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Pluralism in Economics: Epistemological Rationales and Pedagogical Implementation

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Abstract

This paper first presents a series of epistemological rationales for pluralism as a guiding concept in economic research. In doing so, it highlights the inherent uncertainty of (scientific) knowledge as well as the complex and dynamic nature of socio-economic relationships to indicate how the discussion of theoretical and applied problems in economics might benefit from a pluralist approach. Eventually, I apply the notion of pluralism in economics to questions of economic teaching and curricular design in economics.

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Introduction

Economics has a strong tradition as a separate and autonomous subfield in social research: internally, it is tied together by a specific vision of economic decision-making and economic interactions, where the former is based on instrumental rationality, while the latter are conceived as equilibrating processes leading mostly to socially efficient outcomes. Hence, the standard economic approach builds on the conceptual pillars of scarcity, optimization and, mostly efficient, equilibria. While this dominance of a single theoretical approach has often been understood as an indicator of the high quality, intellectual coherence and practical usefulness of standard economics (e.g. Lazear 2000), other authors emphasize the internal diversity and corresponding incoherence *within* the standard economic approach (e.g. Hausman 1992, Bowles and Gintis 2000).

This dominance of a single approach to economic issues is especially relevant in the context of teaching economics, as it allows for the introduction of a set of highly standardized economic textbooks, which, so to say, codify the established knowledge using different degrees of analytical and mathematical complexity. This tradition of highly influential textbooks in economics thereby goes back to the 19th century (e.g. John Stuart Mills *Principles of Political Economy*, published in 1848) and has had a strong impact on both the development of the economic discipline as well as the evolution of public debates on economic issues. This crucial role of textbooks for establishing and transmitting economic knowledge to a larger audience has thereby long been recognized. Paul A. Samuelson - the author of the most popular economics textbook of the 20th century - once framed this insight in the following iconic way. „I don't care who writes a nation's laws - or crafts its advanced treaties - if I can write its economics textbooks.“ (Samuelson, cited after Skousen 1997, 150)

In this paper I try to sketch a different view on the teaching of economics, which recognizes its societal impact, but is conceptually more strongly coined by a pluralist and inclusive approach to economic thought. In doing so, I first introduce three basic epistemological arguments on how a pluralist conception of science can contribute to an improvement of existing practices in research and teaching (section 2). Hence, I implicitly assume that the potential epistemological merits of a pluralist approach also provide some guiding clarifications for a pluralist teaching of economics. Additionally, I will assess and compare different diagnoses regarding the relative openness of mainstream economic research, to ask in how far current mainstream economic practices, which often come with an increasing variety of models, can be considered as pluralist (section 3). This section serves to show that there is indeed a connection between theoretical and methodological diversity on the levels of teaching and research in economics as such diversity is significantly lagging behind model variety. Finally, I will try to delineate some suggestions on how to practically implement a pluralist approach to economic research (section 4) and economic teaching (section 5) drawing on the foundations developed in the foregoing sections.

Pluralism in Economics: Epistemological rationales

The search for more and more general and inclusive theories of increasing range and explanatory power is a central aim of science. Theories of strong generality, such as Newtonian mechanics and Darwin's theory of evolution, distinguish themselves by summarizing and systematizing existing knowledge, and by their potential to allow for new prognoses, insights and theories. Against the backdrop of the broad applicability of these theories, the aim of discovering increasingly far-reaching theories, and, in this way, steadily improving our knowledge, seems dominant. The impression arises that the "final objective" of every science is, primarily, the construction of a universal and inclusive theory of the respective subject area.

> "The ultimate aim of a science is to establish a single, complete, and comprehensive account of the natural world (or the part of the world investigated by the science) based on a single set of fundamental principles."
> (Kellert, Longino and Waters 2006, x)

Such an interpretation – the search for a "universal" theory as the "ultimate" aim of science, and the related aspiration to thoroughly explain some subject by means of a fixed set of statements, i.e. a single theory, that is as general as possible - falls short on several levels: First, such an interpretation is based on a too simplistic and abridged notion of the precise function of this search for increasingly comprehensive theories within the development of science. Second, such an approach is in danger of underestimating the complexities and multifacetedness of social reality. As a third point, such a view can lead to a subversion of typical practical requirements for the critical evaluation of theories, which typically afford to consider competing explanations for some phenomena in roughly equivalent proportions. In total, therefore, three arguments arise against a monistic conception of science and the associated interpretation of the aim to create increasingly general theories as 'monistic', which will be illustrated in the following in greater detail.

The fundamental argument: There is no such thing as a "most general" theory

The fundamental argument can be traced back to the more general idea of fallibilism, which states that every empirical hypothesis and, because of that, every theory is fallible (Popper 2002[1959]). Fallibilism refers to the fact that in the area of empirical science (in contrast to purely formal analysis), proofing that some insight is a ‚certain truth' is impossible from the point of view of logic, as we always lack a mean to definitely confirm the correctness of the underlying hypotheses, even if the data speaks in its favour. This ambiguity in the scientific process is sometimes called the "asymmetry between falsification and verification" and has led people to speak of the 'corroboration' instead of the 'confirmation' of hypotheses (again following Popper 2002[1959]).

Moreover, striving for "certain" knowledge can lead astray when certainty is wrongly interpreted as a criterion of quality, as, ultimately, "all certainties of knowledge are manufactured and, as such, worthless for the assessment of reality" (Albert 1991, authors' translation). Since we do not have a suitable apparatus for ‘certain’ reasoning at our disposal, we are condemned to always presuppose our own fallibility. From the point of view of critical rationalism, this logical limitation is the reason that every form of empirical scientific theories is potentially flawed and revisable.

