Citation:
Morgan, JA (2015) Realist econometrics? Nell and Errouaki on methodological institutionalism, regularity and uncertainty. Real World Economics Review, 71. 112 - 123. ISSN 1755-9472

Link to Leeds Beckett Repository record:
https://eprints.leedsbeckett.ac.uk/id/eprint/2072/

Document Version:
Article (Published Version)

© Jamie Morgan, 2015

The aim of the Leeds Beckett Repository is to provide open access to our research, as required by funder policies and permitted by publishers and copyright law.

The Leeds Beckett repository holds a wide range of publications, each of which has been checked for copyright and the relevant embargo period has been applied by the Research Services team.

We operate on a standard take-down policy. If you are the author or publisher of an output and you would like it removed from the repository, please contact us and we will investigate on a case-by-case basis.

Each thesis in the repository has been cleared where necessary by the author for third party copyright. If you would like a thesis to be removed from the repository or believe there is an issue with copyright, please contact us on openaccess@leedsbeckett.ac.uk and we will investigate on a case-by-case basis.

Realist econometrics? Nell and Errouaki on methodological institutionalism, regularity and uncertainty

Edward J. Nell and Karim Errouaki, *Rational Econometric Man: Transforming Structural Econometrics* Cheltenham: Edward Elgar, 2013, 545pp. ISBN: 978 1 84980 154 6

Jamie Morgan [Leeds Beckett University, UK]

Copyright: Jamie Morgan, 2015
You may post comments on this paper at
http://rwer.wordpress.com/comments-on-rwer-issue-no-71/

Introduction

Nell and Errouaki state that their intent is to reformulate econometrics along more realistic lines. In so doing they also explicitly acknowledge a debt to realist debates in methodology, notably in relation to the construction of argument regarding the nature of science, objectivity and laws in Chapter 4 (Nell and Errouaki, 2013: xii). This requires some context, since seeking to be more realistic and accepting the tenets of realism are not necessarily the same. One is theory and application, and the other is argument regarding the grounds of theory and application. Moreover, the status of econometrics in relation to realism is not an uncontroversial subject. Nell and Errouaki's work is worth careful consideration because its themes are so little considered within econometrics, despite their relevance for the role and realisticness of econometrics. The vast majority of work on econometrics concerns problems of method only – the technical limits of methods and resolutions to technical problems – very little of it concerns how (and whether) an econometric inquiry should be structured and pursued in order to be adequate.

Placing Nell and Errouaki in context: realism and mathematics

The realist critique in economics centred in particular on the Cambridge Social Ontology Group (CSOG) focuses on the problems of closed system theory and method. The core of the argument is that any theory or method that presupposes or seeks forms of regularity (a whenever x then y) in events provides an overly limited account of an economy. Since social reality is a historically complex set of inter-relations that are in process and subject to cumulative (and hence qualitatively shifting) causation, any theory or method that presupposes or seeks forms of regularity will *over time* fail as an explanatory endeavour (since relative stability is not regularity per se and stability breaks down). The implication is that the overwhelming promotion and then (in the face of observed periodic failures) preservation of such theory and method perpetuates a misspecified basis for economics. Perpetuation is then also an impediment to the development of economics, since the preservation of problematic forms will tend to undermine innovation that occurs from within this misspecification.

Tony Lawson, as the most prominent member of CSOG, has been careful to state that he is not opposed to mathematics:

> I hope by now the highly conditional nature of my criticism is apparent. It is not, and has never been, my intention to oppose the use of formalistic

> methods in themselves. My primary opposition, rather, is to the manner in which they are everywhere imposed, to the insistence on their being almost universally wielded, irrespective of, and prior to, considerations of explanatory relevance, and in the face of repeated failures. (Lawson, 2003: xix)

