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SOME REFLECTIONS ON METHODOLOGY OF CRITICAL REALISM

Abstract:

The subject matter of this paper is the controversy about realism of assumptions from the perspective of critical realism. The authors apply the notional apparatus of philosophical logic to clarify the essence of this controversy. By means of translating the often ambivalent and sometimes mysterious terms of Jespersen (2009) into the straightforward language of classical philosophy, they authors make an effort to tear down some of the barriers of the inter-paradigmatic controversies about methodology. The conclusion is drawn that as long as the assumptions of a model affect but the accidentia logica of the model's constituting notions, the formalist stand can be taken and Friedman's instrumentalist approach will be justifiable; as soon as the assumptions of a model affect the differentiae specificae of the model's constituting notions, the substantivist stand must be taken and Friedman's instrumentalist approach fails. Finally, the authors assert that the Post-Keynesian notion of critical realism is much more compatible with the perception thereof as a genus that the perception thereof as a species.

Keywords:

critical realism, differentia specifica, essentia generica, accidens logicum, ontology, epistemology

JEL Classification: A14, B41, E02

1. Introduction

A characteristic feature of Post-Keynesian economics is its methodological diversity, often tabbed “Babylonian mode of thought”, a term originating from Sheila Dow and an obvious hint to Genesis 11 anticipating the barriers arising among scientists who take various methodological approaches. On the one hand, Caldwell (1988, p. 55) points out some possible advantages of methodological diversity inside one stream of thought but, on the other hand, he (Caldwell, 1988, pp. 56-57) stresses the disadvantages thereof, namely: a danger of unconscious self-contradictions inside the stream, a danger of falling into a state of methodological relativism, fragmentation of Post-Keynesianism face to face the relative methodological homogeneity of Neoclassical economics. Absence of a homogeneous methodological position of Post-Keynesian economic theory is also stated by Holt (2001) who makes an effort to distil a certain common ground consisting of the following: a pursuit of realistic assumptions, treating time as historical (rather than logical), a stress being laid on decisional uncertainty of individuals and an emphasis being placed on the importance of institutions. Excessive deviations from this common base, the basic elements of which Holt postulates to be present as far back as in Keynes’s work, would lead us back to the Babylonian approach (Holt, 2001, p. 10).
In this paper, we are going to deal with the problem of methodological diversity of Post-Keynesian economics and we will try to specify what makes the link between the former and the methodology of critical realism. We will apply the notional apparatus of classical philosophy to shed some light on the essence of the controversy about realism of assumption and, last but not least, through translating the often ambivalent and sometimes almost mysterious terms of Jespersen to the straightforward well-defined language of classical philosophy, to tear down at least some of the barriers of the inter-paradigmatic controversies about methodology. The second section will provide a brief introduction into the debate of realism of assumptions in the Post-Keynesian economics in confrontation with the Neoclassical mainstream, especially the instrumentalist approach of Milton Friedman. The third section will expound some fundamental notions of philosophical logic and demonstrate their practical applicability on the notion of “market”. The fourth section will broaden the field of application of the logical notions from the spatial to the temporal aspect and it will suggest some economic-anthropological connections. The conclusion will provide a reader with some inferences and generalizations drawn from the preceding sections with respect to the problems of realism of assumptions, universality of critical realist methodology and identity crisis of Post-Keynesian economics.

2. Methodological Diversity: Post-Keynesian Identity Crisis?

A methodological diversity of Post-Keynesian economics may become a source of its own identity crisis. The thing is, Post-Keynesianism is, to some degree, based on a negative self-identification in relation to the Neoclassical mainstream. Reflection of the

Post-Keynesian economics as an exclusive antithesis to the Neoclassical mainstream is distinctive to Davidson: "There are two fundamentally economic theories that attempt to explain the operation of a capitalist economy and its financial markets. These are: (1) the classical economic theory which has many variants such as 'the theory of efficient markets', 'classical or neoclassical theory', 'general equilibrium theory', 'dynamic general equilibrium theory' or 'mainstream economic theory'. The mantra of this analytical system is that free markets can cure any economic problem that may arise, while government interference always causes economic problems. In other words, government economic policy is the problem, the free market is the solution. (2) The Keynes liquidity theory of an entrepreneurial economy. The conclusions of this analysis is that government can cure, with cooperation of private industry and households, economic flaws inherent in the operation of a capitalist economy [...]" (Davidson, 2009, p. 325). However, an assertion of a negative self-identification of Post-Keynesian economics cannot be absolutised. After all, Post-Keynesian economics can add a whole range of theoretical concepts to its score which can be a solid base of its positive self-identification, e. g. Minsky's financial instability hypothesis[1], Kaldor's cumulative causation[2], Setterfield's concepts of deep endogeneity and adjustment asymmetries[3], Shackle's crucial decisions[4], Davidson's ontological theory of uncertainty[5], O'Donnell's epistemological theory of uncertainty (HAC approach)[6], Pasinetti-Lavoie's "fair" rate of interest[7], to name just some of them. In spite of that, Post-Keynesian self-identification has to overcome a couple of difficulties.

