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Active Control, or Nihilism of Economic Policy?

The Economic Theory of New Classical Macroeconomics

a critical analysis

THESES OF THE PH.D. DISSERTATION

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1. THE SUBJECT AND ITS RELEVANCE

1.1. ON NEW CLASSICAL MACROECONOMICS

Theses of new classical macroeconomics was awarded with a Nobel-prize in 1995. We should think with a good reason that the captivating tour of this theoretical group had completed – monetarism, however, was never able to make its dogmas fully accepted. The Nobel-prize won by *Milton Friedman* and *Robert E. Lucas* had not brought the rest that would have characterized economic spheres after a change of paradigm and that emerged largely after the appearance of Keynes. Theoretical economists – and, perhaps, practising economic politicians – remained divided in the discourse that was about the proper scope of economic policy and devices, even if it seemed that the possibility of consensus was given.

Perhaps, the greatest obstacle to this consensus was the radicalism of new classical views. Lucas and his group did not show any propensity to return to the Keynesian fundaments (though this demarcation characterized also orthodox monetarism), but, from several points of view, an explicit opposition emerged against the theories of Friedman. New classical system changed radically the views on the possibilities of economic policy, and formulated original recommendations how to design policy to exert. Controlling aggregated demand was replaced by stimulating supply side, and economic policy actions should have assessed as games *against* actors. It seemed that economic policy and economic actors did not stand on the same side anymore. After all, a question remained. What is the real purpose of economic policy? If monetary and fiscal policy can achieve its purpose only by outplaying economic actors, can we talk about the harmony of this purpose and the interests of actors? It may seem that economic policy knows much better what people need than the people themselves. Unfortunately, I could not examine questions of social philosophy, though such an analysis held out promises of new aspects and results. Which is the point when economic policy designed according to new classical theory must cope with the burden and responsibility of paternalism when stepped over? Who gave

the government the political authorization to play dynamic games against the masses of economic actors?

In spite of the extremities, new classical macroeconomics extended the sphere of economic thinking with several new aspects. A part of them had been already mentioned – however, rational expectations hypothesis is the most significant among all of them. Rational expectations hypothesis was one of the pillars of this new theory without which we cannot talk about even inflation targeting today. However, when assessing the theoretical group we should not forget even the fact that this group becoming more and more populous in time remained divided, and, moreover, vulgarization of the doctrines was in parallel with a considerable distortion of them. All these contributed actively to the fact that no homogeneous and correct picture of new classical group evolved: theoretical literature often summarizes incorrectly and incompletely doctrines attributed to the branch of Lucas. And we cannot wait for a clear theoretical discussion on the scope and possibilities of economic policy holding the chance of a consensus as long as there is no consensus on the nature of the doctrines.

The dissertation tries to answer this challenge. Its main purpose was to form a coherent picture on new classical macroeconomics, but, doing this, I wanted to avoid to make only a report of reading. In the course of elaboration I tried to rely on the original texts while paying attention to the fermentation process triggered by these texts in the secondary literature. Nobel-prize is not for isolated scientific performances. We have to notice that there is a long time between a new and significant theory emerges and when it gets awarded. In the case of Lucas it took a quarter of a century. So much time was needed for economics to get possessed by this new theory and for the thing to born called new classical macroeconomics. New classical school is much more than the doctrines developed by Lucas, Sargent, Wallace and Barro. So, the dissertation tries to pay attention to the economists following the intellectual leaders as well – in order to form a coherent and reliable picture. In the meantime, this paper tries to give a critical analysis as well, that is summarizing the message and indicating the limits of the theory in a proper way was

also among its purposes. I think, these goals are neither too modest nor high-reaching to get reproved.

1.2. Active Control vs. Nihilism of Economic Policy?

In this paper there is a few mention made of concerns of theory of thoughts. I did not even attempt to place new classical macroeconomics in the evolution of economic theories. Nevertheless, the title of this paper asks such a question that does not allow to avoid assessing of the evolution of economic theories in brief (at least of a particular range of them).

