

REALISM IN ECONOMICS: THE NEW CLASSICAL CASE*

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For the last few decades, considerable attention has been paid to the methodology of mainstream economics. It is not mere chance that economics is surrounded by methodological debates. If its relevance is at stake, this can be either refuted or proven most efficiently at a methodological level. Arguments *for* and *against* mainstream economics underline the methodological homogeneity of mainstream economics, while serious, though almost neglected, arguments can be found for a view according to which the long history of mainstream economics can be described as a sequence of methodological breaks. I argue, firstly, for a sharp demarcation by new classical macroeconomics from the Friedmanian instrumentalism and, secondly, for the realism of new classicals. I strive to identify the epistemological principles underlying Lucas' models and to highlight the signs of that demarcation as well. I concentrate on the techniques by which new classicals could set their models into an indirect relationship with reality. It is also highlighted that the common terminology, according to which the assumptions of abstract economic models are uniformly regarded as "unrealistic", actually refers to two different techniques. From these approaches, there is only one which can be justifiably labelled as realist.

Keywords: new classical macroeconomics, unrealistic assumptions, instrumentalism, realism, empirical observations

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1. INTRODUCTION

It has become a common heritage of ours to judge the methodological principles of mainstream economics through the lens of the seminal paper by Milton Friedman (1953), henceforth abbreviated as F53. Over and above the traditional, supporting, or conservatively reproving views, a distinct line of enquiry has developed over time, whose goal is to sort out the contradictions found in the text (especially Mäki 2003), or to defend the paper on logical grounds (Boland 1979). These efforts will obviously tinge the views on the ground-breaking work (for a thematic analysis, see Mäki 2011). It stands to reason, however, that Friedman's paper fundamentally changed the modern forms of economic thought and it is still a text about which all of us considering methodological problems should unavoidably think something. None of us can be non-committal.

F53 is often said to have been the trigger for the instrumentalist turn in modern economics. Even though there have been attempts to re-read the text in a realist fashion, it is still the instrumentalist interpretation that seems to be the standard reading. A thorough interpretation is hindered by the fact that the text abounds in equivocal and nebulous details. Moreover, early on, Friedman himself decided not to react to the critiques and the various interpretations, having left his standpoint unclarified. Thus, it is no wonder that as a provocative piece of the methodological corpus, F53 is still cited, even though more than six decades have elapsed since its publication.

Despite its fundamental character, F53 can hardly be said to be a solid and precise summary of mainstream methodology. In fact, it triggered an epistemological break even inside the mainstream camp. For example, mainstream Samuelson (1963) was particularly reluctant to accept Friedman's methodological stance labelled as F-twist and made efforts to banish the presumptions that cannot be empirically underpinned. In this debate, Samuelson represented a view according to which abstract models should be linked to reality. The traditional aversion to F53, referring to its instrumentalist character, is rooted somewhere here. It is of secondary importance who is right in this controversy since the methodological heterogeneity of mainstream economics seems to be evident if we take Samuelson's remarks into accounts.

In this paper, I try to demonstrate that *new classical macroeconomics was a realist movement* and it was organised along such purposes that by achieving them the traditional opposition of realism and instrumentalism² could be left behind.

² To keep the things as simple as possible, in this paper I use the terms *realism* and *instrumentalism* in the same meaning as Popper (1963) outlined these concepts. For related considerations, see Deichsel (2011) on weak epistemic realism, Mäki (1992) on the different aspects of real-

First, I emphasise the methodological break between the Friedmanian instrumentalism and new classical macroeconomics (Section 1). In Sections 2 and 3, I explain why and how economists construct theoretical assumptions in order to build realist models and theories. Subsequently, I discuss this methodology in the case of new classical macroeconomics (Section 4). Next, the subtle relationship between the realist efforts and previous knowledge is detailed in the context of explaining realism as discovery and revelation. Here I explain how new classicals have shaped reality by their pre-given ideas (Sections 5 and 6). After this, I highlight the suggested distinction between the two subsets of unrealistic assumptions as a final confrontation between the realist and instrumentalist methodologies. I think that the epistemological connection between socio-economic reality and unrealistic assumptions should always be scrutinised in order to be able to separate realist and instrumentalist models from each other (Section 7). Then, turning back to new classicals, I explain how new classicals committed to realist efforts could construct assumptions in order to have models that support understanding and connect them with socio-economic reality (Section 8).

Economists are normally bound to choose between realism and instrumentalism, that is, between ontic relevance and good empirical performance. According to my reasoning, new classical macroeconomics, despite the applied forms of abstraction and idealisation, should be regarded as a realist system. These researchers definitely broke away from the Friedmanian principles. If I succeed in this attempt, the views on the scope of new classical macro would be clearer. As my direct purpose here is to scrutinise the way how realism often cited in the philosophy of economics is expressed in a well-defined theory, the present analysis will hopefully provide some new insights into the role of isolation in economic models.