However, despite such statements the core argument has created some controversy within heterodox economics regarding the use of mathematics in general and econometrics in particular. Lawson's critique is oriented primarily on today's mainstream. The claim is that the problem of closed systems, regularity-focused, varieties of theory and method are central aspects of today's mainstream economics. Since the critique is initially oriented on the current mainstream the ready inference is that typical modes of expression and application in the mainstream are, caveats not withstanding, *necessarily* problematic: notably the statement of theory along formal lines and the building of models and applications based on analytical statistics. The contrasting inference is that heterodox economics is different than the mainstream. A well-known essay by Lawson, which claims an underlying unity of heterodox economics based on varieties of open system theorisation, emphasises this difference from the mainstream (2006). The idea of a contrast with the mainstream lends itself also to the inference that the most effective expressions of the open system unity in heterodox economics eschew formalism and resists a default to unthinking uses of econometric applications. A recent essay by Lawson seeking to rehabilitate Veblen's original concept of neoclassical economics based on the problem of a mismatch between social ontology and method (whereby some heterodox economists inadvertently become neoclassical), has served to encourage this sense that CSOG advocate a heterodox economics that is *more than* mathematical-quantitative (Lawson, 2013). However, quite what this means, is itself a matter of some controversy. CSOG in general and Lawson's work in particular has acquired a reputation as not just advocating more than mathematics, but rather as anti-mathematics, despite Lawson's statements to the contrary (see, for example, Mohun and Veneziani, 2012).

There are, however, attempts to sympathetically reconsider the role of mathematics in economics that attempt to absorb some of the claims of CSOG, and these create a challenge to the general perception of the work on social ontology. Velupillai's work is of this kind (2007, 2010). Velupillai argues that we have been conned by increasing mathematical complexity into ignoring that the mathematics is often ill-used because of the:

> cons that are replete in a kind of mathematical economics that relies on them for formalizations, theorizing and inferences. Reliance on them leads to whimsical assumptions, entirely determined and dictated by the mathematics and not by the ontology of economic entities, institutions and behaviour. As a consequence the inferences are inherently fragile or even senseless, since they require impossible approximations from uncomputable entities and undecidable propositions. (Velupillai, 2007: p. 468)

> The belief in the power and necessity of formalizing economic theory mathematically has thus obliterated the distinction between cognitively perceiving and understanding concepts from different domains and mapping them into each other. Whether the age-old problem of the equality between supply and demand should be mathematically formalized as a system of inequalities or equalities is not something that should be decided by mathematical knowledge or convenience. Surely it would be considered absurd, bordering on the insane, if a surgical procedure was implemented

> because a tool for its implementation was devised by a medical doctor who knew and believed in topological fixed- point theorems? Yet, weighty propositions about policy are decided on the basis of formalizations based on ignorance and belief in the veracity of one kind of one-dimensional mathematics. (Velupillai, 2007: p. 488)

Velupillai brings the fundamental issue back to a basic problem expressed in the philosophy of mathematics, the split between arbitrary mathematical systems and actually constructible ones. He then seeks to rebuild economics based on what can actually be constructed. Given an economic system is recognizably complex and shifting, the mathematics is then necessarily addressed to complexity, rooted in Velupillai's case in computability (2010).

Velupillai explicitly states a debt to Lawson in his thinking on the nature of how an economy works. Post-Keynesians in particular are long-term advocates of non-linear mathematical approaches to modelling an economic system (for example, Steve Keen, 2013; or Mark Setterfield, 2000). In addition to ensuring money is actually incorporated into theory, Post-Keynesians tend to model economies as subject to endogeneity, and as complex, fluctuating processes, subject to instability and degrees of uncertainty, rather than cycles, (dis)equilibrium and definite paths. This requires a rather different approach to mathematics than has dominated the mainstream (see also Fullbrook, 2013, 2015), but one that embraces the basic insight that an economy is an open system, irrespective of any ambivalence regarding how Lawson's work is also perceived and sometimes misperceived (see Morgan, 2012).

Nell and Errouaki's core claim and its significance

Nell and Errouaki's latest work *Rational Econometric Man* takes a slightly different approach to open systems and complexity, albeit one that is also indebted to Keynes and Post-Keynesianism. Nell and Errouaki argue that economies are open systems but that there are in fact, because of the nature of social reality, actual quasi-regularities that econometrics can capture. However, these are radically different in origin than modern econometrics supposes. They are not a product of individuated rational (bounded or otherwise) agents, where agents can be persons, firms, households etc., and where such agents are always subject to methodological individualism. Rather they are a product of time sensitive institutions that provide for a degree of stability in behaviour. It is the interplay between agent's behaviour and the structured situations in which they are able to act that result in either the reproduction of the grounds of the interaction or their transformation. Moreover, some grounds tend to be more enduring and some more volatile, so not all aspects of the economic system can be considered quasi-regular even during periods of stability. There is, therefore, a difference between what is regular within stability and the manifestation in events of stability.