By the title I tried to suggest that, according to this subjective history of economic thoughts, the fundamental question of the (macro)economic thinking of the 20th century (though, more or less, during the earlier periods as well) was the problem raised by the heading. Before justifying the justness of this idea, we have to consider the dual mentioned in the title offering alternatives to the actors functioning in high theory and in practical economic policy. If we can talk about an *active* control there must exist a *passive* control as well. Inflexible inflation targeting system based on a rigid Taylor-rule gives an outstanding example of this mechanism. In the course of a passive control – according to the interpretation given in this paper – economic policy intervenes in the operations of a given macroeconomic system by watching some target variable following an automatism. *There is no consideration here*. Leaving the strict rule can be realized only by breaking to follow the formula. A magnificent example of active control is the orthodox Keynesian macroeconomic policy. As well as in this case, we can choose the necessary actions to take by considering indicators but there is no automatism. We can catch the difference by saying that in the case of an active control only the purpose is defined, while in the case of a passive (or, with other words, a *vegetative*) control an algorithm (a rule or function of behaviour) gets formed that, on the basis of the set of information obtained, makes intervention automatic; however, it makes no sense to talk about 'decisions' in the latter case (Ligeti – Sivák 1978: 23). Of course, there is only a malleable limit between active and passive control. Maybe, we are not far from truth when putting emphasis on the

quantity of information utilized by these systems. An active control needs such a huge amount of information that hardly can be packed into one reaction function – or at least we cannot fool ourselves by saying that we have already identified all the variable of the model describing a given macroeconomic system, and there is no need to regard the effects of interventions as functional results.

A third option is the standing point of so-called nihilism of economic policy following that we question the necessity and the possibility of active and passive control. It seems that this point of view was detailed most completely by Milton Friedman in the literature on the basis of his rule of constant growth rate of money. Explanation of this idea is given in the main text of the dissertation.

So, I think the choice from the range between active control and nihilism was the fundamental issue raised by macroeconomic theories (all the more so, since the point of view of passive control penetrated into theoretical spheres from outside of the theoretical literature, from the world of practical economic policy). The centre of interest was always at different places in the sequencing systems, and if high-theory debates touched the spheres of practical economic policy (of course, there are such examples in fairly large quantities), it meant that macroeconomic policies also tried to find new beliefs and new devices to describe and to achieve their aims. We do not have to return to the picture described by the Say-dogma (cf. e.g. Mátyás 2002: 99) or Adam Smith (cf. Horváth – Szilágyi 2004) to get a fair example of the sceptical–nihilist attitude. According to these views, since individual optimization functions well, a socially efficient equilibrium rises automatically after external shocks without any kind of state intervention that is damaging in effect.

The principals of the theory of Keynes are unnecessary to explain in greater details. For Keynes equilibrium does not mean necessarily a state of full employment, so the necessity of an active economic policy was justifiable – that, for him, meant the (over)stating of the importance and effectiveness of fiscal policy. By the end of the 1920s no one could believe that full employment and the maximum utilization of producing capacities were the natural state of national economies. The system of

Keynes tried to answer these challenges by announcing the program of activist policies. However, the drawbacks of this idea got to daylight soon: Keynes declared in vain that below the level of full employment the extension of the aggregated demand would have only limited inflationary effects (it is a total misinterpretation of Keynes when saying that under full employment there is no inflation), and fine tuning can be made at the expense of occasional overshoots – so, inflation danger remains real. So the fact that in the later decades (approximately after the middle of the 20th century) inflation and not unemployment bothered public opinion and the members of the political elites contributed to the twilight of the Keynesian economic policy.

Monetarism appeared as an antithesis of the Keynesian theory propagating the negation of activism. According to the monetarist doctrines, any effort to control is useless and harmful, so the well-known constant growth rate rule supported by Lucas as well was in the centre of the new political suggestions. Fiscal policy pampered by Keynes was degraded to only a possible source of inflation, so its adaption should be avoided for this reason at a minimum according to the new instructions (and, moreover, the lags between actions and macroeconomic reactions make impossible the efficient utilization). Applying adaptive expectation scheme the theory could verified that employment can be stabilized under its natural level only at the expense of accelerating monetary expansion. New classical macroeconomics and real business cycle theory did not change this point of view significantly. Earlier emphasizes were transferred to supply side control (stimulation). Though, supply side economics denied that exerting anti-cyclical policies can be proper, economic policy was not condemned to passivity anymore – however, according to these political suggestions the spirit of activism does not occur.

