

Modern macroeconomics: a review of the post 2008/2009 crisis debate

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Abstract

This paper reviews the current debate on the state of modern macroeconomics from methodological standpoint. While some senior figures in economics have argued that modern macroeconomics has gone wayward and thus become irrelevant for policy, others argue otherwise. Methodologically, the fundamental sources of dispute have centered on realism of assumptions, mathematical formalism and empiricism and falsification of economic models. Our conclusion from this review is that the observable world upon which macroeconomist rely on to make their assumptions, theories and predictions represent a very tiny fraction of physical reality. Thus any policy derived from such partial and short sighted analysis can only produce a sub-optimal outcome. Moreover, the fundamental analysis employed in macroeconomic analysis overlook peculiarities which should be the rule rather than the exception for addressing important economic conundrums. In short, although we do not support the position of most critics on the view that macroeconomics of the last 30 years is completely useless, we are of the view that there is need for serious rethinking about the future of macroeconomics. This is the only way forward, if the subject has anything to say about policy.

Keywords: Financial Crisis, Modern Macroeconomics, Rational Expectations, Illusion, Perception and Reality

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1. Introduction

The recent financial crisis has been interpreted by many prominent economists as a crisis in economics, in particular for macroeconomics. Most of the criticisms have focused on the assumptions of macroeconomic models, the inability of these theories and models to deal with the financial crisis and the consequent spillover effects for the whole economy and on global a scale. Leading macroeconomists like Acemoglu (2009), Buitter (2009), Eichengren (2009), de Grauwe (2009), Krugman (2009), Spaventa (2009), Stiglitz (2009) and Wyplosz (2009) indicate that a serious soul searching amongst macroeconomists is taking place. The criticisms of macroeconomics have come not only from mainstream academic and professional economists, but also political and opinion leaders. Notable in this category is Her Majesty the Queen of England. The Queen is quoted to have asked her economic advisers when she visited the London School of Economics “Why didn’t you tell us?”

The objective of this paper is to undertake a critical review of the position of key figures in macroeconomics on the current state of macroeconomics, and to put forward a fundamental proposition for examining the world in a more holistic way than how the subject matter has conceived of it in the past. Among other things, the central discussions focusses on the various criticisms of modern macroeconomics and the response to such criticisms, and our suggestion and proposition for economists to look deeper into the nature of reality, than the illusive world of theory and models.

The rest of the paper is organized as follows. Section 2 presents and discusses the key criticisms that have been leveled against modern macroeconomics by some leading macroeconomists. Section 3 presents and discusses the major responses to the attack on the state of modern macroeconomic research and policy. The final section of the paper presents the key conclusions and discussions of the major issues discussed as well as the future of macroeconomics.

2. Criticisms of modern macroeconomics

The recent attack on macroeconomics is not all that surprising. The subject macroeconomics was born and baptized in crisis time and hence has always been called upon to renew its faith in times of crisis. The Great Depression transformed

economics and led to macroeconomics as an autonomous field of study. Macroeconomics as we know it today was the result of reaction to the body of economic thinking prior to the publication of Keynes' *General Theory of Employment, Interest and Money* in 1936. Thus, it was the *Great Depression* of the 1930s that resulted in a paradigm shift in the functioning of the economy as a whole and as a result gave birth to Macroeconomics. The agenda of macroeconomics is, to a greater extent than that of microeconomics, determined by factors outside the discipline. For instance, macroeconomics has to provide diagnoses and remedies for problems such as unemployment, inflation, productivity slowdowns and financial crashes, whether or not these are the topics that, from a scientific point of view, are the ones the discipline is best equipped to tackle. Since its inception, the subject has received attacks and a need for rethinking anytime economic crisis raises its ugly head. For instance, the stagflation of the 1970s ended the great debate between "Keynesians" and "monetarists" in favour of Friedman's rules, and set the stage for the rise of a succession of increasingly silly theories rooted in pre-Keynesian thought (Wray; 2011). Woodford (1999) and Blanchard (2000) gave good accounts of how macroeconomics has evolved since the beginning of the third decade of the 20th Century. Woodford (1999) for instance discusses his paper along the following evolutionary phases: the birth of macroeconomics; the Keynesian revolution; the neoclassical synthesis; the great inflation and the Crisis of Keynesian economics; Monetarism; rational expectations and the new classical economics; real business cycle theory; a new neoclassical synthesis. In most of the cases these shifts of emphasis about how we should go about macroeconomic research and policy are motivated by severe economic crisis which reveal the inadequacies in the body of knowledge existing at the time. On his turn, Blanchard (2000) traced out the history of macroeconomics into three epochs.