2. A DUBIOUS CONNECTION

Realism is, by its purpose, successful in supporting our efforts to understand the world around us, while it is likely to produce (though not necessarily) models whose empirical performance is expected to be weaker. The ultimate reason is that such models are abstract and aimed at finding the fundamental economic laws or other universal claims and causal generalisations. On the contrary, *instru-*

isticness, and Hacking (1983) on realism about entities and realism about theories. The latter distinction is particularly relevant for our current purposes since I want to call attention to the methodological problem of being realist in the second sense by applying unrealistic models in the first sense.

mentalism concentrates on empirical performance. Understanding, i.e. revealing the real causal structure and providing a true picture of reality (Polanyi 1967), is not a concern since scientific-theoretical models have nothing to do with the relationship between the data and the actuality possibly unapproachable. According to my key message, new classical macroeconomics should be regarded as a realist system. It remained a pure theory (i.e. a system based on abstraction and idealisation) as defined by neoclassical predecessors, but it did not have to be content itself with poor empirical performance, thanks to the considerable development of econometric methods in the 20th century. For Lucas, empirical accuracy was a high-ranked aspect (De Vroey 2016). On these grounds, processes of socio-economic reality could be the touchstone of testing³ a realist theory aimed at understanding those processes. New classicals' ambition was not to provide a comprehensive realist description of reality, but to construct a conventional abstract realist theory and a family of models that were able to explain actual processes with a considerable degree of numerical accuracy. In the new classical case, confronting realism and instrumentalism as a compromise is completely useless and makes no sense at all.

However, authors often neglect to draw a distinct line between Friedmanian monetarism and new classicals in methodological terms. What is more, some critics make the mistake of gathering arguments against F53 partly from Lucas' island models⁴ (Syll 2010). Such a direct relationship seems to be dubious, even considering the fact that one can hardly find any references to F53 in any of the important works by Lucas or other leading new classicals. These impressions are further strengthened by the fact that Neil Wallace referred to Friedman's influence on Lucas and on him as extremely troublesome (Hoover – Young 2011: 9). And, since I have just mentioned the island models, it also has to be stressed that Lucas regarded Samuelson (1958), who had a sharp aversion to the methodological principles of Friedman, as his direct intellectual predecessor. These papers were born on a day and in an age when F53 was also available to Lucas.⁵

³ In a strict sense, testing here means falsificationally testing in a Popperian way.

⁴ The term "island models" refer to those works of Lucas in which he laid the theoretical foundations of new classical macroeconomics and paved the way for further research into the nature of the relationship between inflation and real economic performance. These are the models by which Lucas could clarify the circumstances under which economic policy can be efficient.

⁵ It seems to be a further important detail that Tom Sargent (1987) gave a brief summary on how Milton Friedman had contributed to the development of modern theoretical macroeconomics. Friedman's methodological recommendations were not even mentioned in his list, although in other aspects he reported a vivid connection between Friedman and his disciples.

3. ASSUMPTIONS SUPPORTING REALISM

The charge of instrumentalism always means that a criticised theory is not relevant in terms of understanding reality (Nagel 1963: 218). This is exactly the aspect in which realist theories are outstanding. It is interesting and important to realise that in his Nobel lecture, Lucas (1995) mentioned the word “understanding” right in the first sentence. Such phrasings can help us refer to new classical macro as a realist system. The new classicals seem to have broken with their predecessors for the sake of understanding. For them, the prior model structures were unable to support the understanding of the processes experienced in actual macro-systems (Hoover – Young 2011: 14–15). Frank Hahn (1971: 61–62) charged Friedman exactly with the lack of a solid theoretical background and, as a consequence, making without proper understanding some ungrounded statistical inferences. Just to shed light on this statement: Hahn did not put the blame for the empirical underpinning of a theory with doubtful data on Friedman, but emphasised that Friedman had regarded the highlighting of an unclarified econometrical relationship as a theory. Detecting the mere fact of econometric anteriority does not substitute for theory-based understanding. Understanding always means the understanding of the actual causal structures (Kitcher 1989; Hausman 2009). In Lucas’ (1977: 26) words, “it is not enough to believe oneself to be right, one must be able to explain *why* one is right”.

Any kind of accordance with reality can be grounded at two levels, namely at the level of assumptions or the level of consequences. As we have just seen, explanation and understanding can be referred to as finding the causes, that is, answering the whys (Hausman 2009: 49). If we believe that the regularities experienced in actual societies can be traced back to well-circumscribed causes, we can understand how these causes contribute to the emergence of the outcomes consequences by isolating these causes (Hindriks 2013). The empirical performance is expected to be rather weak, mainly due to the combination of abstraction and idealisation. The real causal structure is simplified, as we only focused on the consequences of *some* causes. Of course, one should not forget about the effect of the development of modern econometric methods on theoretical economics. It was exactly the new classical school whose members could successfully overcome the previous compromise between truth and accuracy. Prior to the econometrically well-educated new classicals, economists had already been able to construct realist models whose empirical performance was quite good (De Vroey 2016: 50–51). In other words, the way was paved for the successful empirical application of pure theory. Actually, this is the reason why it is difficult to argue for the realism of the new classical macroeconomics. These models, applied to particular types of data, were considerably accurate, which puts them in the shade of instrumentalism.

The programme of instrumentalist economics, as a heritage of positivism (Polanyi 1967, 1972), is lacking in the effort of explanation and understanding, which is replaced by a sole focus on empirical performance. This is the case of the assumption of rational utility-maximising leaves on a tree or the also oft-cited mere empirical correlation between the numbers of new-born babies and storks. Specifically, in the latter example, we have nothing more than a plain empirical-statistical relationship within a dataset. As far as any of the above examples are considered, we can hardly get closer to the understanding of the experienced phenomena of central interest (the density of the leaves or the dynamics of births). Realist models always have a substantial advantage over the instrumentalist constructions. They are considered to be true as genuine conjectures (Popper 1963: 154). That is, in their partiality, these models can be believed to contain both the truth, but not the whole truth, and some details that cannot be found in reality in the form the models show. On the contrary, instrumentalist models can be handy systems with formal benefits at best (Polanyi 2005: 143). In his paper of primary importance, Daniel Hausman (1981), citing John Stuart Mill, successfully calls our attention to the fact that since the neoclassical era it has been the heritage of theoretical economics to aspire to the revelation of the real causal structure instead of highlighting mere statistical correlations.⁶