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I have written the fundamental elements of a far-reaching topic in this paper. I do not assert that I have a complete knowledge concerning these questions, and I do not believe that anyone else could be in this

redeeming state. We still have only questions on the operating of macroeconomic systems.

2. RESEARCH PURPOSES

1. To form a coherent picture on the theory of new classical macroeconomics on the basis of the original texts. To sketch a homogenous system exceeding the results of the vulgarizing process made by the secondary literature that corresponds mostly to the original dogmas of new classical group.

2. A critical analysis of rational expectations hypothesis (REH) that is the central thesis of the new classical macroeconomics. To clarify the discrepancies between the strong and the weak hypothesis of rational expectations on the basis of the original text made by Muth (1961) and to check the assumptions set by the strong version of REH considering the features of the macroeconometrical modelling routine.

3. To take a survey of the after-Keynesian – monetarist – evolution of the Phillips-curve, and, simultaneously, to give a critical analysis of the interpretation of the Phillips-curve made by Milton Friedman and Robert E. Lucas (and new classical economists). To record the assumptions lying behind the changes of meaning of the Phillips-curve and to check the logical order.

4. To present and to analyze the doctrines of new classical macroeconomics on the impotence of monetary policy and to identify the assumptions resulting in the lack of macroeconomic controlling abilities of monetary policy.

5. To record and to analyze the new classical doctrines on fiscal policy. To identify the assumptions necessary to the operation of the Ricardian equivalence and, via this, to outline the scope of this theory. To handle and to present fiscal policy as an equal element within new classical theory in contradiction to the widely held view according to which new classical macroeconomics formulated its doctrines only in relation to monetary policy.

6. To improve Hungarian literature on new classical macroeconomics, expectations hypotheses and Phillips-curve, and to record the fundamental texts in detail.

3. METHODOLOGICAL PRINCIPLES

Literature of neoclassical economics serving as grounds for monetarism reveals, at several points, the intention to establish a *clear theory*. Neoclassical economists analyzed the working of abstract entities under hypothetical circumstances not occurring in reality. The abstract geometrical space in Galileo's physics and the no less abstract perfect competition assumed by the neoclassical economists were the same and this world of perfect competition got filled with rational actors making only economic decisions as the analogies to ideal forms. So economics became a *clear theory* that was declared *not* to examine *life* in a realistic way allowing the presence of subjectum, but it tried to record *deductively* the consequences following from the state of perfect competition seen as a presupposition. Economy became an abstract mathematical structure (Zalai 2000: 46–47) that can be described well by the elements, the surroundings, the relations of actors and by the supposed features of processes. So, homo oeconomicus postulated by neoclassical economists is an ideal and abstract creature that acting in order to maximize its utility realized through either consumption or production processes can be characterized by a propensity to exchange and, eventually, its only task is to make economic decisions (Lehmann 1971: 41). Therefore, the purpose of neoclassical economics was not to describe life *as such*, but to generate hypothetical outcomes compared to which real processes may show deviation(s). Naturally, these deviations can be analyzed in economic terms – in terms of economic policy, so emphatically not in terms of the clear theory.

Homo oeconomicus is the result of a consistent abstracting–idealizing process. Law of diminishing marginal utility as a fundamental axiom of the neoclassical theory was created by emphasizing the Weber–Fechner Law (Hecht 1924; Dehaene 2003; Mátyás 1969: 101–103), according to which sensations generated by repeated stimuli with equal power have decreasing intensity. This principle is present in the proposition of diminishing marginal product of input factors since utility of input factors is traced back to the utility of consumer goods via derived factor demand (Lehmann 1971: 48–50 and 54–58). To expand these laws mar-

ginal analysis was applied postulating partial utility and production functions *as mere models* the functional attributes of which were able to express the axiomatic assumptions. Mainstream economics – because of, among others, the neoclassical fundaments – organize itself in an axiomatic-deductive way and it created the possibility to change the system of theory. If axioms are changed partially or fully, or their number gets modified, we will have a new system, a new theory and new models (cf. e.g. Galbács 2008; or Galbács 2009, particularly 530–531 and note 5–6; for an axiomatic explication of the relations of Euclidean and absolute, and affine geometry, respectively, see Coxeter 1973: 22 and 183–184). For instance, an orthodox monetarist interpretation of the Phillips-curve could be born in this way in the case of which the axiom of being fully informed was replaced by an other one postulating adaptive expectation mechanism performing by economic actors – or new classical macroeconomics introducing rational expectations via an other switch.