Pre-1940: a period of exploration, where macroeconomics was not macroeconomics yet, but monetary theory on one side and real business cycle theory on the other.

From 1940-1980: period of consolidation—a period during which an integrated framework was developed, starting with the IS-LM, all the way to dynamic general equilibrium models.

Since 1980: a new period of exploration, focused on the role of imperfections in macroeconomics, the relevance on nominal wage and price setting, incompleteness of markets, asymmetric information, search and bargaining in decentralized markets, to increasing returns in production.

Our favourite starting point is Backhouse and Salanti (1999) who raised three important methodological questions that are relevant to the present paper:

- Can macroeconomic theories be tested?
- Do macroeconomic theories change in response to evidence?
- Is macroeconomics in a healthy state from methodological point of view?

Much of the ensuing discussions here focus on the last question. MaCallum (1999) argues explicitly that, contrary to what critics have claimed, it is an illusion to believe that macroeconomics is itself in poor condition in relation to microeconomics. He maintains that this illusion is created by the much more ambitious agenda that is set for applied macroeconomics than for applied microeconomics. Confirming that macroeconomics is in a good methodological state, Blanchard (2009) concluded that the state of macroeconomics is good. However, the position that the state of macroeconomics is good is not a consensus one. There have been brutal criticisms from many senior economists about the current approach to macroeconomics.

One of the most popular economists who have criticized modern macroeconomics following the recent financial crisis is Paul Krugman (the 2008 noble prize winner in economic sciences). Writing in the September 6th, 2009 edition of the New York Times (06/09 NYT), Krugman argues that the economics profession went astray because economists, as a group, mistook beauty, clad in impressive looking mathematics, for truth. The following quote from the 06/09 NYT publication add further dimensions to the attack on modern macroeconomics by Krugman.

“Until the Great Depression, most economists clung to a vision of capitalism as a perfect or nearly perfect system. That vision wasn’t sustainable in the face of mass unemployment, but as memories of the Depression faded, economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets, this time gussied up with fancy equations. The renewed romance with the idealized market was, to be sure, partly a response to shifting

political winds, partly a response to financial incentives. ... the central cause of the profession's failure was the desire for all-encompassing, intellectually elegant approach that also gave economists the chance to show off their mathematical prowess.”

Krugman further argues that economists over the years have turned a blind eye to the limitations of human rationality that often led to bubbles and busts; to the problems of institutions that run amok; to imperfections of markets, particularly the financial markets, that can cause the economy to undergo sudden, unpredictable crashes; and to the dangers created when regulators do not believe in regulation.

From the foregoing, we can group the main criticisms of Krugman under the following headings: over reliance on mathematics, ignoring market imperfections in preference for perfect markets in macro modeling; rational expectations and the associated efficient market hypothesis and deregulation, among others.

De Grauwe(2009), in VOX Europe, argued in favour of the bottom-up approach versus top-down approach to macroeconomics [see also De Grauwe (2010)]. De Grauwe specifically cited the rational expectations flavored dynamic stochastic general equilibrium (DSGE) model as a proto-typical example of top-down approach to macroeconomics. His criticism to the top-down approach to macro modeling in general and rational expectations assumption in particular, and his preference for the bottom-up approach is summarized by the following quote:

“The extraordinary assumptions of macroeconomic models have left the outside world perplexed about what economists have been doing during the last few decades. This column contrasts the incongruous rational expectations top-down model with a bottom-up model where no individual is capable of understanding the full complexity of a market system. The bottom up model creates correlations in beliefs that generate waves of optimism and pessimism. The latter produce endogenous business cycles akin to the Keynesian “animal spirits”.”

The attack of De Grauwe on modern macroeconomics thus centered on macro models that rely on the rational expectations .The agents in the these models have incredible cognitive abilities – they are able to understand the complexities of the world, and they figure out the probability distributions of all the shocks that can hit

the economy (De Grauwe; 19/11/2009). This is clearly an untenable assumption that no one should take serious. Unfortunately this damaging assumption of rational expectations has become the bedrock of modern macroeconomics. The workhorse model of modern macroeconomics, the dynamic stochastic general equilibrium, is highly rooted in the assumption of rational expectations.