4. CONSTRUCTING REALISTIC ASSUMPTIONS

However, Lucas gave a great example how an economist makes intellectual efforts to interpret empirical observations on the basis of a theory. He started from a hypothesis, which was almost a commonplace at that time: real output level does not respond to inflation dynamics (Lucas 1972: 103). In other words, for Lucas, there existed a natural level or rate of real variables, which definitely was a reasoning of theoretical quality underlying his interpretation. Lucas' phrasing elsewhere (Lucas 1973: 326) clearly conveys the idea that there is a solid theoretical foundation (i.e. the natural rate theory) from which such mathematical expressions and such restrictions of the output-inflation relationship can be derived that can be directly tested in econometric terms. The theoretical foundation Lucas provided puts our focus on the mechanism according to which agents acting on separated markets do not have enough information as to the relevant prices. Postulating this

⁶ Milton Friedman's expectations-augmented Phillips curve precisely reflects the instrumentalist model-building philosophy. It is exactly the set of problematic presumptions of why the Friedmanian interpretation of the Phillips curve does not yield general conclusions (Galbács 2015: 153–167).

mechanism that originally comes from Hayek⁷ is similar to the case when the relationship between price and supply/demand is scrutinised in the Marshallian cross. Lucas defined an environment in which the agents forming rational expectations are not able to distinguish the relative and the absolute price changes. This is the system which was built to support the consideration of the macroeconomic effects of information deficiencies. The whole system was designed in order to highlight this mechanism. The theoretical basis in the background is that *information deficiencies affect macroeconomic performance* (Lucas 1975: 1120). In Mäki's (1994: 244) words, this is a core assumption, while the allocation mechanism designed to emphasise it is only a peripheral assumption of marginal importance. The given procedure in which the agents get to the islands is unessential since the model accents a given aspect of reality and it is not required to describe how this feature has taken shape.

Admittedly, it is not easy to argue for an interpretation according to which the rational economic agent applied by the new classicals through as-if assumptions is not the product of an instrumentalist model-building strategy, similarly to the Friedmanian as-if-type rational leaves. It is particularly true of the as-if-type assumptions that they do not imply any valid existential (i.e. descriptive) assertions. Actual entities never look exactly like these presumptions. Models of both Friedman and Lucas abound in such assumptions. According to the traditional neoclassical methodology (Weber 1978: 20–22), the analysis of the causal structure can be performed at two distinct levels: one is the level of the ideal-typical mechanisms highlighted in the model itself, and the other is the understanding of the discrepancies between the model and reality. Here I am stating that new classicals have strongly insisted on this tradition of causal analysis, while Friedmanian instrumentalism has abandoned this principle. Having done so, Friedmanian instrumentalism produced models of dubious value in terms of causal understanding.⁸

So, on second thoughts, the difference is dramatic. We have to realise here that new classicals consistently applied the neoclassical technique of conceptualising and model-building. This technique involves not only the traditional (neoclassical) way of isolation, but also the use of equation systems. In these systems, new classicals made the inaccuracy of the neoclassical deterministic equations explicit by building white-noise error terms (Spanos – Mayo 2015: 3534). The idea of the rational economic man, and this is the fundament of my present reasoning, is built from actually existing features shaped through properly applied abstraction and idealisation. *Homo oeconomicus* is *per definitionem* the economic man. His assumed behaviour reflects the patterns that all of us would show if we were

⁷ It was one of my referees who called my attention to this interesting intellectual relationship.

⁸ Section 7 is completely devoted to covering this idea.

no more than rational utility-maximising economic individuals. Some characteristics of our personalities or some effects of our social environment disturb these pure rational behavioural patterns (Hausman 1981: 365). That is, the behaviour of actual economic agents is likely to reflect certain effects in addition to economic rationality. This is exactly the reason why Hausman (1992) refers to the *fundamental economic laws as tendency laws*. Such laws manifest themselves as mere tendencies in actual behaviour. Perhaps the most effective argument for realism is to highlight that although our fundamental economic laws only show up as tendencies in the actual socio-economic processes, these laws can and should be regarded as *universally true*. It is due to the fact that if a law spans a wide range of patterns of human behaviour being as different as possible and explains them as their common underlying core, then this law must evidently be devoid of content and vague in its manifestation (Weber 1904). Each of us is partly an economic man, and partly a lot of else. Through isolation one can ignore these further effects (Lucas 1972: 105), which are said to be irrelevant to economics, but nevertheless may be highly important in an institutional aspect. In abstraction the theoriser detaches them,⁹ then in idealisation one exaggerates the remaining, relevant features to extremity. The behaviour of the *homo oeconomicus* is subordinated to the sole purpose of utility-maximising (Lucas 1980: 701). In these theorising techniques, however, we do not attribute anything to human beings that they do not possess as factual features: *abstraction* means disregarding something, while *idealisation* means exaggerating other (i.e. the remaining) characteristics. Neither of these procedures adds any actually non-existing features. The concept of the rational leaf, however, is not like this. In this case, a feature not pertaining to actual leaves is made exclusive. Economic agents forming rational expectations are burdened with the signal processing problem. In the island models that marvellously capture the isolated character of actual markets, it is exactly the signal processing problem that manifests the information deficiency – the information deficiency which is the basis of the business cycles in the new classical theory.