Assumptions underlying the notions of models operating with idealtypical concepts cannot be arbitrary. Idealizing means emphasizing something that exists. We can obtain these ideal concepts by abstractions from reality disregarding features not primary from the point of our interest. We know that these circumstances being not relevant at the moment influence the operations of *real* manifestations of the concept we want to idealize, but in this case our purpose is to catch the only relevant aspect momently of the behaviour of this existing thing in its clearance. All other role and operating effects over and above this function chosen to be central can be regarded as ones removing real operation to get this central function chosen manifested exclusively in it. Since real and infinitely complex operation is the result of common influence of several factors it seems natural that an idealized concept will be far from real entities we abstracted these ideal concepts from.

Separation of reality lived directly and ideal–utopian models had been already given also in the case of orthodox monetarism coming from neoclassical tradition. Orthodox monetarists stressed that their models and theories do not give the description of reality lived directly. There

was no other option at all, since Milton Friedman (1986: 17–50) argued for the contingentness of the relation between reality and the assumptions underlying models in his paper clarifying methodological approach of mainstream economics. According to this reasoning, if the predictions given by a theory and processes observed later in reality are fairly close to each other then this model performs properly in terms of predictions and, according to this argument, nothing else can be the measure to judge theories. Actually, the reality of assumptions and questioning this reality is *not* a fair ground to criticize mainstream economics.

An ideal concept has no ethical content. A geometrical point, an Euclidean plane cannot be *good* and cannot be *bad*. Likewise, the idea of an economic agent capable of forming unbiased expectations is neither good nor bad in ethical terms. Using ideal concepts did not mean to neoclassical economists more than forming ideas standing above reality which they knew about that the actors operating in reality would only converge toward them more or less. This is an acceptable scientific standing-point since comparing reality to ideal concepts can help to judge how and why actual processes diverge from ideal processes operated by ideal actors. Using ideal concepts cannot be a reason for criticizing mainstream economics, not even if these ideal concepts are infinitely far from real circumstances, and not even if we know that some ideal notions used by mainstream economics will never appear in reality. However, there is a problem when these ideal concepts get ethical meaning or they are confused with reality.

A methodological crime resulting from the confusion of real circumstances and abstract theory was definitely present in the case of the new classical macroeconomics, since the theory still organizing itself in an axiomatic–deductive way stated that the conclusions based on the axioms of presupposed macroeconomic equilibrium or the Walrasian auctioneer revived as labour unions are the reality itself (Weeks 1998: 150–151). So, the relation of mainstream economics to reality underwent considerable reorganizations. While neoclassical economics separated consciously reality from ideal–utopian theory and models, then

this relation became contingent in the case of orthodox monetarism; and, finally, new classical macroeconomics eliminated the boundaries once and for all. *However, mainstream economics was not free from methodological twisting up to this time*. Mainstream theory did not state before the new classical revolution mainly that reality lived is equivalent to their utopian models. However, the needing (and, consequently, the possibility) of this equivalence was definitely stressed: neoclassical economics and monetarism emphasized consistently the normative nature of their results.

Choosing the possible way of critique depends fundamentally on our intention to save (or, at least, to find excuses for) mainstream economic theory. A critique can be twofold. First, we can criticize the relation between the models of mainstream economic theory and actual circumstances and, for instance, examine whether reality (in its totality) is so as new classical macroeconomics depicted it. Second, since mainstream theory organized itself in an axiomatic–deductive way, we can examine the correctness of the axioms (that is, whether the axioms postulated in theory occurred as results of idealizing–abstracting processes indeed), or the logical order of the system based on the axioms. In this case, economic theory is a system that forms its axioms by idealizing from the actual circumstances, but that deduces its conclusions in a system connecting to real and lived life *not* directly by using only logical devices. So, we have the opportunity to analyze mainstream economics as a clear science and as a logical system. If we do not take this opportunity, we make the same methodological mistake as mainstream economics. We move in both directions of critique in this paper. Since, as we will see, new classical macroeconomics depicted its models as giving a complete (realistic, so not abstract) description of reality and actual circumstances, in the case of the picture made of labour unions' operations or rational expectations hypothesis they will be compared to real and actual conditions examining the reality of these concepts and models, literally. In other cases, as at the doctrine of the Phillips-curve given by Milton Friedman, where the aim of a realistic description of reality was not present, we analyze the abstract nature of concepts and assumptions in relation to the models. In other words: we wonder whether

these concepts and assumptions occurred as results of an abstraction process or we are facing arbitrary assumptions.