Post-Keynesian economic theory has inscribed "realism" into its coat of arms, in a way. Holt (2001, p. 3) sums up: "The first feature that I hope we can all agree to is that the primary goal of Post Keynesian economics is to understand the nature of the capitalist system and to develop a practical understanding of how to deal with economic problems in the present-day world. [...] The objective has always been to develop a model or paradigm that helps us understand how economic processes function in the real world through historical time." As a matter of fact, the largest volume of criticism towards Neoclassics from Post-Keynesians is aiming at the allegedly unrealistic assumptions of the former. An economic agent doesn't really calculate and compare ratios of respective marginal utilities and respective prices of all goods he consumes, does he? A firm doesn't really make its decisions on the quantity of its production based on a comparison of marginal costs to marginal revenues, does it? An employer doesn't really make a decision on the amount of labor force hired based on a comparison of the marginal revenue product of labor to the marginal cost of labor, does he? In the real capital markets, the interest rate is not really being co-determined by the marginal rate of time preference and the marginal rate of return, is it? In the real world, the information is not really perfect and free of charge, is it? However, Caldwell (1988, p. 58) points out that reproofs towards Neoclassical economics like the above said are not completely true

[1] Minsky (1982; 1992).
[2] Kaldor (1972, pp. 1244-1246).
[3] Setterfield (1998; 1993, pp. 356-360).
[4] Shackle (1955); see also Davidson (1982-1983, pp. 192-193).
[5] Davidson (1982-1983; 1991; 1996; 2009)
[6] O'Donnell (2011; 2014-2015)
[7] Lavoie (1999). See also Chytil, Maslo (2015).

because: “[...] neoclassicals in recent models have paid more attention to specific ‘real world’ problems like signalling, credit rationing and the provision of insurance. More generally, a host of theoretical advances (like the incorporation of costly information, transactions costs, imperfect competition or game theoretical considerations into theories) could all be interpreted as attempts to make the assumptions of mainstream theory more realistic.”

Other heterodox economic schools which also put stress on realism of assumptions represent another danger to the Post-Keynesian self-identification: “Recall that Austrians, Marxists, institutionalists and behavioural economists all claim to be offering more realistic descriptions of economic phenomena than is available from the orthodoxy. Winning a victory against the mainstream would be only the first stage of a very length campaign.” (Caldwell, 1988, p. 59). Even if the Post-Keynesians succeeded in presenting sufficient arguments in favor of their assertion that their theories provide a better description of how the capitalist economies work than the neoclassical mainstream, they would still have to explain why and in what respects their theories are better as compared to theories of Austrians and behaviourists or what makes them different from those of institutionalists. Caldwell (1988, p. 59) makes the point when he says that explanation is just one of goals of science. The other one is prediction. While a pursuit of maximum realism might be a virtue when the science focuses on explanation, such realism does not have to be of any use when we care about prediction. Caldwell (1988, p. 59) provides an example of instrumentalism of Milton Friedman who made the “brilliant methodological move” in his essay The Methodology of Positive Economics when he played down the significance of realism of assumptions to prediction by escalating the role of explanation and the role of prediction to absurdity by which he took the wind out of sails of all critics of the allegedly unrealistic assumptions of neoclassical economics completely: “[Common, ordinary microeconomists] know that people really don’t have indifference curves, that the theory of the firm is a caricature, that the marginal productivity theory or distribution is false. Of course, the use of such artificial constructs would be unwarranted if the goal of science was to render accurate descriptions of phenomena. But their use can be justified if a major goal of science is prediction. And neoclassical theory *does* yield some pretty accurate predictions, at least in certain cases. At the most general level, economic theory states that agents will respond to changes in perceived benefits and costs: that is just the rationality principle expressed in economic terms. But there are more specific and unobvious predictions. Price-fixing leads to gluts or shortages. Demand responses to a price change are more elastic the more time that is allowed to pass. Price dispersion is more likely in markets in which information is imperfect. Such predictions are not obvious to noneconomists; they are relevant for policy; and they work often enough to be very useful.” If the Post-Keynesians criticize neoclassics for its purported being based on unrealistic assumptions, they only can do so with respect to its explanatory ambitions, not with respect to its predictive ambitions. In that case, they should say so explicitly, though: “The post-Keynesian demonstrates that many assumptions of mainstream theory are unrealistic. The neoclassical readily agrees, but wonders why this is important: the goal of science is to make accurate predictions and thereby to assist in the making of policy." (Caldwell, 1988, p. 60). When the Post-Keynesians take another step and criticize neoclassics for its unrealistic assumptions, not because of their unrealism per se but because of false predictions resulting from them, they should distinguish those models which really have an ambition to provide predictions from those which have never had such ambitions and which only served as a kind of stepping stone at the level of basic research: "The post-Keynesian shows that general equilibrium theory is both unrealistic *and* yields false predictions. The neoclassical vigorously nods his assent: being of a more applied bent, he has always thought that general equilibrium theory is a waste of time. He points out that Milton Friedman, who criticized attempts to turn economics into a branch of applied mathematics, thinks so, too [...]" (Caldwell, 1988, p. 60).

