages. As it was noted by D. Akerlof "...the current nominal salary is taken by workers as a point of reference for the evaluation of their wins and losses" [10, p. 420]. The same, with certain reservations, can be said about employers. Therefore, any attempts of labor market participants to unilaterally change the current nominal salary rate in order to increase their winnings, significantly increases the risk of possible losses. This situation, the predominant type of behavior will be characterized by "uncertainty avoidance," which was described by P. Howitt: "One of the ways in which people cope with the full force of macroeconomic uncertainty, is that they do not base their decisions on expectations. Instead of trying to predict the unpredictable, they took the waiting position reacting to the accomplished facts" [11, p. 358]. That means that the steady rate of unemployment in the economy causes a certain risk degree, which is a typical part of the labor market.

In this context, many institutional "rigidity" (collective agreements, government regulations on labor, etc.) do not look like a rational optimization, but as essential reference points, in the benchmarks of which it is possible to make rational decisions. The context of uncertainty is another dimension in the problem and the effectiveness of public policies that are directly related to it, the problem of complementarity of purposes of government and the private sector. In terms of behavioral heterogeneity, the government intervention creates economic uncertainty of the private sector in two ways. Firstly, the uncertainty is associated with the possible direction and scope of government regulation. Secondly, each economic entity in the private sector, additional uncertainty associated with the possible response of others on the regulating effect of the state. The stimulation of aggregate demand methods of fiscal and/or monetary expansion, for example, creates an uncertainty about the extent of this expansion, as well

as on the reaction of firms of increased demand. Each company should decide whether to raise the price of their goods and services and/or to increase their offer. The first solution is the most preferable in terms of gain (revenue), but poses, however, significant risks. First of all, the scales of increasing demand are uncertain and therefore it is unknown to which level you can raise prices without risking a lower volume of sales. Secondly, the reaction of competitors to changes is also unknown and it is quite impossible to determine to what extent the price increase is possible without reducing the market share of the firm. Choosing of an alternative strategy-increasing the supply-may substantially reduce these risks. However, the gain in this case will be much lower, as the resulting profits will not be maximized. In practice, the incentive effect of the government is a heterogeneous reaction manifested at the same time, the growth of production and increase of the price levels. The ratio of these effects reflects the level of neutrality/risk aversion, which shows subjects in the state or private sector. The higher the degree of risk aversion is, the higher the complement purposes of the private sector and the state are. Since the degree of neutrality/risk aversion is initially unknown to the economic agents, there is the uncertainty of the results of macroeconomic policy. Therefore, the choice of macroeconomic policies should also be considered as an option in the conditions of uncertainty. Conducting expansion of macroeconomic policies there is a chance of the risk of growing budget deficits and / or the rate of inflation and the implementation of fiscal and monetary restriction-the risk of a recession. The easiest way to reduce these risks is to introduce the rules of fiscal and monetary policy, which establish the limit size of the budget deficit and the inflation rate. If you exceed these benchmarks, the fiscal and monetary expansion would be replaced by restriction digestion. Thus, the government sets to determine the maximum degree of inefficiency of its policy. This reflects the degree of neutrality/risk aversion by the state. However, policy in the long term is based on stable rules, what may lead to paradoxical results. Reducing the governmental risk, such a policy, at the same time, reduces the uncertainty for private sector entities of all risks associated with the choice of strategies, which are aimed to maximize gains. If the companies know the maximum rate of inflation, which the government sets as acceptable, it will facilitate their decision to raise prices. The management of every company may be reasonably safe to assume that the price in these limits is increased and is not threatened by restriction from the state and that of its competitors, most

likely, will also focus on the figure. As a result, the price level would be increased closer to the planned level and the impact of challenging government policy on production output, employment and other real parameters of the economy will tend to be zero.

The problem of selecting the most appropriate policy of macroeconomic for the government is to be sure that on the one hand, their system reduces macroeconomic risks and, on the other hand, saves for the economic actors of the private sector sufficient degree of uncertainty that would affect them in the right direction for the state. Therefore, the direction of the post-Keynesian macroeconomists tends to abandon the "rules" in favor of discretionary policy: "Discretionary policy is vital, as is the case when the rules are dominating it is very difficult to avoid a serious crisis. It is so because the establishment and consistent adherence to the rules causes the relevant market reaction: the market will always find a way to cross over the rules and it will lead to a crisis" [12, p. 151].