When put in the context of the search for increasingly general theories, this argument leads straight to the conclusion that the idea of a "most general" or "complete" theory is misleading, as, due to the fundamentally fallible character of our knowledge, we can never fully rely on the validity or completeness of a theory. Even if we had found such a ‘most general theory’, we could never prove this finding beyond doubt. Hence, those proponents of mainstream economics, like Becker (1976) or Lazear (2000), who propose that standard economics offers such a ‚most general’ theory are clearly led astray by their own conceptual convictions.

This means that the quest for increasingly comprehensive theories has to be understood differently. In the best possible case, this search augments our knowledge gradually; however, in this way, it does not have a final, all-encompassing goal. From this follows that the search for increasingly comprehensive theories has to be understood as a process, first and foremost, which is desirable, because it can contribute to a continuous improvement of our knowledge (without ever reaching perfection). The search for increasingly comprehensive theories is an open aim, not a closed one; in this sense, the journey is the destination. Especially, the existence of actually or allegedly general theories in a certain field should not per se preclude the emergence or sustaining of alternative theories, as long as the latter also strive for empirical accuracy. This latter aspect is especially

important as individual participation in different research programs is often coined by self-reinforcing feedback effects, which can contribute to paradigmatic dominance and theoretical monism within a given field (Sterman and Wittenberg 1999, Dobusch and Kapeller 2009).

The empirical argument: The complexity of reality

Empirical reality as examined by the social sciences is multifaceted, dynamic and diverse. For this reason, social and economic phenomena often cannot be explained by a single argument as these phenomena have several causes, which bring forth only a conjoint effect. Conversely, most social phenomena also yield different effects and, hence, have different implications and properties depending on the researcher's specific perspective and questions on the subject. To disentangle observed patterns with respect to the most important mechanisms underlying these patterns is one of the prime tasks of social research – an argument, that is also partially recognized by those standard economists, who do not shy away from questions on 'external validity', i.e. the issue, whether past empirical results can be applied beyond their original research context (e.g. Deaton 2010). To illustrate the complexity originating from this setup, I suggest to consider the example of increasing income inequality.

Observable since the 1980s, the increase in income disparity in most OECD countries (Atkinson 2007) has a number of fundamentally different causes. Globalization, regional competition and the race for the best location put pressure on domestic income policies. Increased flexibility of labour regulations, successively relaxed taxation of corporate profits as well as top labour incomes (Egger et al. 2015) further fostered the resulting divide between increasing salaries at the top and stagnating or even declining wages in the lower parts of the income distribution. At the same time, unions are regressing in their degree of organization, and, as a result, have little to counter these developments. Additionally, technological evolution increases the educational requirements of employees (e.g. Card and DiNardo

2002), which renders education into an amplifier of existing inequalities. Hence, even a short and superficial discussion reveals several drivers of increasing inequality and provides a series of partially related causes relevant for adequately addressing this issue. Moreover, this increase in income disparity is not only complex on the level of causes, but also connected to vastly different effects and consequences. Increasing inequality leads to a deterioration of physical and mental health in the entire population (Wilkinson & Pickett 2007), to reduced domestic demand and increased indebtedness (Kapeller & Schütz 2014), and increases the labour supply (Bowles and Park 2005) as well as the instability of the financial markets (more play money on the upper, as well as more nonperforming loans on the lower end of the income spectrum). Additionally, rising income inequality has implications for the behaviour of the political system (Gilens & Page 2014), may foster dynastic intergenerational patterns (Piketty 2014), and so forth.

Multifacetedness, therefore, means the necessity to consider a substantial number of different layers – influencing factors and consequences of economic phenomena - that have to be considered when looking at an economic issue in its entirety. As it seems highly unlikely to find social-scientific theories that incorporate all those different aspects, the advantage of a pluralistic approach can be seen especially clearly: in this frame, existing theoretical approaches are at best partially suited to understand the observed phenomena and processes – they are 'partial theories' that, in the ideal case, deliver empirically valid explanations for a part of the envisaged subject area. "Economics is", then, "by necessity, a multi-paradigmatic science" (Rothschild 1988, 13), which needs a variety of different conceptual perspectives - as opposed to a variety of models all based on the same fundamental perspective, as it is the case in contemporary standard economics (see also: Elsner 1986).

Different theories pertaining to the same area are not necessarily antagonistic from this perspective, but often are of complementary character, as they only study the treated phenomena from one specific angle. This feature may actually be constructively exploited to address different economic situations and problems across time and space by giving priority to those theoretical arguments, which align well to the problems under study. In this vein, it seems natural that a multitude of theoretical approaches is necessary in order to somewhat adequately depict this multifacetedness of social reality.

The philosopher of science Ronald Giere (1999) suggests thinking of the usage of different maps made for different purposes (e.g. hiking maps for hikers, road atlases for drivers, etc.) as a metaphor for the necessity of using different theories to fully assess a certain subject. In order to do justice to the complexity and multifacetedness of reality, it is, therefore, reasonable to look for different theories in order to address social phenomena as comprehensively as possible, and, as a result, to be able to supply differentiated statements about a certain topic of interest.

The practical argument: How to choose between competing theories?

A core problem in science is to offer suitable methods and criterions for organizing the relative evaluation of competing theories and hypotheses, i.e., to distinguish the relative success of several rivalling explanations, differentiating between better and worse theoretical arguments. The established answer to this problem is the suggestion to examine competing explanations via the principle of critical tests (Popper 2002[1959], see Hands 2001 for the more specific case of economics), that is, to simply assess the quality of different theories by comparing how well they stand up to a confrontation with empirical facts, also considering the variety and intensity of the employed tests.