3. Critical Realism: Perspective of Classical Philosophy

If the Post-Keynesian economics suffers from methodological diversity, it does not mean that Post-Keyenesian economics as such does not attach itself to any methodological position at all. Post-Keynesian methodological diversity can be confined by certain boundaries given by its critical-realist standpoint. Diversity, then, exists within these boundaries beyond which we can place e. g. Friedman's instrumentalism or Mises's axiomatico-deductive method. Within the critical-realist framework, though, various stands are taken on e. g. feasibility of statistical methods, feasibility of the concept of unique stable equilibrium, conceptualization of historicity and irreversibility, treatment of fundamental uncertainty. Critical realism according to Jespersen (2009, p. 21) is based on the assumption that economic reality (ontology[8]) exists independently of economic theory (epistemology), i. e. notions and propositions of economic models have real counterparts in the ontology. Unlike that, "idealist" methodology creates its notions and propositions which do not have real counterparts since these notions and propositions are just abstract notions and propositions without any empirical counterpart. From these notions and propositions, then, an "idealist" deduces models. Deduction from notions and propositions is not an exclusive property of "idealist" methodology since critical realists do the same. What distinguishes a critical realist from an "idealist" is how either of them obtains the notions and propositions. A critical realist starts with the step number one of the *ontological reflection* of reality which is a *preliminary characterization* of this reality, the *landscape* (Jespersen, 2009, p. 20), i. e. that part of the economic reality which penetrates the *cognitive veil* of the researcher (Jespsersen, 2009, p. 7) in the process of the *ontological reflection*. From this *landscape* the researcher obtains, in the step number two of *ontological reflection*, some initial data (*empirical stratum* and *factual stratum* of the reality) (Jespersen, 2009, pp. 31-32) by the method of *induction* and, subsequently, in the step number three of the *ontological reflection*, he uncovers the underlying *causal mechanisms* and *institutional relations*, i. e. the notions and