Wray (2011) castigated modern macroeconomics as summarized by the following quote:

“The global crisis exploded reigning orthodoxy. Among those theories and claims that should no longer be taken seriously by any macroeconomist we must include: rational expectations and continuous market clearing; new classical and real business cycle approaches; neutral money; the new monetary consensus, the Taylor rule, and the Great Moderation; the efficient market hypothesis; Ricardian equivalence and other versions of policy irrelevance doctrine; and claims made by advocates of deregulation and self-regulation. None of these ideas should be taught in any serious economics course – they are no more relevant to economic theory than are bloodletting techniques to the study of medicine.”(Wray, 2011)

These bashings on modern macroeconomics by Wray differs from that of Krugman only in the tone of their voices. They both show no hope in the current practice of macroeconomics. To them a serious rethinking about the way macroeconomics should conducted now and in the future is crucial.

Caballero (2010) makes an important distinction between “the core” and “the periphery” of macroeconomics, and launched an attack on the current practice of the former in praises for the latter. Caballero (2010) identifies the periphery of macroeconomics as that part of macroeconomics that has focused on the details of the sub-problems and mechanisms but has downplayed distant and complex general equilibrium interactions. The core has focused on extremely stylized versions of general equilibrium interactions while downplaying on the sub-problems. His main reference here was on the DSGE modeling approach to macroeconomics. Caballero (2010), while chastising the core of macroeconomics sang praises for the periphery. This quote summarizes his attack on the core of modern macroeconomics:

“...is that its current core – by which I mainly mean the so-called dynamic stochastic general equilibrium approach – has become so mesmerized with its own

internal logic that it has begun to confuse the precision it has achieved in its own world with the precision about the real one. This is dangerous for both methodological and policy reasons. On methodology front, macroeconomic research has been in “fine-tuning” mode with the local-maximum of the dynamic stochastic general equilibrium world, when we should be in “broad-exploration” mode. ...

The periphery of macroeconomics has proven to be more useful than the macro machine-building mode of the core to help our understanding of significant macroeconomic events. For example, in the context of the current financial and economic crisis, the periphery gave us framework to understand phenomenon such as speculative bubbles, leverage cycles, fire sales, flight to equity, margin-and collateral-constraint spirals, liquidity runs, and so on – a phenomenon that played a central role in bringing the world economy to the brink of a severe depression.”

Again, Caballero’s criticisms were mainly directed at the new Classical and New Keynesian macroeconomics, particularly, the rational expectations and the dynamic stochastic general equilibrium models. The main argument against the DSGE model is that the model is overly simplistic, focus only around the steady state. Can we guarantee the economy is always operating in the neighborhood of the steady state? There is no assurance except by belief similar to the belief in heaven and hell by Christians. This is the source of prediction failures in modern macroeconomics.

Robert Solow of MIT entered the debate and criticized modern macroeconomics in his prepared statement on July 2010 on the theme “Building a Science of Economics for the Real World” presented to the House committee on Science and Technology. In his statement Solow (2010) lamented:

“Here we are, still near the bottom of a deep and prolonged recession, with the immediate future uncertain, desperately short of jobs, and the approach to macroeconomics that dominates serious thinking, certainly in our elite universities and in many central banks and other influential policy circles, seems to have absolutely nothing to say about the problem. Not only does it offer no guidance, it really seems to have nothing useful to say.”

Solow (2010) argues that when it comes to matters as important as macroeconomics, we must insist that every proposition must pass the smell test: *does this really make sense?* He maintains that the current popular DSGE models

do not pass the smell test. The DSGE model has nothing useful to say about anti-recession policy because it has built into its essentially implausible assumptions the conclusion that there is nothing for macroeconomic policy to do.

3. Key responses to the criticisms

Indeed as no revolution go without resistance, many senior figures in economics have formally or informally responded to the various criticisms that have been leveled against modern macroeconomics. In this section of the paper, we present the key response to the various criticisms leveled against modern macroeconomics presented in the previous section.