A practical condition of this relative assessment is to proceed without prejudice when selecting theories to be tested empirically, and treat and consider every available explanatory approach (i.e. each relevant theory) equally. Pluralism in theory choice is a practical prerequisite of empirical research endeavours, not only in the sense that current studies should not be biased by past judgements, but also to actually ensure a critical attitude in testing. Otherwise, "…monism of theories [...] can easily have the consequence of using facts only for the illustration or backup of the predominant theory, and interpreting them in a compliant way" (Albert 1991, 61, authors' translation).

In this way, the principle of critical evaluation is often subverted in current economics, however, as it implies "not only the search for contrary factual findings, but primarily also the search for alternative theoretical conceptions as necessary" (Albert 1991, 62, author's translation). Different hypotheses about a topic of research must not have a priori authority over others, since all hypotheses should be evaluated according to the same epistemic principles (Popper 2002[1959]). By implication, this presupposes a balanced representation of all available and relevant hypotheses in academic discourse. Although the pluralist principle to consider all hypotheses in equal measure is surely rather an ideal than a strict requirement, it seems especially essential when, as it is in the social sciences, the number of reliable theories with a broad range of applications is low.

In summary, three central arguments arise against a monistic conception of science, and against the ensuing aspiration to fully explain a given subject area via one theory that is as general as possible. First, the fundamental argument implied that the aim of finding a single all-encompassing theory for any subject can never be achieved and, hence, a certain variety in theorizing seems necessary – especially when we come to the edge of established knowledge. Second, the empirical argument refers to the multifacetedness of social phenomena, and emphasizes (the danger of) blind spots resulting from a purely monistic

approach to explaining said phenomena. Finally, the practical argument relates to a basic methodological tenet that seems to be at least potentially endangered by an attitude that is too monistic in its theoretical perspective.

Pluralism in Economics: Competing Assessments

While from the point of view of epistemology, pluralism appears as an indeed promising guiding concept for research, there has been little note about the actual character and orientation of economics' current praxis. If one consults the literature relevant to this issue, at least two positions can be determined. The first position focuses on the paradigmatic dominance of neoclassical theory (Dobusch and Kapeller 2009), and subsequently diagnoses a generally unfounded discrimination of non-neoclassical, so-called "heterodox" economic theories. In doing so, the first position characterizes the economic "mainstream" theory as largely monistic.

> "The confrontation of heterodoxy versus mainstream in fact draws its existence and justification from the present condition of the regime of science, which is characterized by an obvious privileging and support of a neoclassically shaped mainstream at universities, research institutes and international economic organizations." (Rothschild 2008, 25, authors' translation)

The exclusion of heterodox economists from the employment (Lee 2004) and publication market (Hodgson and Rothman 1999, King 2002), the homogenous character of economics education (Hill & Myatt 2007, ISIPE 2014) as well as the non-reception of heterodox approaches in the area of mainstream economics as identified by citation analyses (e.g. Kapeller 2010) count as central evidence for this line of argument.

However, an alternative view on economics' current praxis emphasizes the internal theoretical diversity of the neoclassical mainstream, and detects the conceptional core of this paradigm in a commitment to a "model-oriented building of theories".

> "Those standard classifications convey a sense of the profession as a single set of ideas. In our view, that is wrong; it is much more useful to characterize the economics

> profession as a diverse evolving set of ideas, loosely held together by its modeling approach to economic problems." (Colander et al. 2004, 486-487)

Here, Colander et al. ascribe an inherently pluralist character to mainstream economics. In essence, there is a reference to the multitude of different models, assumptions and model results that – as is suggest – does not fit with the allegation of a one-sided or monistic theoretical orientation. Nonetheless, Colander et al.'s statement is not very specific with regard to the exact role of core building blocks of standard economic theory, i.e. scarcity, optimization and equilibrium, within the core "modelling approach" of the economic mainstream. In the following, this position will be investigated more precisely from the point of view of theory of science in order to answer the question of whether or to what extent the broad variety of models in neoclassical economics constitutes a product of its alleged pluralist character.

The variety of mainstream economics and the principle of axiomatic variation

The standard perspective in economics, which is largely based on neoclassical economic theory, goes hand in hand both with the exclusion of alternative theoretical approaches and with the self-perception of increasing internal variety. In this section, the second observation in particular will be explained with reference to "axiomatic variation" (Kapeller 2013).

In the context of the position proposed by Colander et al. (2004), Colander (2000, 139) describes "modern applied microeconomics" as "a grab bag of models with a model for every purpose", and refers to the large variety of different model variations within neoclassical economics. The crucial question that needs to be answered is whether this large variety of models actually results in a true variety of theories within the neoclassical school – as Colander et al. posited – or whether they play a different role in the discourse of neoclassical mainstream.

At its core, the method of "axiomatic variation" that is observable within the neoclassical development of models rests on the idea of modifying single axioms of a model, removing them or adding new ones in order to create a new variation of an already established model to address a novel problem or a prevailing criticism. In this way, a perpetual expansion of the neoclassical spectrum of theories ensues as scientists are provided with the means to generate new puzzles within an already existing theoretical edifice.

Using axiomatic variation - like in a cloning laboratory -, a whole number of variations of a model can be generated without any relevant constraint. However, while most parts of the 'genetic make-up' of such a variation will indeed resemble well-established patterns of argument some specific characteristic is usually inserted into a new model to distinguish the latter from their model of origin.