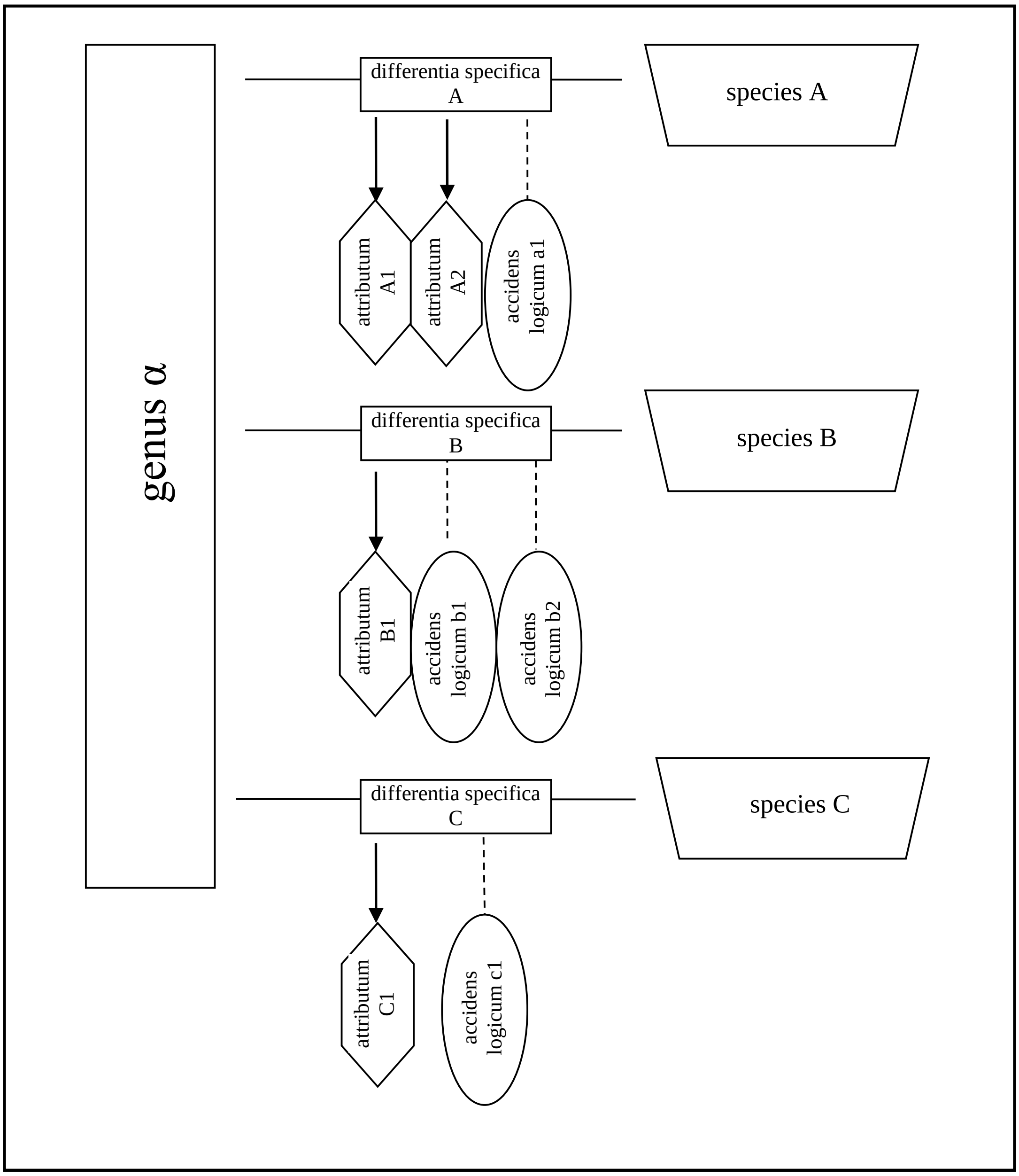
[8] Jespersen uses the term "ontology" in a different meaning from that which is common in philosophy. In philosophy, "ontology" is a specialized discipline which deals with the nature of being of entities and it applies such notions as essence (essentia), substance (substantia), existence (existentia) etc. Jespersen uses "ontology" in a meaning of "what is" as distinguished from "knowing what is". In this paper, we use the term "ontology" as it is grasped by Jespersen (unless specified differently).

propositions existing in the *deep stratum* of the reality, by means of *retroductive analytical process* (Jespersen, 2009, pp. 31-33). Only then, the researcher deduces theoretical models from these underlying notions and propositions. Obviously, it is the *ontological reflection* preceding obtaining the notions which distinguishes a critical realist from an "idealist" who produces his notions and propositions by some kind of disorganized mixture of uncritical induction and purely formal deduction without any systematic confrontation with the ontology of economic reality.
Critical realism postulates adequacy of cognitive tools to the current characteristics of the economic landscape: "The connection between 'what is' and the 'knowledge of what is' is established through adapting the epistemology to the ontology, which, if done correctly, can produce reliable results that constitute new, though still uncertain, knowledge of macroeconomic relationships. This means that it is important for the selection of the analytical method whether it is the labour market, the banking system, the exchange rates or energy supply that is the subject of analysis." (Jespersen, 2009, pp. 29-30). This would imply that the neoclassical supply-demand-price pattern cannot be universally applied to all market structures, which is a severe assertion, though. The subject matter to examine is whether such notions as e. g. "market", "money", "interest rate" etc. are universally applicable to socio-economic conditions at any time and in any place throughout the history of mankind or, as the critical realist perspective would suggest (but not only this), such notions are not transferable because they are time-specific and place-specific. The question we ask here is "what is" the "market" and "what is" the "money" and "what is" the "interest rate". By "what is" we look for the essence (*essentia*) of the subject, i. e. something what captures what the subject "really is". In terms of classical philosophy[9], the *essentia* of a subject is expressed by a notion of *species*. What two or more *species* have in common is expressed in a notion of *genus*. For example, *species* "dog" and *species* "cat" can both be subsumed into a *genus* "animal". What essentially characterizes the genus "animal" (what "animal" really is) is called *essentia generica*. Obviously, the *species* "dog" and *species* "cat" have this *essentia generica* in common. What distinguishes them from one another is the *differentia specifica*. Generally, we may say that *essentia generica* + *differentia specifica* = *essentia specifica*. The difference between *essentia generica* and *essentia specifica* is so made by a *differenta specifica*, i. e. the specifying difference of a species. Applied to a notion "dog", we may say that *essentia specifica* of "dog" = *essentia generica* of "animal" + *differentia specifica* of "dog". If we take away the *essentia specifica* from "dog", it will not be "dog" anymore. A notion of *species* also has an *attributum* attached to itself which is inseparable from the *species* and implied directly by the *differentia specifica*. The difference between an *attributum* of a *species* and *essentia specifica* thereof is that if the *attributum* were hypothetically taken away from the *species* (even though it might not be practically doable), the *species* would not cease to be what it is. *Accidens logicum*, similarly as an *attributum*, if taken away, does not affect what the *species* really is, but, unlike the *attributum*, an *accidens logicum* is not implied directly by the *differentia specifica* and it may appear on some occasions and disappear on