From this point of view the discretionary policy is preferable, because it is focused on the correction of the changes "shock" that occurs within the private sector of the national economy, or under the outside. In this case, "shocks" would be the main source of uncertainty and government regulation will be a factor that reduces uncertainty. In this case, the possibility of an uncontrolled macro parameters change of the national economy creates a sufficient degree of uncertainty that could provide sufficient complementarity purpose of state regulation and entities of the private sector. If the private sector subjects were assured that the state regulation limiting factor acts of "external shocks", they would consider the public policy objectives as complementary to its own aims, especially when it comes to the negative offset "shocks", triggering a recession. In this case, a certain uncertainty takes place about the government and its incentives, which can offset the negative stimuli that would trigger a recession, which significantly reduces the probability of success in choosing the inflationary pricing strategy. More complicated situation is when governmental regulation is trying to limit the impact of "positive" shocks. In such a case, the "high conjuncture" provokes a range of inflationary pricing strategies based on the further standalone expansion of aggregate demand, which will not be fully offset by government restriction digestion. As a result, the holding effect of the restriction has a stronger impact on national output and employment than the rate of growth of prices.

Thus, behavioral heterogeneity leads to an asymmetry in the effectiveness of the state regulation: the expansion policy leads to "negative shocks" offset and it is more effective than the pursued restriction in order to prevent "overheating".

## CONCLUSION

"The ontological landscape" of modern macro economics is characterized by a double opposition: representations of homogeneity of the economic environment are opposed to ideas of its heterogeneity and the idea of non-complementary goals of the government and the private sector ideas about their complementary. In the modern methodological discussions, this opposition is seen as a problem of "realism" in macroeconomics and very often the ontological realism premises and is seen as a significant advantage in the case, when it is being compared between competing theories. This approach has some basements, especially in the conditions of formal domination of modeling techniques in the modern macro-economic mainstream. However, the macroeconomic models are not an exact replica of reality. Their scientific and practical value is determined by how they are able to serve as a reliable reference for decision-making. It means that they may reduce the degree of uncertainty in the selection of targets and instruments of governmental policy.

## REFERENCES

1. Lawson, T., 2006. The nature of heterodox economics. *Cambridge Journal of Economics*, 30: 483-505.
2. Davidson, D., 1991. *Inquiries into Truth and Interpretation*. Oxford University Press, pp: 292.
3. Woodford, M., 2003. *Interest and Prices*. Princeton University Press, pp: 800.
4. Colander, D., 2006. Post Walrasian Macroeconomics: some Historic Links. In *Post Walrasian Macroeconomics*, Eds. D. Colander. New York: Cambridge University Press, pp: 46-69.
5. Mearman, A., 2012. Heterodox economics' and the problems of classification. *Journal of Economic Methodology*, 19(4): 407-424.
6. King, J.E., 2012. Post Keynesians and Others. *Review of Political Economy*, 24(2): 305-319.
7. Jespersen, J., 2009. *Macroeconomic Methodology a Post-Keynesian Perspective*. Edward Elgar Publishing Limited, pp: 256.

8. Cooper, R.W., 2006. Economic Policy in the Presence of Coordination Problems. In *Post Walrasian Macroeconomics*, Eds. D. Colander. New York: Cambridge University Press, pp: 335-346.
9. Carlsson, H. and E. van Damme, 1993. Global Games and Equilibrium Selection. *Econometrica*, 61(5): 989-1018.
10. Akerlof, G.A., 2002. Behavioral Macroeconomics and Macroeconomic Behavior. *The American Economic Review*, 92(3): 411-433.
11. Howitt, P., 2006. Monetary Policy and the Limitations of Economic Knowledge. In *Post Walrasian Macroeconomics*, Eds. D. Colander. New York: Cambridge University Press, pp: 347-367.
12. Arestis, P. and M. Sawyer, 2012. The 'new economics' and policies for financial stability. *International Review of Applied Economics*, 26(2): 147-160.