5. REALISM AND UNDERSTANDING IN THE NEW CLASSICAL WAY

The difference between a realist and an instrumentalist researcher is not the explicit reference to empirical performance. The real difference involves understanding and the ambition to understand. It is natural that a realist does not ignore the empirical performance of his model either, since the success of a realist model

⁹ On that omission, that is, leaving something out is an evident part of building abstract models (Lucas 1980: 700).

built through isolation can be well underpinned by this efficiency (Mäki 2009: 81). It is typical, for example, that Lucas modified his first two island models in order to make the resulting system (Lucas 1975) consistent with the common view of actually long-lasting business cycles (Hoover – Young 2011: 25). It was the view with which the white noise business cycles of the earlier versions could not harmonise in any way (or only very indirectly). Thus, in this case, the modification of the theory was necessitated by the interest of creating a higher degree of concordance with reality.

A realist, *per definitionem*, builds up his model from certain selected parts of reality, so a good empirical performance somehow implies that through the phenomena they guide one can observe the fundamental laws he wants to highlight. There can arise certain circumstances under which the stochastic contingencies on the whole do not disturb the functioning of the comprehensive laws depicted in the model. The way Lucas (1977: 16) regarded the paper co-authored with Rapping (Lucas – Rapping 1969a) as an empirical corroboration of the theoretical considerations strengthens this view.¹⁰ It is true that the lack of good empirical performance in the realist case does not lead to the failure of the theory or a model (Polanyi 1972). Rather, it seems to be the more general case that a realist pure theory cannot be submitted to falsifying tests, at least not in a sensible way, due to the distance it lies from reality. Even if it is the case, a realist still scrutinises reality, possibly lacking in empirical corroboration. A realist is interested in revealing the deep and fundamental factors, in discovering the ultimate causes. Good empirical performance, in this respect, is of secondary importance, though it is admittedly a corroborating circumstance (or, specifically, an important falsifying test), which relates to the (direct) practical applicability of the theory and a model rather than to the truth of the model (Hausman 1981: 374). On the contrary, an instrumentalist solely concentrates on empirical performance, ignoring the causal structure.

Thus, it is not something weird if a realist also pays attention to the consistency between the actually observed phenomena on one hand, and the outcomes gener-

¹⁰ When Lucas mentions systematic evidence at the aggregate level, his phrasing clearly reflects that economists want to acquire knowledge of reality through a theoretical model. Good empirical performance of an instrumentalist model does not prove anything beyond this good empirical performance. Of course, it has to be noted that Lucas highlights here the feature of the model as a merit that it leads to the same outcome as the one that is experienced in the course of actual macroeconomic cycles. In this case, we face the efforts according to which an otherwise abstract realist model is required to describe the actual socio-economic processes with quite a good empirical performance. These ambitions, I think, are primarily limited to new classical macroeconomics, and one should not regard them as a universal motive within the mainstream theory of realist traditions.

ated by his model on the other hand. He can gain important support from such consistency. But how can one know in the case of realist models without easily interpretable empirical underpinning whether the idea underlying the model is correct and relevant? We can refer to commitment, which was somehow a guarantee for Polanyi (2005), and which means that the researcher explicitly undertakes the revelation of the real causal structure. Alternatively, we can mention the societal nature of creating knowledge, through which the overlapping generations of researchers concede the reliable and reject the ambiguous results, while building upon the ever-renewing and refined-improved findings (Polanyi 1970). Here, we can also highlight the strong requirement according to which a researcher must always be able to account for the discrepancy between the outcomes of an intended-to-be-realist model and the actually experienced reality. And, moreover, we should not forget about the circumstance that without commitment to realism, mere empirical performance becomes of dubious value since even horoscopes can be underpinned with observations (Polanyi 2005: 177).

It is of primary importance to see that referring to empirical performance, in itself, does not make anybody an instrumentalist. A realist is engaged in understanding reality, so it is not surprising at all if under specific circumstances reality directly reflects his isolation-based model and if he rejoices at that. Realist models built on the act of isolation always mimic reality with respect to some characteristics that the researcher takes as relevant. The simplest economic models and the most sophisticated theories are all the same in this regard. There are phenomena, mechanisms, features, etc. in reality, which are of marginal importance as to the problem under study, no matter how interesting they may be in other aspects. So the researcher simply leaves them out of his model or theory (Lucas 1977: 17). Abstraction on its own does not force an economist to be anti-realist. Without explicitly citing the Weberian style of idealisation, Lucas gave here a marvellous description of that. Although real wages are not constant over a business cycle, they do not change in a consistently pro- or countercyclical way. As a consequence, it would make no sense to attribute a central role to real wage dynamics in the understanding of business cycles. Thus, it is more convenient to take these wages as constant. In his island models, Lucas similarly accentuated the characteristics of actual macro-economies, according to which the complete system of prices cannot be observed, so experiencing the changes in prices may be erroneous. Abstraction and idealisation are carried out so that the mechanism we believe to be relevant could be put into focus. In the case of the island models, it is exactly the signal processing problem that was presupposed to trigger macro-cycles.

It is more interesting to call attention to the circumstance that an instrumentalist always applies to reality in order to confirm his “theory”. Without such a direct

turn to actuality, an instrumentalist system would never make any sense. At the same time, a realist theory (without quotation-marks) does not necessarily require something like this. However, due to the grounding isolation starting from actuality and due to the apodicticity of mathematics, a realist model can convey some truth about reality even without requiring confirmation from experience. Should reality confirm a given theory, it is only an additional source of pleasure.