In his response to the criticisms of modern macroeconomics, Wickens (2010) grouped his defense of modern macroeconomics under the following headings: abstraction and formality; rational expectations; macroeconomic Shocks; modern macroeconomics and traditional econometrics and finance. Recall from the previous section that one of the points that Krugman raised against modern macroeconomics is its over reliance on mathematics. In particular, it has been firmly argued that abstraction and the use of mathematics, has caused macroeconomics to take a wrong path compared with the informal wisdom of economics of Keynes who brought up on Marshall's methodology deliberately eschewed the use of mathematics. In his reaction to this criticism, Wickens (2010) maintain that these are old criticisms of macroeconomics which extend to economics in general and hence surprising that they should be resurrected once more as an explanation of the recent financial crisis. He argues further that the use of mathematics is easily justified: it simply ensures that the logic of the argument is carried out correctly.

An assumption that has received brutal attack is the rational expectations. In defending this assumption, Wickens (2010), first acknowledges that it is difficult that any economist, including modern macroeconomists, believe that people are completely rational. He however, maintains that the attraction of the rational expectations was that it implied that current errors could not be predicted from past errors. Further, it also enabled expectations formation to be placed on equal footing as most other economic decisions. A related hypothesis to the rational expectations

that has received much of the blame for the recent financial crisis is the efficient market hypothesis (EMH). For instance Mr. Krugman maintains that

“the EMH asserts that financial markets always get asset prices right given the available information where as many real-world investors bear little resemblance to the cool calculators of efficient-market theory: they are all too subject to herd behaviour, to bouts of irrational exuberance and unwarranted panic. Wickens (2010) however, argues that these criticisms of the EMH are dangerously simplistic as they ignore the many qualifications made in the EMH that are required for its prediction that market prices all assets correctly.

Another senior economist that has responded to the criticisms of modern macroeconomics is Chicago based economist, John Cochrane. Cochrane (19/09/2009) directed his responses specifically to the points raised against macroeconomics by Paul Krugman. Cochrane organized his reaction specifically around the efficient market hypothesis, fiscal stimulus, the financial crisis and the future of economics. With regards to the efficient market hypothesis, his defense was that:

“It’s fun to say that we didn’t see the crisis coming, but the central empirical prediction of the efficient markets hypothesis is precisely that nobody can tell where markets are going – neither benevolent government bureaucrats, nor crafty hedge-fund managers, nor ivory-tower academics. This is probably the best-tested proposition in all the social sciences.”

With regards to fiscal stimulus, Cochrane argues that nobody ever asserted that an increase in government spending cannot, under any circumstances, increase employment. He maintains that Krugman’s allegation is unsupported by any serious review of professional writings. On the causes of the financial crisis, Cochrane argues that Krugman has absolutely no idea about what caused the financial crisis, what policies might have prevented it, and what policies we should adopt in going forward.

On the future of economics, Cochrane’s position is that the changes suggested by Krugman are incompatible. His first point here was in relation to Krugman’s suggestion that future models of macroeconomics should recognize flaws and

frictions and incorporates alternative assumptions about behaviour, especially towards risk-taking. Cochrane's reaction to this is:

“Hello, Paul, where have you been for the last 30 years? Macroeconomists have not spent 30 years admiring the eternal verities of Kydland and Prescott's 1982 paper. Pretty much all we have been doing for 30 years is introducing flaws, frictions and new behaviours, especially new models of attitudes to risk and comparing the resulting model quantitatively, to data.

On Krugman's suggestion of a return to Keynesianism, this is what Cochrane has to say:

“Krugman argues that a more or less Keynesian view is the only plausible game in town and Keynesian economics remains the best framework we have for making sense of recessions and depressions. One thing is pretty clear by now, that when economics incorporates flaws and frictions, the result will not be to rehabilitate an 80 year old book. As Paul bemoans, the new Keynesians who did just what he asks, putting Keynes inspired price-stickiness into logically coherent models, ended up with something that looked a lot more like monetarism.”

Cochrane's last response to Krugman's suggestions is in relation to the use of mathematics in economics. In his defense for the use of mathematics in economics, Cochrane argues that mathematics in economics serves to keep the logic straight, to make sure that the “then” really does follow the “if”, which it is so frequently does not if you just write prose.