In this context, an 'axiom' is simply to be understood synonymously to 'model assumption'. It follows that an economic model consists of a series of axioms A_1 to A_n. In the case of the modification of single axioms, an existing model M gives rise to a new model M^*. Taken on its own, the concept of axiomatic variation is not unique, as it is applied in the area of natural sciences in a similar fashion. However, contrary to natural sciences, neoclassical economics does not rigidly distinguish between law-like statements and auxiliary hypotheses in its theoretical considerations (Albert M. 1994), which makes it difficult to judge whether practices in these two fields are really akin. Most importantly, law-like hypotheses will stay constant across all model-variations associated with a certain theory: Newtonian models will always incorporate the argument that force equals mass times acceleration, while other assumptions introduced into Newtonian models might well vary as they describe different contexts of application.

In contrast, an important pattern in modern economics is that it is possible to alter all occurring axioms of an established model, including axioms that may very well be perceived

as statements of law. Hence, this aspect differs strongly from the practice of natural sciences, where variations in the axiomatic setup of a specific assumptions only concern the respective situational assumptions, meaning those auxiliary hypotheses that are used when applying more general, law-like statements to a specific problem. For example, Newton's law of universal gravitation ($F_1 = Gm_1m_2/r^2$) is valid both on Earth and the Moon, but its valid application requires a modification of auxiliary hypotheses (practically speaking: different numerical values for m_1 have to be inserted in the above formula; cf. Bunge 1967).

However, in the field of neoclassical economics, this possibility of variation is not explicitly restricted to the sphere of auxiliary hypotheses (whatever it may be) – rather, all axioms of a model can be varied without second thought, as already observed by Daniel Hausman more than twenty years ago.

> "First, not all microeconomic models employ all [microeconomic] laws, even when they are relevant to the explanatory tasks at hand. Not only are there models [...] that leave out laws that have no implications for the case at hand, but there are also microeconomic models that incorporate contraries to some of the fundamental laws of microeconomic theory. For there are models with satiation, models with increasing or decreasing returns to scale, models without profit maximization, even models without completeness and models without transitivity. It is as if physicists sometimes supposed that force is proportional to acceleration and in other models took force to be proportional to acceleration squared." (Hausman 1992, 52)

Therefore, the insufficient differentiation between law-like statements and auxiliary hypotheses within neoclassical economics constitutes a fundamental reason for the large variety of economic models, and for the accompanying flexibility of the dominant neoclassical paradigm when it comes to accommodating all kinds of empirical evidence. It also makes clear that the core assumptions of neoclassical economics – scarcity, rationality and equilibrium – are best understood as influential metaphors: they coin the style and direction of research overally, but are not necessarily binding concepts, when it comes to the formulation of specific models and arguments.

A prime example of this flexibility of neoclassical theory can be found in the works of George Akerlof, especially in his famous argument on asymmetric information and the associated “market for lemons” (Akerlof 1970). In the context of his engagement with the neoclassical standard model, Akerlof exchanges the axiom of "complete information" for that of "asymmetrical information", in which relevant information about products is distributed unequally between supplier and demander. In this way, Akerlof tries to explain, for example, why suboptimal results of allocation may emerge on competitive markets, taking the market for second hand cars as his prime example. From Akerlof's example, it becomes clear that via axiomatic variation, different and contradictory variations of a model can coexist without problems. In this interpretation, the standard model M contains the assumption of ‘complete information’ (A), and explains those cases in which markets function efficiently (E). The alternative model (M^*) contains the contrary assumption of ‘incomplete and asymmetric information’ (A^*), and explains those cases in which markets do not function efficiently (¬E).

Formally speaking, for every model M with the assumption A and result E, there exists an alternative model M* with an alternative assumption A*, leading to a contrary result ¬E. This simple formula captures the essence of axiomatic variation in mainstream economic models.

Akerlof's example already gives a hint as to why the principle of axiomatic variation as established in economic discourse is well suited to grant immunity against criticism. Specific criticism of the assumption of "complete information" and its implications can be repelled by reference to the alternative variation of the model that contains the assumption of "incomplete" or "asymmetrical" information. The same is true for possible criticisms of the standard account of market-efficiency within neoclassical theory. For the most part, this possibility of immunization against critique has to be judged independent from Akerlof's clearly identifiable quest for a more realistic theory. The flexibilization and accompanying

immunization of neoclassical theory via the method of axiomatic variation is, hence, often more of a by-product that is emerges without the explicit intention for immunization and thereby independent from the specific motives and intentions of single authors.

From an epistemological viewpoint such concerns about immunization could only be remedied by a greater degree of precision. Specifically, the decisive question is whether the assumption of "complete information" is regarded as a statement of law or an auxiliary hypothesis within neoclassical models: If the assumption is interpreted as an auxiliary hypothesis, two *complementary* market theories emerge (one for "standard markets" and one for "markets for lemons"). Their existence would require an as detailed as possible specification of their respective areas of application, which, strictly speaking, must not overlap. However, if the axiom is interpreted as a statement of law, two *competing* models of the markets emerge, one being the standard model, the other being an alternative theoretical description of the market that postulates unequally distributed information as an essential property of markets, and, hence, comes to strongly different conclusions regarding the properties of market outcomes. While both cases would represent good scientific practice, the reluctance to differentiate between law-like statements and auxiliary assumptions leaves it open, which of the two cases actually applies. Moreover, further conditions for both interpretations – the specification of separate domains of application in the former case and the evaluation of the relative merits of both assumptions in the latter case – are not fulfilled.