[9] For an introduction to classical philosophy see e. g. Fuchs (1997).

others. Even though an *attributum* can sometimes be taken away from a subject, such a subject is then deprived of something which naturally belongs to it: a dog which does not bark, is still a dog, but there is something wrong with such a dog. Unlike that, if you take away an *accidens logicum* from a subject, such a subject does not loose anything naturally belonging to it: some dogs may learn to fetch, but a dog which cannot fetch is not deprived of anything natural to a dog.

Figure 1: Notional classification, general scheme



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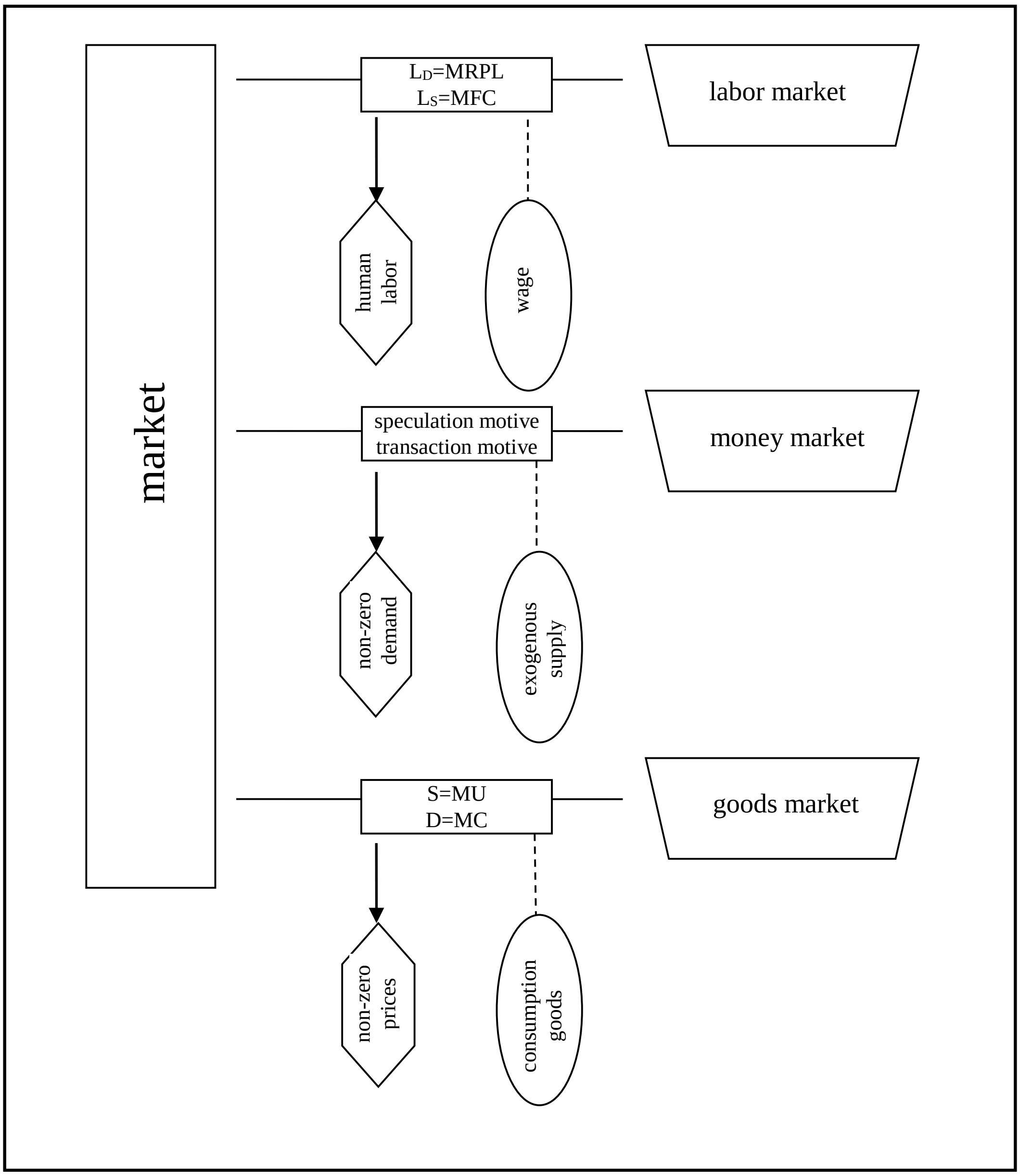
Applying the terminology of classical philosophy to the notion “market”, we may recognize a *genus* in this term, whereby such notions as “labor market”, “money market” and “goods market” are particular *species* subsumed into the *genus* “market”. *Essentia* *generica* of "market" could be characterized as "voluntary activity of at least two individuals exchanging at least two items with each other". *Differentia specifica* of "labor market" is that "demand for a particular item of exchange – labor – is identical with marginal revenue product of labor and supply of this item is identical with marginal cost of this factor". *Differentia specifica* of "money market" is that "demand for a particular item of exchange – money – is defined by speculation motive and transaction motive". *Differentia specifica* of "goods market" is that "demand for a particular item of exchange – a good – is identical with marginal utility of the buying side and supply for this item is identical with marginal costs of the selling side." "Selling/buying human labor" could be suggested as an *attributum* of "labor market" since it follows from the *differentia specifica* of "labor market" directly but, at the same time, it is not *differentia specifica* of the "labor market" (if horses could talk and bargain, they also could act in the labor market). "Paying/receiving a wage" could be an *accidens logicum* of "labor market" since it is only one of possible contractual arrangements in this type of market (another type is a salary-based contract or royalty-based contract). "Non-zero demand for money" could be suggested as an *attributum* of "money market" since it follows from the *differentia specifica* of "money market" directly but, at the same time, it is not *differentia specifica* of the "money market" (in a world without fundamental uncertainty and with zero transaction costs, it could be argued that money would be unnecessary[10], even though such a world cannot exist). "Exogenous money supply" could be an *accidens logicum* of "money market" since it is only one of possible institutional setups (the other one is endogenous money supply).

[10] Davidson, 1991, p. 137.

Figure 2: Notional classification, application to a notion "market"



Source: Own