However, Lucas presented the good empirical performance of a realist model supporting our understanding as an explicit requirement. As we have just seen, he had already moved in this direction with his 1975 island model (Lucas 1975). Here, generally speaking, Lucas is claiming that a good theory must provide us with answers to the whys underlying the empirical phenomena. For example, why the easily distinguishable negatively sloped short-run Phillips curve shifts vertically according to the detailed empirical data. On the basis of the theory, one must draw inferences that are in harmony with some well-known phenomena. Taking the intentions of understanding into account, this is the combination of realism and empirical performance. According to its own intentions, new classical macroeconomics was organised as a realist system that was placed on solid microfoundations and had remarkable empirical performance. On the basis of its applied methodology, however, new classical macro has remained a pure theory all along (see Chapter 2 of Keynes 1936), and being so, it has not been required to give a comprehensive realistic description of our socio-economic reality (Hoover – Young 2011: 37). Due to the high degree of abstraction, new classical models could hardly be regarded as steps towards a comprehensive realistic description of reality, which, by the way, would make no sense at all (Lucas, Various. Box 13, Directions of Macroeconomics folder, 1979). Replacing the omniscient neoclassical representative agent with the Lucasian islanders forming rational expectations, of course, can be interpreted as a significant step in a de-idealising strategy, similarly to the way the island models put our focus on the dispersed character of information. The standard neoclassical markets and the information available there would not have made it possible to make room for macroeconomic cycles while postulating rational agents (Lucas 1975: 1114–1120). However, the development of econometric methods enabled economists to endow their abstract models with a considerable degree of explanatory power. In the new classical case, good empirical performance was also strengthened by the special interpretation of the theory as a positive heuristic.

Firstly, individual expectational errors are offset at the aggregate level and, secondly, expectations get “anchored” by some institutions in a central position announcing certain data and forecasts. These theorising techniques successfully bolstered the theory, while the as-if clauses often applied in the first versions could be set aside. In any case, theory performed quite well when compared with

the empirical facts. This is exactly the feature that gives new classical theory an outstanding importance in the history of economic thought. Thanks to the system of presumptions applied and the improved econometric methods, economists were able to construct an abstract-realist theory and a family of models that could perform well on the data.

Good empirical performance in new classical models is underpinned, for example, by the precise clarification of the relationship between the concepts used and the factual data. We are given a clear-cut description of this technique in Lucas – Rapping (1969b). An index was introduced, which was calculated on the basis of the actual and normal labour supply. In its content and distribution characteristics, this index was found to be close to the official rate of unemployment. The only problem was that the official unemployment rate and the index Lucas and Rapping calculated were not exactly the same regarding their contents. Certain groups of women and young people were supposed not to be ready for reporting themselves as unemployed and, moreover, the normal labour supply defined by Lucas and Rapping did not contain the frictional component. However, the authors draw the inference from the data available that these two variables (i.e. the actually measured rate and the theoretical index) were linearly correlated, so it seemed to be possible and sensible to test their model on the data. Conclusions drawn from the theoretical model could be directly compared with the observations because their relationship was clarified enough. Although Lucas and Rapping here referred to the empirical performance, this technique of theirs did not involve the instrumentalist way of conceptualisation.

6. REALISM: DISCOVERY AND REVELATION

It may go without saying that a model does *not* help us to understand the causal structure of the problem under study. The purpose of a realist economist is to draw inferences about the highlighted aspects of socio-economic reality. The causal structure is at hand when he is about to construct his theory or model. This characteristic is brilliantly highlighted in the philosophy of Michael Polanyi on the basis of episodes from the history of the natural sciences. A model only reveals, highlights, and represents the presupposed causal relations in action. It is not an overstatement to say that the conclusions drawn by the economist (or the majority of them at least) are ready before the underlying model or theory is born. In the new classical case, specifically, insufficient information about price dynamics may lead to business cycles – so *models are designed in order that these desired and requested conclusions could actually be drawn*. Whether this postulated mechanism is relevant as to the actual processes and the understanding

of reality, whether it is able to explain the Phillips curve shown up as a mere empirical regularity (Lucas 1972: 122) or not depends on whether we are able to link this mechanism to our socio-economic reality through further assumptions. If so, the model can give us good theoretical explanations for some empirical observations (e.g. business cycles). In a properly defined model environment, the agents isolated from the idea of actual economic actors will produce the outcomes which can be experienced in reality and highlighted with econometric methods through the postulated mechanism (Lucas 1972: 103–104). In these terms, assumptions are far more important than Friedman (1953) thought. Regardless of whether a postulated mechanism actually contributes to the events of the surrounding social reality or not, a model can only confirm it if that model leads to conclusions analogous to the actual processes on the basis of the assumptions that must not be regarded as limiting factors for the generalisation of our results.

It has to be noted that reduction belongs to both the instrumentalist and the realist procedures (Patton 2015: 3446). This is evident in the realist case. Phenomena experienced at the market level are traced back to the assumed and highlighted regularities of the individual's behaviour. An instrumentalist does the same. The difference (and this is crucial!) lies in the nature of the underlying assumptions. Friedman (1953), through a reduction, traced the aggregate behaviour of leaves back to their presumed individual characteristics, which are obviously non-existent in reality. Since reduction always manifests itself in the unifying act of tracing something back to a common fundament (e.g. phenomenon, law, etc.), the demarcation line between realism and instrumentalism stems from the nature of this common basis. A realist links his model and theory to reality through the acts of proper abstraction and idealisation, whereby he ensures that reduction supports explanation and understanding. In order to do so, Lucas (1977: 16) chooses an everyday economic agent, describes his daily activities and the way he leads his life, then gives quite a detailed list of his characteristics and activities, which are omitted from the given theoretical framework. The description of investment and expectations here is as real as if it was from a practical management handbook (Lucas 1977: 23). The picture Lucas paints about the individual giving the basis for the new classical models is the alter ego of the Weberian ideal type, now dressed in a mathematical guise and given the task of doing something else than before. The Lucasian islands are populated by the generations of the counterparts of the representative individual, who, within a generation, are completely identical to each other regarding their relevant characteristics – while they do not have any irrelevant features at all. This picture of the identical economic agents is the result of isolation, the same as the concept of the physical point. We can witness the same when Robert Shiller depicts the new modelling standard set off by the rational expectations hypothesis as it had specific ideas about the underlying