4. SUMMARIZING RESEARCH CONSEQUENCES: NEW AND NOVEL FINDINGS

In the followings we can look over the thesis formulated in this paper outlining the answers and lines of argument in brief.

Thesis 1

Both strong and weak version of rational expectations hypothesis (REH) are based on the definition given by Muth (1961). However, the weak version does not offer a proper criterion that can be a base to judge the rationality of actors without worries. The strong version eliminate this problem by referring to the probability distribution of events. However, the theory of rational expectations given be *John F. Muth* rests on too strict assumptions and the existence of which cannot be hoped in the case of actual circumstances and real economic agents. Estimations made by certain agents (in non-central position) are expected to be systematically biased. Therefore the bias of estimations are not independent from the quantity and the quality of information owned by the modeller. Because of the difficulties of information processing, inflation targeting can be an efficient answer since this way economic agents are able to use an available model estimation.

The weak version of REH analyze the relation of a view and the base of it, so this concept is close to the definition given in the literature of sociology. According to the weak version of REH it is not a condition of rationality whether views are correct, so rational expectations should not coincide either with outcomes observed later in reality or with the expected value of probability distribution known in advance.

The strong version of REH goes further considering the relation between a view and its object – and, moreover, it concentrates solely on this relation in effect. So, correctness gets into the system of criteria. Doing so, the strong version of REH (since these views are not about present and verifiable facts) does not rely on preciseness as a criterion. The strong version of REH requires the most accurate knowledge on future that cannot be more than requiring that the expectations of economic agents follow the objective probability distribution of forthcoming processes. We cannot talk about preciseness as a criterion only because of the stochastic nature of social and economic processes.

Possibilities to design the relevant model are limited, so a complete and perfect knowledge on a macroeconomic system can be only a comfortable presupposition. Knowing the hypothetical parameter vector cannot be required even in the case of possessing high-level econometric devices or in the case of the adequate identification of the relevant explanatory variables. According to this line of argument, *bias of estimations is not independent of the quantity and quality of information a modeller has*.

A moderated interpretation of the strong version of REH can be outlined in which it is not required the relevant model to 'know' the hypothetical parameters. That economic actor (e.g. the monetary authority) who has the proper quantity and quality of information, and methodological routine is able to set a quasi-relevant model describing a given macroeconomic system (so, an increase in the amount of information used contributes to a decrease of bias). The more central its position is, the more chance it has to make the agents accept this model. Following this way we reach the arguments for applying inflation targeting regime, since in this system expectations of economic agents – though, passively – coincide with the outputs of the quasi-relevant model.

Thesis 2

According to the interpretation given by the new classical macroeconomics, equilibrium of a macroeconomic system rests on the presupposition of this equilibrium. Occurrence of the equilibrium depends on some necessary conditions and the lack of which can interfere with the rise of the equilibrium. At this time, any macroeconomic system can stabilize in a state of disequilibrium. Rate of interest has only a inferior role in the emergence of equilibrium.

Unemployment for new classical economists means the manifestation of the natural rate of unemployment and, hence, that of natural output level. This is, indeed, the restoration of neoclassical case of full employment.

Interesting is the view according to which new classical macroeconomics considers and imagines movements of wages. New classical economists give up the idea of flexible wages necessary to the clearance of labour market and to the maintenance of the notion of voluntary unem-

ployment, and, instead of this, they state that *wages are set in advance to establish equilibrium. The existence of the equilibrium is only a tautology*. Equilibrium exists just because economic agents want it to exist. Equilibrium is evident for new classical economists, since everyone make efforts to reach that (even if we have to step over lots of difficulties to arrive at its presupposed emergence).