The central claim remains that regularity provides a reliable focus for econometric investigation, despite that one must be able to distinguish between what is regular within the economy and any current degree of stability in that system. The critique of contemporary econometrics lack of both realisticness and realism requires a profound change in how econometrics is perceived and pursued. If regularity occurs within an open system, based on agency-structure and institutions, then realisticness requires that one must do more than identify and test regularity, one must do so in a way that reciprocates with theory, since the grounds of "regularity" can shift. As such, one cannot simply introduce theory as a mere set of

unrealistic assumptions that underpin econometrics, nor can one simply dispense with formal theory and its testing or consideration as an aspect of econometrics. One must rather build research programmes that shift back and forth between theory formation and econometrics based on adequate data processing. There is here some degree of crossover with the intent of Hendry, the most innovative of econometricians to consider the problem of methodology. According to Hendry:

> The problems of econometrics are many and varied. The economy is a complicated, dynamic, non-linear, high-dimensional, and evolving entity. So studying it will be difficult. Society and its social system both alter over time, laws change and technological innovations occur, so establishing invariants of the system will not be easy… 'Theory driven' approaches in which a model is derived from a priori theory and calibrated from data evidence, lie at one extreme. These suffer from theory dependence in that their credibility depends on the credibility of the theory from which they arose – when the theory is discarded so is the associated evidence… 'Data driven' approaches, where models are developed to closely describe the data, lie at the other extreme. These suffer from sample dependence in that accidental and transient data features are embodied as tightly in the model as permanent aspects, so that extensions of the data set often reveal predictive failure. An interactive blend of theory and evidence naturally suggests itself. (Hendry, 1995: p. 6)

It should be noted that there are significant differences regarding the concept of realism between Hendry and Cambridge Realists (see, Pratten, 2005)[1] and Nell and Errouaki do not actually address these to any degree (However, see Nell and Errouaki, 2013: p. 236). They recognize Hendry is concerned with similar issues to themselves but go back to the origins of econometrics for their initial inspiration.

The substance of the argument

Nell ought to be familiar to anyone with an interest in economic methodology, as the co-author with Martin Hollis of the classic *Rational Economic Man* (1975) and as an economic theorist with longstanding interests in growth theory (transformational growth), monetary economics and institutions. As noted Nell and Errouaki acknowledge an explicit debt to the CSOG position on social ontology (Nell and Errouaki, 2013: xii). However, in terms of the

[1] Hendry is notably more assertive regarding the centrality of econometrics of economics, and also differs over the justification if it. For example: Empirical econometric models are systems of quantitative relationships linking observed data series. They have four main roles in economics. First, they are data summaries: there exist too many variables of potential interest in economics for us to investigate them all, so summarization is essential. And econometric models are one way. Secondly, econometric models allow us to interpret empirical evidence: facts rarely speak for themselves, and a well-defined framework, such as an econometric model, will prove invaluable. Thirdly, there are often several competing theoretical explanations for economic phenomena: econometric models play an important role in evaluating the relevant explanatory powers of these theories. Finally, econometric models are the primary vehicle for the accumulation and consolidation of empirical knowledge about how economies function. In the long run, this may be their main *raison d'etre.* Since econometrics is essentially empirical in nature, it offers a potentially scientific approach to understanding human conduct, and is the major source of systematic information about economic behaviour… However it must be stressed that the economy is too large and complicated for us to develop 'true' models of it. Rather empirical models are invariably simplifications and, in that sense, invariably false… Consequently, we must develop other criteria than truth to judge empirical models and select between them. (Hendry, 1995: p. 4)

econometrics, *Rational Econometric Man* (2013) takes as its point of departure the original intentions of the New School International Seminar in Econometrics, which ran in the early 1940s (or Cowles approach, named for the Cowles Commission for Research in Economics, which followed it beginning in 1943). The focus begins from the work of Haavelmo and encompasses the subsequent work of Lawrence Klein and others. Nell and Errouaki cite Mary Morgan for the original intent and orientation:

> Econometrics was regarded by its first practitioners as a creative synthesis of theory and evidence, with which almost anything and everything could, it seems, be achieved: *new economic laws might be discovered and new economic theories developed, as well as old laws measured and existing theories put to rest.* This optimism was based on an extraordinary faith in quantitative techniques and the belief that econometrics bore the hallmarks of a genuinely scientific form of applied economics. In the first place, the econometric approach was not primarily an empirical one: econometricians firmly believed that economic theory played an essential part in finding out about the world. *But to see how the world really worked, theory had to be applied; and their statistical evidence boasted all the right scientific credentials*: the data were numerous, numerical and as near as possible objective. Finally, econometricians depended on an analytical method based on the latest advances in statistical techniques. (cited Nell and Errouaki, 2013: 61)

As both Nell and Errouaki and Hendry note this early potential gave way to a degree of cynicism and shift in how econometrics was positioned and pursued. For Hendry a great deal of econometrics simply became a simulation of scientific inquiry, a form of "Alchemy" (1993).

According to Nell and Errouaki, "the problems of econometrics may lie not so much in econometrics itself as in the unrealistic approach to economic theory on which it has drawn to specify its functions." (Nell and Errouaki, 2013: 41). The core problem they identify is the neoclassical rational economic agent and its constrained variants and also its many expressions via equivalent terms for the agent such as the household, the firm etc. This economic agent cannot be constructed consistently based on deduction and cannot be derived from induction since actual agents lack the properties of the economic agent; the agent is an idealisation not an abstraction. The problem is one within the "DNA" of neoclassical (by which the authors mean core mainstream) economics. It "also undermines methodological individualism; if behaviour cannot be reliably predicted on the basis of the 'rational choices of agents', a social order cannot reliably follow from the choices of agents… What is needed to rebuild econometrics is realism in theory" (Nell and Errouaki, 2013: 30-31). Without this realism in theory, the link between adequate theory and data and data and adequate theory is broken. This is compounded by a problem of data:

> The econometric model builder is rarely involved directly with the data collection and refinement, and often has to use published data knowing very little about their origins. This lack of knowledge can have serious repercussions on the modelling process and lead to misleading conclusions. Ignorance related to how the data were collected can lead to an erroneous choice of an appropriate sampling model. Moreover, if the choice of data is based only on the name they carry and not on intimate knowledge about what exactly they are measuring, it can lead to an inappropriate choice of the

> statistical generating mechanism and some misleading conclusions about the relationship between the estimated econometric model and the theoretical model as suggested by economic theory. (Nell and Errouaki, 2013: 42)

Since the recognized problems for Nell and Errouaki are unrealistic theory construction and irresponsible use of data then the solution that follows is to construct theory that is realistic (can approximate social order and its characteristics) and to ensure better data and better use of data. More specifically the solution begins from methodological institutionalism. The economic agent exists in a set of institutions and behaviour is conditioned in and through these institutions (there are structures and there are socialised agents). Institutions are historic and thus transient. At the same time institutions create relatively stable conditions for economic activity, so for some period they are a source of relatively recurring behaviour (they are objective conditions even if they are rules and concepts rather than material bodies). These institutions are corrigible so the specification of them is also a research question, one does not simply assume and impose them. Fieldwork is thus necessary and intrinsic to theory specification, iteration and respecification, and so there is a reciprocal relationship between well-conceived empirical research, adequate data collection and theory formation. There is a very clear contrast here with much of contemporary modelling and econometrics:

> Neoclassical models analyse behaviour in specific ways. Instead of drawing on fieldwork, to define motivation and set the problems of choice in well-described institutional context, agents are considered abstractly and presumed to be rational and choose freely. This, then, leads to models that exhibit a particular kind of market behaviour, which we can call a 'stimulus-response' pattern… It is assumed that actions in response to stimuli are successful… Given the behavioural assumptions, reaction patterns to such hypothetical stimuli are constructed, and from these sets market functions are aggregated. Equilibrium market positions are then determined by solving the market equation on the hypothesis that behaviour will be adjusted as stimuli move, until the markets are cleared… But the stimulus-response approach is appropriate only for describing agents who are understood as having given motivations and values. The agents must also be understood as having given knowledge of the world; they do not learn or innovate [in neoclassical models they are passive in a fixed world. By contrast one must establish more realistically behaving agents and a more realistic world – its structures] actual or observable agents are rarely similar to the types postulated by the model… Structural models show how the economy maintains and reproduces itself. But it will not do so in exactly the same way every time – agents with active minds will see to that. Market adjustment will confront agents with characteristic problems [but] the system evolves. (Nell and Errouaki, 2013: 383-384)