structure that generates the observations. According to that, economic agents have tastes and technology, and they have trade-offs built into the preference systems. This is the micro-structure on which the macro-system is placed, in which the utility-maximising behaviour of the agents depends on their expectations (Hoover – Young 2011: 30–31). It is not too hard to realise that this is also an aspect of our socio-economic reality. Experienced macroeconomic phenomena should be traced back to the regularities of the representative individual's behaviour. This effort has been typical of some particular chapters of mainstream economics, including the majority of the microfoundations projects that follow the Walrasian maxims. Both realism and instrumentalism rest on a particular strategy of choosing and designing the assumptions. The reduction-based understanding of our reality is only possible when the assumptions we apply and the models built on them are all linked to reality. Otherwise, we can only have some empirical regularities and correlations. In the case of instrumentalist models, applying the principle of reduction does not imply the act of understanding.

7. REALISM AND PREVIOUS KNOWLEDGE

A realist researcher is driven by the desire to understand reality (Mäki 2009: 74). In these efforts, however, his personal involvement is considerably strong. We have to keep this in mind in order that a mere superficial contradiction could be swept away once and for all. When designing and accomplishing realist abstraction and idealisation, a researcher follows his own judgements, interests, and beliefs, and he definitely requires his results claimed to be of universal importance to reveal the hidden ontic structure of reality (Polanyi 2005: 328–329; Deichsel 2011: 26). This is the reason why the realism of models and theories is not the question of evidence and empirical performance. In order to make that comprehensible through his concepts and theories, a researcher approaches reality knowing in advance what he will find there and what he wants to highlight through revelations.¹¹ Of course, there is a preceding belief according to which there is something out there to look for. It is not only the firm belief in the existence of our social and physical reality, but also the belief in the presence of

¹¹ For Lucas (1995: 251–252), such previous knowledge was how he inferred the consecutive shifts of the short-run Phillips curve from the data. Similar previous knowledge was the postulation of economic agents who form expectations or the presumption that these expectations are crucial to their behaviour. His question of fundamental importance was how the agents possessing insufficient information respond to price changes on isolated markets, while according to the presumptions, past experience on price dynamics constantly builds into the expectations (see Hoover – Young 2011: 11–16, for a more detailed discussion).

regularities and laws underlying this reality that can be described in scientific terms. For Lucas (1977: 22), such a belief was, for example, how he described the adjustment processes that trigger temporary real effects and diffuse through the economy before a general increase in the price level occurs. There was a similar previous belief that the source of business cycles is the change in the quantity of money (although the empirical evidence was weak, he kept on believing this), or that the government have a limited countercyclical potential (Lucas 1977: 25). Lucas thought the signal processing problem to be the summary of the mechanism he wanted to emphasise as the source of business cycles, and he carried out the isolation so that this mechanism could actually be the trigger for macro-cycles in his models.

This is the way how discovery and revelation work. Neither of them, of course, is an infallible procedure, which makes the broadening and changing of knowledge a partly collective act due to the need of public admittance (see, for example, Barnes et al. 2002). Being a realist, one can only highlight something through isolation that is previously known or believed to be out there. What we are looking for is thought to be there, pre-given in actuality, and will even somehow become “visible” through our revelation. Weber did not attribute real existence to the ideal types he suggested as the instrument of understanding. Such a “minimalistic” ideal type as the *homo oeconomicus* (Angner 2015: 3558), who populates the Lucasian islands together with his alter egos, helps us to reach the essential and fundamental structure of reality. It is a level of actuality that is hidden behind the disturbing appearances of our socio-economic world and that is unlikely to be directly perceived (Polanyi 1964, 1966). Whether it is an economist or a natural scientist in search of fundamental laws, he will apply them to a simplified idea of reality, which is able to highlight only those relationships we are keenly interested in.

An actually non-existing idea connects with an item of reality that is present in the surrounding world since such an idea reflects something that is actually out there but, at the same time, hidden behind the complexity of our world. Polanyi could successfully explain this activity of a scientific researcher on the basis of Gestalt psychology. The researcher actually starts to consider the isolated phenomena as parts of some complex totality (Polanyi 1972) and, through his theory, he wants to capture this objectively existing totality. So, realist abstract models do reveal something, but do not create anything. Such a model or theory is a revelation of something which is out there, but whose manifestations are often disturbed by the contingencies of our actuality, and which is difficult to highlight and capture in its essence without omitting those contingencies. Realist models are necessarily of simplifying character.