In sum, this raises doubts with regard to Colander et al.'s (2004) claim that an increase in the number of models actually signifies an increase in intellectual diversity in economics, also the former case would represent good scientific practice. Regrettably economists are rather reluctant when it comes to differentiating law-like statements and auxiliary assumptions, which leaves the question how to exactly interpret assumptions on the informational setup open. has to be met with some reservation: if the increase in variety

contributes to the accommodation of empirical observations simply by adding additional conceptual flexibility – instead of revisions in canonical knowledge and received wisdom – such efforts can culminate in an immunization against critique. In the next section, I will try to elaborate this argument in greater detail and put it in an adequate historical context.

Axiomatic variation and immunization against critique

The flexibility of mainstream economic theory attained due to axiomatic variation contains the potential for extensive immunity against criticism. On a fundamental level, at least two principles of immunization against critique can be identified in this context:

- The strategy of "evasion": Due to the existence of several model variations with different assumptions and results, any empirical criticism can be evaded by always referring to alternative models to which the respective criticism does not apply.
- The strategy of "assimilation": Here, singular "interesting" assumptions or results from competing theories are being carried over into the neoclassical theoretical structure and, hence, are being "reproduced" by it.

First, the strategy of "evasion" shall be considered. The core thought of axiomatic variation has been elucidated already; namely the possibility to alter some part of the entirety of axioms within a model M at will in order to obtain an alternative model M^*. Via this option, any empirical criticism of neoclassical standard models can be ‘evaded’. However, the illustration of only two model variations, as made in the precedent chapter is too simple. The neoclassical research area is much more characterized by the fact that there is a continuous expansion of the relevant model population (Colander et al. 2004).

Examples for such a "strategy of evasion", besides the "market for lemons" (Akerlof 1970), include a lot of research in behavioural economics where experimental deviations from the standard model’s predictions are often rationalized via axiomatic variation, mostly

by assuming some idiosyncratic preference structure (e.g. Fehr & Schmid 1999).[1] Another point in case is provided by the theory of financial markets that, besides "efficient allocation", also offers a wide range of highly volatile bubble models (see, for example, De Long et al. 1990). If this strategy is pursued consistently and the associated outcomes are all attributed to the single approach of mainstream economics, then it seems barely possible to undertake serious endeavours of falsification, since all possible results (simplified: E and ¬E) are present within different model populations anyway. While this strategy creates problems of consistency when appraising the state of (some field in) economics from an aggregate viewpoint, but nonetheless allows for and facilitates immunization against critique by providing the opportunity to evade dealing seriously with contradictory empirical evidence.

The second immunization strategy discussed here can be termed as strategy of 'assimilation', and is applied predominantly in the discussion and integration of arguments originating from alternative theoretical paradigms. The basic idea is that in the process of axiomatic variation, single assumptions or outcomes found in alternative theories can be transferred into the neoclassical theoretical structure. It is a process of assimilation with the aim of strengthening or extending neoclassical theory by trying to absorb an attractive or interesting aspect from a competing paradigm. An especially well-known example of such an absorption of ideas took place in 1937, when John Hicks molded elements of Keynes' General Theory with more traditional arguments and thereby created the well-known IS-LM model (Hicks 1937). Mainly, Hicks adopted Keynes' axiom of a demand-driven macroeconomic equilibrium (Palley 1996, 34). Other assumptions, such as that of the fundamental uncertainty (Keynes 1937, 213f), were not considered in Hicks' IS-LM model. By this example it becomes obvious how single assumptions from a seemingly attractive

[1] Hence, behavioral economics exploits the flexibility of preferences to retain the assumption of rational optimization. Notwithstanding this observation, we should add that the assumption of optimization is surrendered in other context. For instance, the bubble models mentioned above refer to 'rules of thumb', which determine behavior instead of optimization.

competing theory can be transferred seamlessly into neoclassical theory. Even in the 21st century, macroeconomic lectures still traditionally teach the term of "neoclassical synthesis" as a refined version of Hicks' model. Similarly, the New-Keynesian argument on involuntary unemployment arising from a lack of flexibility on labor markets (‘sticky wages’) originated from the aim to replicate a central result of the General Theory – namely the possibility of involuntary unemployment – without making us of the Keynesian mechanism of effective demand in determining employment (e.g. Modigliani 1944)

A second example of the transfer of a theory from a competing paradigm is the integration of Schumpeter's concept of "creative destruction" into the neoclassical theoretical system. Schumpeter sees the concept of "creative destruction" as a permanent process of change of economic events that is propelled by new technologies and forms of organization, as well as by changes in market policy and strategy (Schumpeter 1993[1950]). Through this perpetual process of change – the process of "creative destruction" -, existing industries and technologies are gradually being exchanged for alternative, modern concepts, which increases macroeconomic productivity. The neoclassical approach adopts Schumpeter's notion of "creative destruction", but only in a very specific manner. While Schumpeter aims at analysing the effect of technological change, and the shifts in the economic process emerging from these changes, the neoclassical approach uses the factor of technological change as a blanket explanation for all unanticipated economic changes. Not the causes and effects of dynamic economic processes are being studied, but only a respective "catch-all" variable is being introduced (in the form of the well-known "Solow residual"), which provides a parameter for statistically ‘explaining’ exogenous deviations from equilibrium as effects of technological change. Hence, "creative destruction" is used as a placeholder in modern economics to justify circumventing the study of those aspects in economic development that Schumpeter originally thought to be most interesting.