In neoclassical macro models, equilibrium of systems originates in the labour market, so real output sets to its full employment level. In the framework of the barter model, manifestation of Euler's thesis motivates employees to set employment to its equilibrium level. Output rises in parallel with the expansion of the employment. Moderating the claim to wages is rewarding for employees since they can increase their earnings this way surely. The shadow of this argument is cast over all the neoclassical models. Rate of interest plays only an inferior role since it has no importance in the emergence of an equilibrium. *Flexible rate of interest does not determine anything, its level is set by other elements in the system*.

If the veil of money is thrown on the barter system, equilibrium remains real, money has no role in the emergence of an equilibrium state. Markets (that is, relations of functions) determining the equilibrium state of the dichotomy model that includes money do not refer to the rate of interest explicitly: introduction of the IS-curve cannot assure any role to the rate of interest in determining equilibrium states. However, IS-curve is the source of further problems. Since we did not postulate that utilization of capital inputs pays marginal product of capital, summing equation would be upset meaning money value of aggregated output and nominal income of economic agents may not be equal necessarily. This inconsistency can be solved in only one way: the rate of interest cannot be the rent provided by unit capital utilization anymore. This problem is not emphasized by neoclassical economists.

Thesis 3.A

Orthodox monetarist interpretation of the Phillips-curve can be maintained only by certain restrictive assumptions theoretically not substantiated properly. If elasticity structure of

wages and prices set by Friedman gets modified new inferences can be drawn. Supposed informational asymmetry is also an arbitrary element, according to which naive (adaptive) expectations of employees exists in parallel with employers' correct perception of prices. Money illusion is a necessary but not a sufficient component in the mechanism given by Friedman – just as well as the assumption of informational asymmetry is. These uncomfortable elements could be eliminated only in the concept of the Phillips-curve inspired by new classical economics. Foundation of the new classical Phillips-curve is given by the signal extraction problem, but the shadow of the money illusion is still in the game.

Indeed, money illusion is *not sufficient* to explain the mechanism given by Friedman. Introduction of the money illusion was made be possible (and necessary) by an assumption of Friedman according to which prices respond in different rhythms to modified demand situations: a more active demand makes its influence felt in prices of commodities earlier than in wages, *so, eventually, a lower rate of unemployment is the effect of decreasing real wages*. The only cause of the return to the starting (natural) unemployment rate is a correct perception by employees (that is, the end of money illusion when they realize actual processes of price and wage changes). On the one hand, that is an empirical question whether one branch of prices shows greater demand elasticity or an other – and, on the other hand (adhering to that as a pillar of a theory) we need precise theoretical foundations (correct explanation of stickiness) more than some regression equations. If it is not available (as we do not get such a thing from Friedman), a different structure of elasticity can be postulated in which money wages respond earlier. Increase of money wages starting earlier with a slower response of commodity prices results in an *increase* of real wages that boosts labour supply and decreases labour demand. The initial expansion of employment would not happen in this case.

A further oddity is the implicit informational asymmetry standing behind the mechanism given by Friedman according to which the naive (adaptive) expectations of employees work in parallel with employers' correct perception of prices. Therefore, *money illusion becomes the most debated element of the story told by Friedman*. *Referring to the money illusion is problematic because it seems arbitrary to deprive employees from their ability to realize their actual situations, while this is not so in the case of the employers*.

New classical interpretation of the Phillips-curve tries to eliminate this disturbing information asymmetry but money illusion is still necessary in the mechanism. According to this new interpretation, labour market developments are definitely (and solely) the effects of signal extraction problem. Shaw (1984: 67–68) talks about employees' disturbances of perceptions of relative prices, but the effect of this – in his argument – is still that employees, while realizing the changes in their nominal earnings, misperceive their real wages (or, at least, they are uncertain in this regard), and this is all because they cannot realize the increase in prices of the commodities they consume. On second consideration, this is the manifestation of money illusion in a new guise. To understand it, we have to realize only that not the same story got told on both sides of the labour market, although it is needed to make both employees and employers be the victims of signal extraction effect.

Thesis 3.B

Money is not neutral in new classical system in the short run, but no monetary policy can be based on it. Therefore it can be stated that money neutrality does not come from rationality of expectations. Allowing real business cycles gives room for the effectiveness of systematic actions. Inflation can (would) be brought down with no real economic losses if rational expectations works properly. This feature of a real economic system is a value indeed.