8. UNREALISTIC ASSUMPTIONS IN A TWO-FOLD ROLE

As reduction is applied both in the realist and the instrumentalist models, it is similarly true that both families are built on assumptions not having actual existence, whether the core or the peripheral assumptions are considered (Mäki 1994). It is often isolation that makes up the fundament of model-building in both cases, even though following different principles (Ibid., p. 341). It is common that there is no real existence (Mäki 1992: 317), and thus these assumptions cannot capture reality in its totality. That is, they should all be regarded as unrealistic. However, realist and instrumentalist models make very different claims on economists. In his methodological paper, Friedman (1953: 8) called attention to the idea that the assumptions of a good theory would fall considerably far from reality (Friedman 1953: 14).¹² This is true: but it is also true, though in a different way, of the realist models in which empirical performance was originally of marginal importance. We have seen that the most universal laws and the assumptions capturing the common cores of different kinds of things stand the farthest from the totality of our reality. We have a similar setting in the case of the assumptions underlying a realist model and their descriptive relevance. Instrumentalist assumptions are also unrealistic, but in their case, there is no abstraction or idealisation as the act of connecting with reality. Isolation starting out from existing things and features is replaced by some pragmatist considerations. Although both idealisation (as exaggerating some characteristics) and abstraction (as omitting some actually existing features) seem to be in the game, there is no ambition to connect the model with reality. Picking out the assumptions is driven by the utility which arises from the empirical performance of the models built on them. The unrealisticness of instrumentalism and the unrealisticness of realism are of completely different nature. Assumptions applied in realist models have no descriptive relevance either. However, the methodology by which these assumptions are created is not of marginal importance. Through isolation, we can get presumptions that can capture some significant elements of reality, even if they cannot reflect their totality.

The relationship between instrumentalism and abstraction needs a careful analysis. This demand even highlights the fact that mainstream economics has not been uniform in methodological terms and neither did Friedman suggest and

¹² This is why interpreting F53 is problematic, since the quoted passages seem to support even a realist standpoint. The key to a grounded interpretation and to settling the realist vs. instrumentalist debate, I think, is to be found in those parts where Friedman stresses the empirical performance of models, and where he illustrates his requirements on assumptions through his idea of rational leaves. These paragraphs are emphasised here when arguing for Friedman's instrumentalism because the further elements cited above likewise support the realist standpoint, so they do not help us to decide.

follow a unique principle. The instrumentalist vision of rational utility-maximising leaves is not based on abstraction since all the relevant features come from artificial and goal-oriented alchemy (that is, something is assumed which is not present in reality, not even as a clue; see Shech 2015: 3477), while the details bearing a resemblance to the real counterparts (Friedmanian leaves are also likely to be green) are completely irrelevant with regard to the problem under study. On the contrary, an expectations-augmented Phillips curve is based on dubious abstraction. Even though the idea of actual economic agents was the starting point, several relevant features of hardly marginal importance were omitted. However, the main purpose here was to properly ground a demanded conclusion. What is the lesson to learn? The instrumentalist strategy does not lead to understanding in either case, since we could not get closer to the real causal structure.¹³ There is only a thin line between the ways realists and instrumentalists utilise abstraction, since, first, all relevant characteristics have to be assumed away in order to be able to add the non-existing features.

Here, I am stating that a presumption that is created from reality through abstraction and idealisation should not be regarded as unrealistic. In such a case, the given assumption does not contradict reality, even if it has no real existence in empirical terms, and is therefore not real. Although the terminology in current use uniformly labels the assumptions of theoretical models as “unreal”, it has to be stressed that this terminology assigns the scrutinised elements of both the instrumentalist and the realist models into the same set. Mäki (1992: 320) discusses the realism of models in three senses, extendable to the assumptions. Referential realism means that a theoretical construction refers to actually existing things; representational realism means that it represents features its real referents actually have; while veristic realism means that it truly reflects the features of the things it represents. Mäki (1992: 329) also stressed that abstraction-idealisation-based

¹³ It has to be noted in Friedman’s defence that he seems to have taken some steps towards realist models. The agents optimising over a long time-horizon in his permanent income hypothesis (PIH) should be regarded as such efforts at least. In this case, Friedman himself appears to have abandoned the instrumentalism of F53. However, these results are fraught with the same difficulties of the problematic abstraction as his adaptive expectations hypothesis (AEH). All in all, it was the characteristic that later led PIH specified within the rational expectation hypothesis (REH) to success. These considerations may support the view that underlines the methodological heterogeneity of Friedman (Mäki 2003). Going farther along these lines, on some occasions Friedman (2009: 229) definitely preferred understanding to mere empirical correlations: “However consistent may be the [mere empirical] relation between monetary change and economic change and however strong the [empirical] evidence for the autonomy of monetary changes, we shall not be persuaded that the monetary changes are the source of the economic changes unless we can specify in some detail the mechanism that connects the one with the other.”

assumptions of realist economic models are referentially and representationally realistic, while they violate veristic realism. It is exactly the characterisation we need in order to be able to separate the assumptions of instrumentalist models which are said to be false-unreal in all three aspects from the assumptions of the realist models, which are referentially and representationally realistic.

9. THE CASE OF NEW CLASSICAL EPISTEMOLOGY

By now it should go without saying that the ultimate purpose of creating realist abstract models is to understand objectively existing reality. So these models should definitely be regarded as surrogate, but not as substitute systems. According to my reasoning, new classicals shared this ambition. This reasoning is placed on the review of (1) the purposes and (2) the methodology of new classicals. Both elements are necessary since the implementation may be wrong, making the realist program miss the mark, even if the purpose of realism is clearly present in the texts. Here, for example, we can refer to the case of the simple rules useful to operative economic policy. Admittedly, setting up such rules does not necessarily require us to understand the causal structure. The Phillips curve could be interpreted as a simple empirical correlation. Governments do not demand inflation dynamics or the relationship between actual inflation and expectations to affect the unemployment rate in reality. The rule is still available and useful even without understanding the whys, i.e. learning the real causal structure (see Hoover 2015: 3510, for further considerations). The requirement regarding economic models formulated by Lucas (1980: 696), according to which they should serve as artificial economic systems (i.e. laboratories) in order to help us to evaluate the effects of certain economic policy steps, could even be met by an instrumentalist model. Here, Lucas noted that the expected reactions of actual macroeconomic systems should never be mistaken for the factually known responses of model economies. The realism of economic models does not make it possible to directly apply our model-based conclusions to our socio-economic reality since models never reflect total reality. The first paragraph of this paper is perhaps the most important methodological manifesto of his life.