For Nell and Errouaki economics can become a better science if it explores and represents the actual characteristics of its object of study more appropriately. They claim social reality is geographically and historically bounded and so laws cannot be of the kind found in physics though perhaps they may overlap with biology. Moreover, some aspects of behaviour are simply volatile and so subject to uncertainty in Keynes' and Knight's primary sense. However, they also claim, following Klein, that the conditions of social reality are sufficiently fixed for law-like relations to hold in given places and times. Institutions give a degree of fixedness to reality and this justifies structural approaches to econometric modelling. One can explore the

whole in a way expressible as, modifying an approach developed by Bonnafous, a "methodological triangle circle" or MTC: (Nell and Errouaki, 2013: p. 152-154 and 171). The idea is to operationally unify coherent theory, measurement (quantification) and applications of theory (relevance).

Nell and Errouaki are candid in respect of this MTC. As a methodological statement in the context of the idea of social science quasi-laws for economics MTC seems manifestly superior to the many contradictions and failings of modern econometrics, which are, in the ordinary scheme of things simply passed over. However, *Rational Econometric Man* is not just a sophisticated work of methodological critique that seeks to state an alternative as an unproblematic general solution, simply because the alternative differs from the work it critiques. Nell and Errouaki recognize and seek to address key problems of the inter-relation between theory, measurement and application. For example:

> There is absolutely no reason that relationships of statistical reality should be linear; furthermore one notes that economic reality is often incompatible, even as an approximation, with the mathematical tool (be it linear or non-linear)… [And] The measurement of model parameters from statistical samples requires the use of estimating techniques that were developed within the theory of probability and are based on specific probabilistic hypotheses (normal distributions of residual terms, independence of random variables, etc.)… There is no particular reason for these hypotheses to match a statistical reality. (Nell and Errouaki, 2013: pp. 178-180)

For Nell and Errouaki, though there is no reason that relationships must be linear, it does not mean that they cannot approximate linearity for some period in some ways. More generally in terms of the justification and more specifically in terms of a focus on economics Nell and Errouaki claim that it is good fieldwork that brings together the MTC and it does so on the basis of different ways one can specify key components of an historically recognizable economy:

> The 'economy' we argue, implies a market system of some sort. By saying that in a particular society 'an economy exists', we mean that the regular reproduction of the structure of that society is carried out by a market system; the society continues to exist because of activities carried out under market incentives. By a market system we mean that there are relations of Ownership, o relations, and these are expressed in terms of value, v relations. (Nell and Errouaki, 2013: p. 125)

> The o and v relations are directly related to the MTC diagram: v relations ensure measurement and o relations ensure applicability… Fieldwork done properly will reveal o and v relationships, as well as other ones, and this will tend to ensure relevance… Fieldwork will enable us to take in and understand the concepts that guide social and economic practices; conceptual analysis will develop them into theories. (Nell and Errouaki, 2013: p. 183).

Here fieldwork allows one to come to know or be familiar with the concepts, norms and rules, which guide economic activity. Econometrics becomes a way to estimate the parameters of law-like relationships created by an economy founded in and reproducing ownership and

value. The way the whole is set up here seems to lead easily to a focus on Nell's own longstanding interests in economic theory, which broadly straddle Post-Keynesian and institutional concerns. Chapter 11 provides a number of illustrations of MTC as the basis for a considered use of econometrics in relation to open systems. For example, the relationship between unemployment and inflation. In chapter 11 they briefly set out how fieldwork undermines the neoclassical claim that unemployment is voluntary and inflation is caused by excess money. Any investigation of real structures, rules and institutions leads to the conclusion that actual economic activity is structured, conditioned and institutionalised in ways that allow for involuntary and structural unemployment and where inflation does not arise simply because of more or less money in the system. For example, ownership and investment matter in particular ways based on convention and law. At the same time, one can make use of well-understood relationships to use econometrics in pursuit of better concepts and as support for more adequate theory. Recalling that "the problems of econometrics may lie not so much in econometrics itself as in the unrealistic approach to economic theory on which it has drawn to specify its functions" (Nell and Errouaki, 2013: 41) they state:

> Mainstream economics has not done a good job with inflation… The problem of the large econometric models in the 1970s were less in estimating than in specifying relationships and model structure, particularly the relationships between the real and financial aspects of the economy… This was particularly true of production; fixed coefficient models held up well, but neoclassical marginal productivity models turned out to be deeply flawed – they purported to estimate production but actually captured cost identities. Yet the estimations of many particular relationships proved sound; parts of the models held up throughout. These were the reliable functions – household consumption spending in various categories of goods and services, labour productivity in the different sectors, import propensities, multiplier relationships – all of which generally came through ok. In these functions the 'targets' are well-defined – we know what the process is aiming at or trying to achieve – so there are good reasons to expect certain mean values. And the forces or pressures that bring about 'misses' are also well understood; we know what gets in the way of achieving the targets, or causes deviations. (Nell and Errouaki, 2013: p. 406)

For Nell and Errouaki the implication is that one can, within the MTC recontextualise the relationships and specify different kinds of models rooted in better theory that accords more with experienced reality of how economic activity is structured and how agents really behave. Chapter 11 also uses Nell's work on transformational growth to illustrate how econometrics can be part of an historical open systems account of periodisation:

> We suggest that econometrics and macroeconometric model building should be more sensitive to large-scale changes in the characteristic patterns of data. For example, it is well-known that in the nineteenth century fluctuations show up more prominently in price data than in employment or output series, whereas in the twentieth century the reverse is true, particularly after World War II. Accordingly, transformational growth contrasts two general 'models of adjustment' of capitalist societies. These are both macro models, and are both based on reliable relationships – firms selling in competitive conditions, households spending to support themselves. Each model is abstract and quite general, but nothing is 'idealised'. Each is presented 'mathematically',

> although the functions are abstract and aggregate, so that fitting data to them would require careful attention to the definitions of the variables. But it is argued that functions correctly represent directions of variation, and rough relative orders of magnitude, and that each represents the working of the system during a particular historical period. (Nell and Errouaki, 2013: p 431)

Ultimately:

> Econometrics is about economics; it proposes using measurement to amplify, develop and test *explanations*, and with it, our understanding of the structure of the economy and how it works; it is not about forecasting, or about reliable statistical relationships that lack economic content. Econometrics provides numerical content to economics, making it possible to test and amplify economic theory by directly applying it empirically. It rests on three pillars: theory-coherence, applicability-relevance, and measurement-quantification… The ambitions of the early econometricians were not wrong [testing theory etc but]. They thought that conventional economic theory was largely sound, and that their job was to fill in the numbers in the relationships that theory proposed. They were wrong; much theory has been misleading, and much has simply been irrelevant – having no application. But the economy is a system, a social system, and it keeps itself in existence by engaging in a pattern of production, distribution, consumption and exchange, regulated by ownership rights and value transactions. Once we understand *this*, we can see our way to uncovering and defining the relationships involved, and this will give us a foundation on which to build. We can do econometrics – not exactly the way the founders wanted, but well enough to provide a testing ground for our theories. (Nell and Errouaki, 2013: p. 477)

Conclusion

Rational Econometric Man is an important book regarding an under-discussed subject. Econometrics has become ubiquitous in economics, yet fundamental arguments regarding what it can achieve and how it ought to be positioned remain rare. This is partly because any such fundamental discussion cannot avoid acknowledging the deep problems the field has accumulated. It is far safer to simply focus on technical issues of given models and methods and then make bland statements regarding dilemmas of observational equivalence and undecidability. Nell and Errouaki take a different path. They combine sophisticated methodological critique and analysis with a clear central argument. Econometrics can contribute to a more realistic economics. The project is more than mathematical but is about the constructive use of mathematics and statistics. The innovative approach to methodological institutionalism flows directly from Vellupillai's concern to reverse the way "whimsical assumptions, entirely determined and dictated by the mathematics and not by the ontology of economic entities, institutions and behaviour" (Velupillai, 2007: p. 468) have dominated the use of mathematics. It is, as such, a significant contribution to applied realist methodology.