Lucas wanted to prove that Phillips-curve *exists* and *does not exist* at the same time. In the world of Lucas, relative and absolute price changes cannot be separated surely, and this is the source of informational shortcomings. So, it is not evident for the producers that whether the prices of their products change owing to real or nominal shocks. Monetary changes trigger real adjustments since the conclusions of the producers are not correct. For Lucas, non-perfect information meant the foundation of the friction that could assure non-neutrality of money within this model economy. Expectations are not precise, that is they are fraught with errors; however, these errors are not systematically biased, so economic policy does not have any exploitable trade-off between inflation and real output.

Blinder and Fischer (1979) tried to prove the possibility of real business cycles on the basis of trends of stocks not consumed right after the production process. An unexpected boost of demand decreases this stock, since producers can easier respond to the changes of macroeconomic circumstances. Naturally, after the reference period a new accumulation process of stocks begins to set the earlier level again, so output can 'remember' earlier shocks during longer periods. Therefore, output in the next period would be greater irrespective of the failure of inflation expectations. Moderated version of the LSW-theory creates a possibility of success for systematic economic policy actions. In this case, *fully anticipated* (that is, known) *changes can be one of the determinants of output* (cf. Gordon 1979).

It must be emphasized: ineffectiveness of systematic monetary policy (and, in a wider sense, economic policy) is a value for new classical economist, and not a drawback. For instance, inflation can be brought down with no real economic losses if rational expectations works properly (cf. Erdős 1998: 44–45), anything is done by economic policy, that cannot disturb the mechanism of real economy. This feature of a macroeconomic system can be a value since otherwise (that is, in a system where expectations are not rational) inflation can be broken down only 'traditionally', at the expense of considerable employment sacrifice (cf. Sargent 2005: 130). *It is a plain beliefe in the efficiency of an economic system left alone*. In relation to this, we cannot forget about the models of Taylor and Fischer on the basis of which it got proven that real economic adjustment cannot be ruled out even if in the case of rational expectations if the well-known general equilibrium setting misses. So, *neutrality of money does not come from the rationality of expectations*.

Thesis 4

Ineffectiveness of fiscal policy is not supported properly either by permanent income theory or by Ricardian equivalence. Fiscal policy is still capable of producing real effects.

New classical dogmas can be qualified as saying that only unexpected monetary shocks can produce real effects in output. Similar arguments can be heard in relation to fiscal policy according to which fiscal policy

actions are effective so far as they effect the quantity of money. So, the same arguments refer to the fiscal sphere as monetary policy.

Considering permanent income hypothesis, it is fundamental to assume that perfect capital markets exist. It comes from the theory that when disposable income falls drastically, consumption expenses can be greater than disposable income. So, either households having marketable assets or households capable of borrow money against their future earnings are needed. If any of these options is not present, the only opportunity is to moderate consumption expenses (Flemming 1973: 161). This is the situation when current earnings of certain households are below the level of their expected future incomes – in this case, permanent income theory means that these households pays more money than their disposable incomes and they fill the gap by borrowing money. If the difference between permanent and current (disposable) income is caused by an increase in unemployment and a decrease in earnings following from this, and if capital market imperfections prevent employees borrowing money, consumption function and, therefore, the multiplication effect would be much closer to the case depicted by Keynes.

Literature offers an excessive source to the evidence *for* and *against* the Ricardian equivalence. Ricardian equivalence rests on a number of quite strict presupposition (in relation to consumer behaviour and economic environment) to allow a consequent manifestation in reality. Objections coming from both lines of arguments are as follows:

- the difference between the maturity of bonds and lifetime of economic agents;
- an intention to testate and altruism;
- uncertainty around expected lifetime;
- features of capital markets.

Probably, we cannot neglect equivalence entirely, but its functioning is not as consequent and clear as it is suggested by the theory and as it would be needed to prove that fiscal policy is not able to produce real effects. Finite and uncertain lifetime, differences between lifetime and

maturity of bonds, the nature of capital markets and the system of interest rates are such conditions that any of them is able to weaken the actual operation of equivalence. Therefore, Barro–Ricardo equivalence was not capable of offering a solid base for the theory of ineffectiveness of fiscal policy.