Some of Lucas' papers that are the most important in methodological or meta-theoretical terms can help us to identify where the new classicals placed the centre of their interest. Here and now we have to focus on the most important details, but it would be enough to count how many times Lucas used the word "understand" with respect to the purposes attributed to theoretical models. One may have difficulties in separating realism and instrumentalism as far as Lucas' methodology is concerned. In the context of economic models, he likes using the words "mimic"

and “imitation”, which are often regarded as manifestations of instrumentalism – though, as we have seen, the ambition to understand can hardly be compatible with instrumentalism. In one instance, Lucas (1980: 701) clarified what these words mean to him. They refer to the possibility of econometrically estimating the parameters of a model built from stochastically disturbed difference equations. This reasoning is a far cry from being an argument for instrumentalism. Actually, this manifesto is in accordance with both realism and instrumentalism, and only the strategy through which the economist builds up his model subjected to parameter estimation is decisive. The reference to empirical performance is not enough for us to sensibly talk about Lucas’ instrumentalism.¹⁴

Lucas’ phrasing is occasionally confusing. In order to carry out a careful analysis, it is necessary for us to recall the details about the relationship between models and reality, or the empirical performance of realist economic models outlined above. It is illuminating how Lucas (1977) comments on the difference between pre-Keynesian economics and Keynes’ theory. While pre-Keynesians had the ambition to explain the macro-cycles, Keynes directed his interest to the understanding of the institutional sources of macroeconomic instability. This shift of interest was subtle, but essential. While neoclassicals looked for the sources of business cycles within the structural elements of macro-systems, Keynes, with the hope and explicit intention of practical application, made efforts to identify the institutional factors affecting stability (Rutherford 1997). In this respect, Keynesians may have been fundamentally wrong when attributing a world view to the neoclassical-monetarist wing, according to which general equilibrium was believed to be the rule rather than the exception – even if Lucas himself did not believe the capitalist economy to have predestined crisis tendencies. Eventually, both groups searched for the causes of business cycles, but one among the structural/core factors, the other among the institutional items. However, this is only of secondary importance now.

The critique Lucas (1977: 12) voiced about Keynes is more important than the hints above. For Lucas, the rigid nominal prices invented by Keynes are only an unexplained postulate, by which Keynes could transform an otherwise neoclassical model into a system whose outputs were consistent with time series data. Here, Lucas sharply broke away from the instrumentalist methodology of F53, since he disapproved of the way Keynes, by applying an allegedly dubious (i.e. ungrounded) assumption, could obtain a model with a better empirical perform-

¹⁴ Although one may disagree with me, I have a tendency to regard empirically estimatable economic models mentioned in the self-definitions of econometrics as economic models in the literal sense. One of the consequences of the present reasoning is that recognising correlations, however strong they are, is not the same as giving theoretical explanations.

ance. For hard-core new classicals, Keynes was not an economist on the grounds that he dropped the neoclassical microfoundations (Sargent 1977; Lucas – Sargent 1978). Of course, Keynes can hardly be said to have been an instrumentalist. He had a well-defined and well-elaborated theory, but this theory could not meet the requirements set by the new classicals. It is problematic whether Lucas is right or wrong here,¹⁵ but the point is that for Lucas, presumptions should be grounded. They require explanation. This is the most important methodological statement as far as our current purposes are considered.

Lucas depicted mainstream economics as a law-seeking discipline. Understanding business cycles means the revelation of the mechanisms that are the common elements of all decentralised market economies. In other words, business cycles (as far as the years after the 1930s are considered) are essentially alike (Lucas 1977: 10, 1980: 698–706), though they naturally have individual features, too. Presuming this similarity and multiplying the sole *homo oeconomicus* in order to have a kind of society (Lucas 1977: 19–20) made it possible to introduce rational expectations interpreted as the combination of subjective and objective probabilities, since identical agents must form identical expectations of phenomena with a common core. For Lucas, understanding business cycles means to find the unified explanation which is based on general economic laws governing market economies and on the optimising behaviour of the typical individual. This is how the intention of finding the microfoundations occurred (Lucas 1977: 14). The other, also significant institutional factors are simply omitted through isolation. Thus, business cycles have a generalisable common core that should be understood.

10. CONCLUSIONS

New classical macroeconomics, due to its purposes, was characterised above as a realist movement. Its followers have been making serious efforts to understand socio-economic reality, and in doing so, they broke away from the instrumentalism of F53. However, analysing the goals would not have been enough in itself. The reasoning above was aimed at calling attention to the role and significance of abstraction and idealisation in the new classical theory. I argued that new classical macro, as a realist movement, provided models that could successfully be

¹⁵ Taking into account the fact that the rigidity of nominal prices and wages could quite easily be underpinned by referring to certain institutional factors, which were, of course, outside the structural factors Lucas studied. It does not seem to have been Keynes' fault, since he put the emphasis on the institutional sources of instability, even according to Lucas.

subjected to econometric tests due to the specific assumptions and the development of econometrics. So, thanks to Lucas and other hard-core new classicals, the traditional compromise between realism and instrumentalism as to empirical performance could be overcome. As a result, we might convincingly clear new classicals of the charge of instrumentalism raised by good predictive performance.

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