However, though *Rational Econometric Man* is an important work it does provoke a range of further considerations. Though the work is about more than mathematics it does still proceed as though mathematics is the most appropriate way in which an economic argument can be

expressed, and an empirical economic investigation can be constructed and used to "test" and develop theory. This is mainly assumed rather than argued for, because economics is a science. More could have been said about why economics ought to be mathematical. Moreover, though the argument made does not reduce to a demonstration or confirmation of Nell's work on economic theory, since the claims are broader, the illustrations tend to convey the impression that it is in terms of Nell's work on theory that regular relations within the econometrics can be made sense of. Given the MTC is about the relation between theory, investigation and data, where all are subject to modification, a sceptic might wonder that the actual illustrations often read like confirmations. It would be unfair to make too much of this since the problem would be difficult to avoid, given that Nell has a lifetime's worth of well received economic theory to draw on, and that theory is so clearly within an open systems framework of the kind any appropriate use of econometrics is liable to be referenced to. Still, one could perhaps construct a variety of counter-arguments regarding theory confirmation based on different open systems interpretations because of the recognized problem that "although the functions are abstract and aggregate, so that fitting data to them would require careful attention to the definitions of the variables" (Nell and Errouaki, 2013: p 431). Given the point of reference would be econometrics within open systems this would still be progress.

However, the use of econometrics as that point of reference may also invite further questions regarding the status of econometrics. Nell and Errouaki's argument is that econometrics has radically misconceived the source of relative regularity within an economic system. It cannot follow from methodological individualism and individuated agents, but rather is a consequence of structured activity expressible in methodological institutionalism. This way of looking at historical systems seems to directly address the social ontology critique that any theory or method that seeks or presupposes regularity will over time fail as an explanatory endeavour, since the very basis of methodological institutionalism is to time-constrain regularity. Nevertheless, the focus remains regularity and there may be some slippage of usage of the term here.

Nell and Errouaki state that "there are good reasons to expect certain mean values" (Nell and Errouaki, 2013: p. 406). In the end the argument is about a different use of econometrics rather than a different econometrics. The focus remains essentially one where probabilistic relations can meaningfully represent key aspects of social reality, within an economy. This may be so, but two points then follow. First, the MTC is unified by good fieldwork. In the end it is the degree to which the economist is immersed in and appropriately familiar with the empirical aspects of an economy that dictate their capacity to develop (as well as be guided by) good concepts and theory. Econometrics is not itself liable to result in this immersion in the empirical aspects of the economy. It is a form of "test". Yet the broader contextualising test is less rigorous and more qualitative, if not necessarily intuitive. It is the openness to and feel for many kinds of data, processed in a variety of ways. The significant difference between neoclassical economics and open system approaches is not just based on the rejection of idealised unrealistic assumptions – it is in the commitment to start from the reality of how an economy is and to accommodate theory to that reality (without reducing this to an empiricist fallacy). The implication is that multiple methods are important rather than many data sources that feed into econometric modelling only. Nell and Errouaki could perhaps have emphasised this more – since it is not antithetical to their argument and is consistent with their approach to fieldwork.

Second, the overall discussion of econometrics may still leave the status and reality of a stochastic regularity contestable, if not ambiguous in relation to methodological institutionalism. In econometrics the quantification of the relationship is synthetic; it is an

expression of an averaging effect not an intrinsic component or shaper of the activity. Its role in law like behaviour is then also potentially contestable, since no one is acting from or following the average (it is not part of agents reasons for acting) and the average is not part of the institutional conditions that structure or contextualise economic activity (it is not creating a downward causation). Clearly, Nell and Errouaki are aware of this, since the argument for o and v relations notes also that social reality including an economy is based on the powers or capacities of significant entities (and it is this that defines something as real, for example, Nell and Errouaki, 2013: p. 430). However, given that powers or capacities of significant entities result in tendencies to act in given ways, regularity, even stochastically expressed regularity, is different than the existence of, and expression of, a power. So from a methodological point of view there may be more to say here in order to adequately clarify and justify the status of econometrics as a form of realism and as a contribution to more realistic economics. This is by no means to denigrate this excellent work and its achievements, it is simply to note there is still more to say and do, since the work is not just a claim that "this way works," it is a methodological exploration of how we conceptualise and argue for what works. In any case, I would urge anyone with an interest in econometrics to read this book and so better understand what it is that they are doing and what it is that they could do.