These two examples of Keynes and Schumpeter illustrate how the assumptions of alternative paradigms are partly or only symbolically being assimilated by the neoclassical theory corpus through axiomatic variation (for a more detailed depiction, see Kapeller 2012, chapter 7).

Returning to the original question, namely whether the neoclassical school actually creates a system of inner theoretical variety as proposed by Colander et al. (2004), I would argue that this claim has to be approached with substantial scepticism based on the above considerations. On first glance, the neoclassical theoretical structure seems to have a variety of different theories at its disposal; however, this diversity is not a real one, as the generated model variations ultimately consolidate the dominant role of the standard models as encapsulated in economic textbooks, which serves as a prime heuristic and blueprint for the general style of modelling in modern economics. In this way, the process of axiomatic variation also turns into an instrument for the immunization of a monistic-neoclassical approach, instead of contributing to the effective broadening of economic discourse.

Pluralism in Economics: Suggestions on research practice

In contrast to the practice of axiomatic variation prevalent in mainstream economics, one could also ask whether the ideas of ‚pluralism' and theoretical openness can be actually useful when it comes to composing research questions and venues, or in short: whether pluralism may serve as a suitable conceptual guide when developing research strategies.

In addressing this perspective I would like to emphasize that pluralism is, first and foremost, about openness and the absence of prejudice (which, of course, does not imply the absence of judgement; Dobusch & Kapeller 2012). One obvious strategy for taking demands for openness and pluralism seriously is to develop something akin to a modest, comparative assessment of different economic theories or traditions. Such an assessment should be comparative, not only because it should aim to include different economic arguments and traditions, but also because it tries to assess the similarities and differences of competing

approaches not in a single brush, but rather within a nuanced analysis paying attention to different spheres of economic theorizing (theories of economic behaviour vs. theories of monetary policy, for instance). Such an approach allows for focusing on how different economic theories align in detail. Additionally, such an assessment should be modest insofar as it refrains from early judgements and priorizations, but at first looks for potential complementarities or synergies across different theories: while most traditions know some argument or assumption, which can be hardly reconciled with alternative approaches, conflicts in other branches or spheres of theorizing are often much less intense. A prime example for such a constellation is the relationship of Post-Keynesian and Austrian economics, which is coined by often opposing stances on policy issues, while some parts of their theoretical analysis, e.g. on the role of uncertainty in determining investment (Lawson 1985) or on the importance of endogenous money creation, can often be reconciled. A pluralist approach urges to focus more strongly on these potentials for synergy and complementarity to better address the many faces of social reality and to contribute to a more integrated understanding of economic issues.

In past works, Leonhard Dobusch and Kapeller (2012) have addressed the question whether pluralism can serve as a suitable principle for organizing and devising research strategies in greater depth, and suggested the following basic heuristic as a blueprint for constructively doing economics from a pluralist vantage point (see Table 1). Taking the outcomes of a comparative assessment of different economic approaches as described above as a starting point (see column 2 in Table 1), our heuristic suggests possible strategies for further work based on these outcomes.

#	Comparison between theoretical statements		Pluralist research practices / strategies
(1)	→←	Identical	(a) Integration
(2)	↗↖	Convergent	
(3)	↑↑	Compatible	
(4)	O O	Neutral	(b) Division of labour
(5)	↖↗	Divergent	(d) Test of conflicting hypotheses
(6)	←→	Contradictory	

(c) Diversification

Table 1: Strategies for comparing theoretical statements of different economic paradigms (taken from Dobusch & Kapeller 2012)

Examples for the successful or potential application of the routines depicted in Table 1 can be found in the history of economic thought as well as more recent works and developments. An illustrating example relating the former is that of Schumpeter and Keynes: Although, both of these authors made similar arguments on the passionate character of entrepreneurial decision-making (Keynes 1937, Schumpeter 2006[1912]) or the nature of finance as sphere coined by an own inner logic, which could well be integrated in a single account (identity and/or complementarity in Table 1), they tend to disagree in other aspect, e.g. when it comes to evaluating technological change: For Keynes the main effect of technological change is to increase labour productivity and, hence, to create unemployment given that demand stays constant (see, e.g., Keynes 1930, where he speaks explicitly about ‚technological unemployment'). Schumpeter on the other hand emphasized that innovation could take various forms, including the creation of new products or wholly new markets, where some of these forms lead - in contrast to the traditional Keynesian view - to an increase in demand instead of merely boosting labour productivity (Schumpeter 2006[1912]). In this specific respect - the expansionary nature of innovations in capitalism - Schumpeter is much closer to Marxian authors, who, like Rosa Luxemburg (1913), argue that the expansionary nature of capitalism can take on very different forms depending on the relevant social and historical context. In this example, the stepwise comparison of the arguments brought forward by Keynes and Schumpeter mirror closely the piecemeal and topic-based strategy of

modest comparison advocated above, which, in turn, allows for a nuanced, sectoral assessment of the relative alignment of both authors. This short example also allows for making an argument on how to resolve the underlying conflict, namely by allowing for different forms of innovation, where some contribute to technological unemployment, while others contribute to the emergence of new markets and, hence, additional demand. In this view, the theoretical conflict between Keynes and Schumpeter is rationalized as an opportunity for introducing an argument about the potential complementarity of their - originally opposed – arguments (see also: Dosi et al. 2010). The resulting concept - a typology of innovations, where innovations are grouped to different types with regard to their specific economic effects - can even be further extended, e.g. to cases like international tax evasion of large corporations, where innovation is understood as a new way to circumvent an existing social obligation (e.g. Kapeller et al. 2016).