Thesis 5.A

Monetary and fiscal policy must be in harmony with each other. For instance, in inflation targeting systems an erosion of truthfulness of central bank can be caused by an expansive fiscal policy generating inflationary tensions. An extensive state and low rates of inflation can hardly harmonize with each other. Impotence of fiscal policy cannot be accepted: a modification of expenses and revenues change allocation of income. Short-run stimulation of consumption and long-run support of capital accumulation can agree. However, truthfulness means an important restriction of these policies. Prohibition to monetize state debt does not mean an evident predominance of Ricardian equivalence. Actions of a fiscal authority delaying to settle its debts (that is, being erratic and not truthful) can produce serious effects in real economy.

Prohibition to monetize state deficit became a general political norm by now. We do not have to reckon either with inflation or (temporary) real effects if Ricardian equivalence works. For this, the public is needed to associate present tax reduction with the necessity (and occurrence) of subsequent tax increase. An interesting situation may emerge if this relation misses or gets eroded.

It is a general lesson that monetary and fiscal policy must be in harmony with each other. If a government applies an inconsistent fiscal policy that is stimulation of consumption and capital accumulation is only temporary, the ability to influence real variables can easily be a double-edged weapon for fiscal authority: as grants make macroeconomics grow then restrictions keep it back.

Thesis 5.B

Inflation targeting systems do *not* mean an ideal manifestation of political suggestions made by new classical macroeconomics. Nevertheless, we can say that a number of assumptions and conclusions of new classical macroeconomics takes place in inflation targeting systems. In these systems decision makers rely heavily on effectiveness of discretional policy actions, so new classical high-theory gets attacked at a point where it could be the least convincing.

Flexible inflation targeting system does not try to influence real economy by taking unexpected actions. A central bank working transparent tries to make optimal decisions by processing the maximum amount of information that serves as a device of stimulating expectations of economic agents as well.

According to Taylor-rules, weights on the variance of inflation and output determine how strong the central bank responds to the fluctuations of these two target variables. *However, taking discretional actions is not an option*. A Taylor-rule opens the door to weighing between inflation and output target, but, above this, a Taylor-rule serves as an automatism. Inflation targeting – as an alternative to strict rules – does not lay down a reaction function of this kind, but relies rather on the value judgment and processing of information by central bank apparatus admitting that there exist kinds of information being relevant in relation to control macroeconomic systems that cannot be taken into account mechanically (Bernanke – Mishkin 1997). The essence of this system means that the monetary authority sets and reveals an explicit loss function (to be minimized) that punishes any deviation from inflation *and* output target. A central bank working truthfully influences the expectations of economic actors by its monetary policy actions – manifesting one of the most important lessons of new classical macroeconomics according to which inflation is an expected symptom (at least partially).

Thesis 5.C

Inflation targeting system is capable of realizing expectations being rational according to Muth (1961). If monetary authority can influence expectations, then they coincide with estimations from the relevant theory.

If inflation is an expected phenomenon (at least, in part), then monetary authority has a chance to follow a more balanced interest policy by influencing expectations (if inflation expectations can be anchored to the target, that is economic actors believe that actual inflation would be around or at the target, than inflation would parallel the target indeed, and achieving it no modification of the policy rate is needed; but if so, this intervention could be more moderated). Anchoring expectations

means practically that inflation expectations of the public are around the target – and if the central bank is truthful, then this enforces the criterion made by Muth (1961) in relation to the rationality of expectations. Outputs of the model describing the processes of a given macroeconomic system can be qualified as relevant that coincide with the public expectations. Even missing the target does not mean the ceasing of rationality of expectations: the relevant model indicates the detour and all these will build in even public expectations; and if a central bank is able to anchor expectations, this process will be the part of the return to the target actually. The public in pricing decisions consider the estimation provided by the central bank since the agents can trust its realization; therefore, eventually, inflation will be on path forecasted. Economic actors makes fairly good estimations of complex processes by using simple devices. Central banks in inflation targeting systems are highly capable of providing such simple devices for the public. Activity of truthful central banks can contribute to that economic actors form their expectations according to the indicators published – fulfilling the vision depicted by new classical economists a few decades earlier.

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