References

Fullbrook, E. (2013) New paradigm economics, *Real-World Economics Review,* 65: 129–31, http://www.paecon.net/PAEReview/issue65/Fullbrook65.pdf

Fullbrook, E. (2014) 'Capital and capital: the second most fundamental confusion', 231-249 in Fullbrook, E. and Morgan J. eds. *Piketty's Capital in the Twenty-First Century* London: College/WEA Books. Also available here: http://www.paecon.net/PAEReview/issue69/Fullbrook69.pdf

Hendry, D. (1993) *Econometrics: Science or Alchemy?* Oxford: Blackwell.

Hendry, D. (1995) *Dynamic Econometrics* Oxford: Oxford University Press.

Hollis, M. and Nell, E. (1975) *Rational Economic Man: A Philosophical Critique of Neoclassical Economics* Cambridge: Cambridge University Press.

Keen, S. (2013) 'A monetary Minsky model of the Great Moderation and the Great Recession', *Journal of Economic Behaviour & Organization* 86: 221-235.

Lawson, T. (2003) *Reorienting Economics* London: Routledge.

Lawson, T. (2006) The nature of heterodox economics, *Cambridge Journal of Economics,* 30(4): 483–505.

Lawson, T. (2013) 'What is this "school" called neoclassical economics?', *Cambridge Journal of Economics,* 37(5): 947–83.

Mohun, S and Veneziani R (2012) 'Reorienting Economics?' *Philosophy of the Social Sciences* 42(1): 126-45.

Morgan, J. (2012) 'Forecasting prediction and precision: a commentary', *Economic Thought* 1(2): 55-64, http://et.worldeconomicsassociation.org/files/WEA-ET-1-2-Morgan.pdf

Pratten, S. (2005) 'Economics as progress: the LSE approach to econometric modelling and critical realism as programmes for research', *Cambridge Journal of Economics* 29(2): 179-205.

Setterfield, M. (2000) 'Expectations, endogenous money, and the business cycle: An exercise in open systems modeling', *Journal of Post Keynesian Economics* 23(1): 77–105.

Velupillai, K. V (2010) *Computable Foundations for Economics* London: Routledge.

Velupillai, K. V (2007) 'Variations on a theme of conning in mathematical economics', *Journal of Economic Surveys* 21(3): 466-505.

Author contact: j.a.morgan@leedsbeckett.ac.uk

SUGGESTED CITATION: Jamie Morgan, "Realist econometrics? Nell and Errouaki on methodological institutionalism, regularity and uncertainty", *real-world economics review*, issue no. 71, 28 May 2015, pp. 112-123, http://www.paecon.net/PAEReview/issue71/Morgan71.pdf

You may post and read comments on this paper at http://rwer.wordpress.com/comments-on-rwer-issue-no-71/

WEA eBooks

$20 each or 7 for free

if you pay the $50 voluntary membership fee

The Scientist and the Church
Shimshon Bichler and Jonathan Nitzan
The Economy of the Hamster
Mauro Gallegati
On the use and misuse of theories and models in economics
Lars Pålsson Syll
Bubble Economics: Australian Land Speculation 1830 – 2013
Paul D. Egan and Philip Soos
Essays Against Growthism
Herman Daly
Green Capitalism: The God that Failed
Richard Smith
Feudalism, Fascism, Libertarianism and Economics
Eric Zuesse
Developing an economics for the post-crisis world
Steve Keen
Nuevos paradigmas, desarrollo económico y dinámica social
Jorge Buzaglo
Statistical Foundations for Econometric Techniques
Asad Zaman
Wealth and Illfare: An Expedition through Real Life Economics
T. Kurien
Appreciating Mental Capital: What and Who Economists Should Also Study
Robert Locke