"Non-zero prices of goods" could be suggested as an *attributum* of "goods market" since it follows from the *differentia specifica* of "goods market" directly but, at the same time, it is not *differentia specifica* of the "goods market" (in a world without scarcity there would be zero prices). "Selling/buying consumption goods" could be an *accidens logicum* of "goods market" since it is only one of possible kinds of goods (another one is capital goods). We do not insist on the correctness of our specifications of *essentiae*, *attributa* and *accidentia* of those particular markets mentioned above, that is a task for ontology as a specialized discipline of philosophy (as opposed to Jespersen's notion of "ontology" in the meaning of "the sphere of what is"). Our ambition at this moment is translating the critical-realist – idealist methodological controversy about the significance of assumptions into the language of philosophical logic. Notice that when a critical realist asserts that "[...] it **is** important for the selection of the analytical method **whether** it is the labour market, the banking system, the exchange rates or energy supply that is the subject of analysis. [bolding added, L.M., Z.C.]" (Jespersen, 2009, p. 30), he indicates that those four structures are different *species*, distinguished from one another by their respective *differentiae specificae* or maybe even that they are different *genera*. However, it could also be argued that they are four representatives of the same *species*, differing from one another just by their respective *accidentia logica*. For example, it could be argued that the alleged *differentia specifica* of "labor market" that we suggested is just an *accidens logicum*, similarly as the alleged *differentiae specificae* of "money market" and "goods market" that we suggested above are just their respective *accidentia logica*. Such an assertion would have to be based on convincing arguments, of course. Irrespective of its validity, what would be a practical consequence of such a proposition? Plainly speaking, such a proposition would imply that "labor market", "money market" and "goods market" are all essentially the same, any differences among them being just accidental. What does this imply for the discussion about the cognitive tools? Well, it implies that one and the same tool can be used to examine all three types of a market because in all that matters (i. e. the *differentia specifica*) they are the same. If they differ in their respective *differentiae specificae*, they are essentially the same only to some degree (as far as their *essentia generica* is regarded) – we can distinguish a supply, a demand, an equilibrium – but at a deeper level of the notion of *essentia* they differ essentially from one another (through their respective *differentiae specificae*) – marginal revenue product of labor is derived from a production function while marginal utility is derived from a utility function while the money demand is determined by the transaction and speculation motives.