Examples can also be taken from current theoretical discourses. Let's take, for instance, the case of increasing household debt and its relation the recent crisis: here, microeconomic arguments from institutional economics, suggest that increasing inequality and increasing costs of living are a suitable starting point for explaining the rise in household debt. The resulting arguments are in turn merged with a Keynesian approach to aggregate demand and/or a Minskyan view on finance, to arrive at a fuller picture with regard to the economic mechanisms giving rise to the great financial crisis (e.g. Zezza 2008, Kapeller & Schütz 2014). Similarly, arguments from institutional consumer theory can also be expressed in the language of standard economics, which enriches the predictive capabilities of the latter (e.g. Bowles and Park 2005). Another example, which focuses less on the complementarity and integration of different economic approaches, but, rather, makes use of diversification as a general principle, is the incorporation of complexity economics and agent-based modelling in macroeconomic debates. Although both of these approaches can be understood as formal

offsprings of evolutionary/institutional economics as well as general network theory, these approaches manage to bring new forms of data (Tacchella et al. 2012), new methods (Cristelli et al. 2015) as well as new capabilities of model-building (e.g. Epstein 2007) into the macroeconomic discourse, thereby enriching the latter, without disqualifying more traditional approaches. Quite on the contrary, some of these works - which are partially produced and published in the natural science - are unknowingly located in the tradition of heterodox trade theory, which emphasizes the role of accumulation, sectoral specialization and path-dependency as in Latin-American structuralism or the international economics of Nicolas Kaldor (1981) and Joan Robinson (1979).

The main purpose of these examples is to put some actual flesh on the dry bones laid out in Table 1 and, thereby, to make the underlying argument about the possible role of ‚pluralism' as a cornerstone for the conceptualization of research strategies tangible. However, they hopefully aid in another task, namely to develop an intuition on the difference between the pluralist approach suggested here and the routine of axiomatic variation practiced in mainstream economics. Aside from a series of nuances, the main aim here is to align and critically compare different approaching ex-ante supposing an equal footing of these various approaches, while the mainstream practice of axiomatic variation assigns primacy to established models and then aims to incorporate novel ideas into these established modes of thinking.

Pluralism in Economic Teaching: Some Suggestions

Pluralism in economic education is often harder to implement than pluralism in economic research. The main reason for this is that academic teaching is closely intertwined with the aim of providing students - also those students who do not major in economics - with an adequate overview on the subject under consideration. In providing such an overview, teaching only a single approach is often beneficial in terms of pedagogical simplicity compared to a more diversified approach, which aims to provide a variety of conceptual and

theoretical perspectives to illuminate those issues. Hence, there is a scarcity-related argument („student attention is scarce!“) to focus only on the dominant perspective, which, ironically, focuses on problems emerging from scarcity. Moreover, economics teaching is strongly coined by a set of standardized economics textbooks, which aim to set out the canonical knowledge in economics to students and lay-readers alike. As these textbooks are mostly founded on the perspective of mainstream economics and, thereby, set an informal standard, more diverse and pluralist approaches to economic education are automatically considered as ‚non-standard‘ and unconventional and, hence, have a hard time gaining legitimacy.

Nonetheless, the basic idea of pluralism - to acknowledge and integrate various different perspectives on a given subject in a common debate - seems well suited to serve as an organizing principle of economic teaching for at least three reasons. First, the general structure of a pluralist approach as understood here, that is, an approach aiming for a patient and constructive comparative assessment of competing theories and approaches in economics, can be utilized as a starting point for an ‚introduction into economic controversies’. Such an introduction could provide students with the ability to anchor and contextualize different economic arguments with regard to their theoretical and historical origins. Second, introductory lectures in economics often shape the mindset of students - especially, the large majority of students, who only attend a few courses in economics, before delving into other subjects - with regard to what is a sound economic argument or a sound public policy and, hence, come with a significant load of responsibility for course instructors (e.g. Fullbrook 2011). A pluralist take on introductory economics would possibly try to make different approaches and perspectives to economic problems accessible and, thereby, better equip students to understand how economic development is impacted by different actors, constraints and social interests and, hence, support them in developing balanced arguments on public policy issues. Finally, such an approach would suit the main principle of

intellectual modesty - fallibilism -, as courses and underlying materials would no longer suggest that „the main economic problems are already solved and one has, simply, to accept and applied the available solutions“ (Albert 1998, 153, author's translation), but rather point to the contested character of economic knowledge.

Finally, such a problem-oriented and pluralist approach to economic education might also foster interdisciplinary thought. A discussion of problem social mobility and social stratification for instance, could contrast Thomas Schelling's ‚checkerboard model of racial segregation' (1969), where social stratification in spatial contexts is the result of individual preferences, with the theory of social stratification as develop by Pierre Bourdieu (1984), who is be counted among the most important authors continuing the theoretical heritage of Thorstein B. Veblen and forcefully argued that social advantage might come in different forms (hence, his differentiation of different forms of capital) with differing persistence.

A concept for economic teaching - especially the development of introductory and intermediate courses in economics – that makes use of all these potential advantages is a problem-oriented „social issues“ approach to economic education (Grimes 2009), which focuses on different economic problems and questions and then delineates different answers to these questions and contextualizes these answers historically and theoretically. Such a take on teaching economics could make good use of a grid comparing different economic approaches along various spheres of theorizing as suggested in the foregoing section to selectively present specific answers given to core economic problems in different periods of time and different theoretical contexts. A selective presentation makes good sense as it takes into account that different economic traditions often focus on different questions and, at the same time, allows straightening pedagogical presentations accordingly. In what follows, I will provide some examples of different economic problems and illustrate how they could be approached from a pedagogical viewpoint.