4. Critical Realism: Suggestions from Economic Anthropology

The above given discussion captures a spatial aspect of the notional classification. There also is the temporal aspect, though. Jespersen points out that unlike the natural sciences which exhibit "the ontology's constancy" (Jespersen, 2009, p. 24), "the socio-economic relationships that are assumed to exist independently of the researcher [...] are undergoing constant change. The development of theory, therefore, does not consist of uncovering an eternal, unchangeable economic structure. Rather, the aim is to explain the causal mechanisms that connect macro-actors and macro-markets under the further premise that the actors' behaviour and the structures change and exert mutual influence on the macro-system's ontology over historical time." (Jespersen, 2009, pp. 20-21). The methodological problem resulting from this is whether the notions we created to capture certain relations, behavior and processes have constant meaning throughout the time or not. For example, does the notion "labor market" mean the same in the agricultural sector in the early 21^{tst} century Germany and in the agricultural sector in the 17th century Bohemia? Or can we use the notion "money market" to describe the monetary sector in the 18th century England as well as the monetary sector in the 20th century United States? Or can we use the term "market" for medieval European economies in the essentially same meaning as we use it for developed market economies in the early 21st century?

Polanyi (1957) distinguishes two meanings of a notion “economic”, the formal meaning and the substantive meaning. Polanyi (1957, pp. 245-246) identifies the former with a rationality principle which he understands as a process of choosing the best from scarce means to achieve the ends, irrespective of what these ends are[11]. Even though Polanyi (1957, p. 247) does not question the universal validity of the rules governing “acts of economizing, i. e. [...] choices induced by scarcity situations”, he objects that “the extent to which the rules are applicable to a definite economy depends upon whether or not that economy is, in actual fact, a sequence of such acts.” Polanyi (1957, p. 247) gives a following example of a universal non-applicability of such a notion: “Outside of a system of price-making markets economic analysis [i. e. the formal meaning of “economic”, L.M., Z.C.] loses most of its relevance as a method of inquiry into the working of the economy. A centrally planned economy, relying on non-market prices is a well-known instance.” In opposition, Mises (1949, pp. 755-759), argues that economic laws are universally valid and they follow their way even if we put obstacles to them. On the other hand, Eucken (1948, p. 97) points out that for example a question whether the state of equilibrium can be reached in a centrally planned economy “is difficult to answer, because the concept of equilibrium in an exchange economy is not immediately applicable to a centrally administered economy.”

The substantive meaning of “economic” is characterized by Polanyi (1957, p. 248) in reference to “an instituted process of interaction between man and his environment, which results in a continuous supply of want satisfying material means.” Next, Polanyi (1957, p. 250) postulates imbeddedness of human economy in both economic and noneconomic institutions, whereby he distinguishes three forms of integration: reciprocity, redistribution and exchange. Reciprocity is a form of integration based on mutual transfers of gifts which do not represent a means of reaching the ultimate end of obtaining the objects that are being trasferred because the ultimate end in this case is deepening of inter-personal or inter-group relations. For a certain form of interaction to become present, certain societal preconditions must be fulfilled. In this connection, Polanyi (1957, p. 252) points out that “only in the presence of a system of price-making markets will exchange acts of individuals result in fluctuating prices that integrate the economy. Otherwise such acts of barter will remain ineffective and therefore tend not to occur.” What Polanyi means by this becomes apparent from the following: “Should they nevertheless happen, in a random fashion, a violent emotional reaction would set in, as against acts of indecency or acts of treason, since trading behavior is never emotionally indifferent behavior and is not, therefore, tolerated by opinion outside of the approved channels.” For example, imagine a following situation. A person embedded in the reciprocity form of integration offers you a good. Since you are imbedded in the exchange form of integration, you perceive such behavior as a selling proposal. Because you have not been informed about the price, you decline this misperceived selling proposal politely. Since the other person embedded in the reciprocity form of integration expected you to accept his gift and offer him your gift in turn, he perceives your decline as an act of offense. Applying a supply-demand-price tool of analysis will