Example 1: Unemployment

A core problem in economic thought is the question of unemployment, which has broader social ramifications and, hence, is easily recognized as such a core problem by outsiders or newly introduced students. One possible take on this question would be to develop a typology of explanations for unemployment reaching from a purely neoclassical explanation - which basically states that all unemployment is voluntary due to the properties of efficient markets and rational individuals - to a simple post-Keynesian point of view, emphasizing that employment is, eventually, always demand-constrained. Intermediate views are provided by the neo-Keynesian account (starting with Modigliani 1944), which basically sides with the neoclassical view, but assumes that ‚wage rigidity' prevails on labor markets, making the latter less efficient, and Hicks' interpretation (1937) that aggregate demand only matters in the short-run, a view conserved by the success of the IS-LM model. The pedagogical presentation of said typology could be anchored either in economic history and the history of economic thought, which often is much more apt for interdisciplinary audiences, or in a comparative discussion of different economic models (as in Palley 1996).

Example 2: Poverty

My second example relates to the issue of distribution, but suggests introducing a more specific focus on poverty. In this context, one could compare mainstream economic approaches, institutional-evolutionary theories of consumption and more hands-on empirical research to give a nuanced perspective on the problem of poverty. A simple arrangement to facilitate a comparative discussion in this context would be to introduce the two main definitions of poverty, relative and absolute poverty, and ask what different economic theories can say about these criteria. In this context, relative poverty is attained when a household receives less than some share (typically: 60%) of average income, while the

definition of absolute poverty relates to the fulfillment of basic needs, like shelter, clothing, heating, food and social inclusion.

Based on these considerations, one can explain why neoclassical standard theory will consider relative definitions of poverty to be arbitrary and absolute definitions of poverty to be largely meaningless (as preferences are private and uniform, there is no such thing as a basic need in the standard model), while concepts from evolutionary and institutional concepts - like social emulation (Veblen 1970[1899]) or the distinction between needs and wants (Witt 2001) - might provide a theoretical foundation for said concepts. Conversely, one could organize a similar discussion around the issue of wealth taking some data from Piketty (2014) or others and suggesting different theories, like institutional accounts of social stratification, Marxian theory of class and exploitation and older dynastic models from mainstream theory (e.g. Meade 1964), for explaining the observed patterns.

Example 3: the role of nature

Another example relates to the role of nature in economic processes and could start by juxtaposing classical political economy, where natural resources - especially agricultural land (Ricardo 1815) - was considered to be the main source of wealth aside from human labour - to more recent approaches, where land and nature are conceptually supplanted by capital and technology in macroeconomic analysis (following Cobb & Douglas 1928), and turned into a subject of microeconomic analysis. Based on this historical foundations, one could try to introduce students to current cleavages in economic thought on the role of nature by confronting Pigou vs. Georgescu-Roegen, i.e., by comparing the technologically optimist, market-focused view of environmental economics with the more long-term and aggregate perspective of Georgescu-Roegen, which more strongly emphasizes the primacy of ecological foundations in economic activities (e.g. Georgescu-Roegen 1973).

Example 4: price formation

My fourth example relates to a major topic in mainstream economics, the issue of price formation in (more or less) competitive markets. For starters, it seems helpful to make clear that the focus on price formation inherent in modern economics is already based on the implicit premise that price formation illuminates the most important properties of markets. While this premise might well be rejected and replaced with other key aspects of market behaviour - namely that markets allow for the introduction of innovations (Schumpeter 2006[1912]) or serve as an arena for exercising power (Rothschild 1971) -, it seems important to point out that even in case of accepting this focus on price formation, introducing a certain theoretical variety is still possible. The possibly most obvious way to do so is explicitly suggested by Robert Prasch (2008), who introduces a distinction between ‚gravitating' and ‚escalating' behaviour of prices, where the former follows the iconoclastic description of gravitating prices by Smith (2003[1776], Book I), which serves as a forerunner of traditional supply-and-demand analysis. The latter case of escalating prices, however, is based on historical studies of speculation (e.g. Kindleberger & Aliber 2005[1978]) and discusses the possibility of positive feedback in pricing formation („to buy when prices rise") leading to escalating prices also studied in some mainstream models of financial instability (e.g. De Long et al. 1990).

These short sketches should suffice to illustrate this specific implementation of a pluralist approach to economic education which makes use of a problem-oriented approach, i.e., which aims for putting different economic questions at centre stage. While the preparation of such courses might indeed prove to be ambitious, as lecturers actually have to cover a certain variety of fields from different theoretical perspectives, students would surely receive such an introduction that provides an anchoring of economic questions within their everyday experiences. Hence, it might well turn out that the workload associated with

preparing such a course is indeed substantial, but also comes with a non-negligible advantage, namely that of doing one's job at least roughly right.

Conclusion

In this chapter I tried to show how a pluralist conception of economics might translate into concrete suggestions for organizing economic research and teaching. In distilling these suggestions I focused on a series of epistemological rationales pointing to the potential contribution of a pluralist conception of science. Such an approach is in dire need of complementary views, which explore the idea of pluralist economic education from the perspectives of pedagogy, public policy, political relevance or the job market, to finally arrive at a fuller image of pluralist economic education. In doing so, one should also incorporate some of the great works out there, which already try to synthesize different streams of economic thought in the form of pluralist introductory or intermediate texts (a collection of such works is provided in the 6th edition *Heterodox Economics Directory;* Kapeller & Springholz 2016).

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