[11] Compare to a following definition of Robbins (1945, p. 16): “Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.“

not help us to understand the other person's reaction in this case. And it will even less help us to predict or explain patterns of social interaction of a society embedded in a reciprocity form of integration.

Let us demonstrate the substantivist point by the example of the notion "interest rate". The formalist approach applies the supply-demand-price pattern as in all other cases: the supply of savings is determined by the individual marginal rate of time preference, the demand for savings is determined by the net marginal rate of revenue of capital (for an investment loan demand) or by the net marginal rate of utility (for a consumer loan demand). The equilibrium real interest rate (e. g. nominal rate minus rate of expected inflation) will be such that the sum of savings demanded will be equal to the sum of savings supplied. Now a substantivist comes and says: will such a pattern match a European medieval Christian environment? The thing is, the Church[12] has been teaching (in the medieval times as well as in the modern days) that usury is a sin. Unlike the modern days when the notion "usury" has acquired a meaning of "excessively high interest" (which is completely relative), the traditional meaning of the term (after translation into the language of modern economics) is "a positive non-zero interest on consumer loan". Imagine that in a society imbedded in a social convention that "asking an interest on a consumer loan is a sin", you would try to apply the above mentioned apparatus to analyze an interest rate which works so well in the early 21st century Shylock economy of institutionalized usury. Your explanations will not reflect the real conditions of such no-usury-tolerated economy and your predictions will simply not keep up with real development.

5. Conclusion

Taking both the above expounded spatial and temporal aspects of the notional classification into account, we draw some conclusions regarding the critical realist perspective of the realism of assumptions. As long as the assumptions of a model affect but the *accidentia logica* of the model's constituting notions, the formalist stand can be taken and the same notional apparatus can be applied to analyze processes and behavior at different times and in different places without running a risk of our being detached from reality. In such a case absence of ontological reflection would not essentially affect the predictive capabilities of the model, whereby the descriptive (explanatory) qualities of the model would only be reduced to the extent to which the researcher would abstract away from the *accidentia logica*. In such a case, Friedman's instrumentalist argument would be justifiable. However, as soon as the assumptions of a model affect the *differentiae specificae* (and, in effect, the *attributa*) of the model's constituting notions, the substantivist stand must be taken and different notional apparatuses must be applied to analyze processes and behavior at different times and in different places unless we want to run a risk of becoming detached from reality. In such a case the ontological reflection is necessary to preserve the predictive capabilities

[12] See e. g. the encyclical Vix pervenit of pope Benedict XIV. (1745) which refreshes and reemphasizes the eternal teaching of the Church on usury and interest.

of the model, whereby the descriptive (explanatory) qualities of the model would be preserved as a byproduct of the reclassification made, at the same time. Here, Friedman’s instrumentalist argument fails.

As to the methodological diversity of Post-Keynesian economics, we may apply the same notional apparatus as we did in the discussion about assumptions. Namely, the methodological diversity may either mean existence of various methodological approaches which differ from one another by their respective *differentiae specificae*, or existence of various methodological approaches which differ from one another through their respective *accidentia logica* only. In the latter case, the critical realism is a *species* whose *essentia specifica* is “adapting the epistemology to the ontology” (Jespersen, 2009, p. 29), whereby the particular methodological approaches are just individual members of this *species* differing from one another only by their *accidentia logica*, i. e. the respective ontological conditions. In the former case, though, the critical realism is a *genus* whose *essentia generica* is “adapting the epistemology to the ontology”, whereby the particular methodological approaches are individual *species* of this *genus* differing from one another by their respective *differentiae specificae*. If the critical realism is a *genus*, then methodological diversity means co-existence of essentially different methodological approaches in the Post-Keyenesian economics. We contend that perception of critical realism as a *species* is tantamount to equalize it to the Neoclassical ceteris paribus condition statement. In such a case, Post-Keynesians face a severe identity crisis. However, we assert that the Post-Keynesian notion of critical realism is much more compatible with the perception thereof as a *genus*.

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