4. Conclusion and discussions

From the presentation above, we could summarize the main arguments under the following methodological headings: *realism of assumptions, mathematical formalism and empiricism and falsification*. The criticisms of the rational expectations hypothesis and the efficient market model that have received much of the blame of the recent financial and economic crisis have centered on their unrealistic assumptions. Similarly, the dynamic stochastic general equilibrium model has been attacked on its stylized assumptions and excessive abstraction from

reality. In particular the model has no role for financial markets and banks in general. The problem that it poses here is that the model does not capture how shocks to financial markets transmit to the rest of the economy. Neither can the model tell how real shock (productivity/technology shocks) will affect the financial sector and its feedback nodes. These are clear methodological limitations to these models concerning their assumptions and the degree of abstraction. The question of whether realism of assumption matter plays a role here. To buttress this point we quote from Stiglitz (2009):

“As the depression faded into distant memory, the economics profession lost sight of these lessons. Dogmas and doctrines holding that markets worked well and that they were self-correcting once again came to predominate. This time, the theories were more sophisticated, but the underlying assumptions were equally irrelevant. These ideas helped shaped the intellectual milieu which gave rise to the flawed policies, in turn, gave rise to the crisis.”

Stiglitz (2009) argued further that the models that have predominated within macroeconomics, which assume representative agents with rational expectations, are particularly disturbing.

“The representative agent models ignore the rich diversity of our economy – a diversity that is at the heart of some of the problems it faces. An economy with a single individual has no lenders and no borrowers, no problems of asymmetric information, no need for banks, no need to ascertain creditworthiness – in short, is missing everything that is important. Remarkably, most of the economics profession focused on models that have almost nothing to say about the crisis we are facing. Stiglitz (2009)”.

Another central area of fundamental dispute with regards to the current state of modern macroeconomics is mathematical formalism. This point was particularly raised by Paul Krugman. This criticism has been well responded to, for instance by John Cochrane of Chicago, arguing that the mathematics gets the logic straight better than writing in prose. This is generally true for general economics. Macroeconomics needs a particular consideration on the over reliance on mathematics. Rigorous mathematics in macro models breaks communication between the academic macroeconomist and the policy maker. The claim that it was the failure to use modern macroeconomics rather than its use by Wickens (2010)

that led to the financial and economic crisis calls for worry here. If indeed policy makers drop the prescriptions from modern macroeconomics from their tool kits, it could probably be due to the fact that the macroeconomists were speaking a strange language to policy makers. While we aim at logical consistency and clarity, we should concurrently ensure that policy makers do understand the language. While mathematical formalism leads to consistency and precision in economic analysis, it equally loses contact with the reality when the esoteric details of formulations are emphasized over the more important areas of policy. Clower (1995) expressed this concern by distinguishing between the real world and models world. The question then is whether propositions derived from the model are of use to real world and hence has any policy relevance. Summers (1991), has claimed that informal empirical methods have had far more impact on macroeconomics than the results of any formal econometric models. And according to Keynes “*It's better to be roughly right than precisely wrong*”.

Last but not the least, criticisms of modern macroeconomics and the response to such criticisms has centered also around empiricism and falsification of modern macroeconomic models. Critics of macroeconomics have argued that predictions of modern macroeconomic models are contradicted by empirical observation. Macroeconomists as a group, looking through their elegant rational expectations dressed up in the so-called New-Keynesian Macroeconomics with DSGE as its workhorse could not sense any bad times ahead until the crisis struck deep. Juselius (1999) argues that to confront models with evidence, model formulation is paramount. Thus the traditional approach of formulating deterministic models with incorporation of error terms for purposes of inferences on parameter values should be ditched for stochastic formulations. The above sources of dispute – unrealistic assumptions, mathematical formalism and falsification of macroeconomic theories – are in fact nested. The use of mathematics requires simplifying, often unrealistic assumptions. Much of important aspects of real world economic system are cutoff in mathematical model building, as is typical of DSGE model and representative agent models in general. With these high levels of abstractions and bogus assumptions and hypothesis like rational expectations, market efficiency and invisible hand, there was no way such models could predict real world economic phenomenon. If modern macroeconomists predicted anything correct, it was only in the class room, not in the policy arena; their models have no place there. Modern

macroeconomics is only good for mental exercises; its policy relevance is in high disrepute. What we call predictions in macroeconomics take place ex-post. The subject has therefore no solution to the nature and quality of any crisis in the now and future. There is thus the need for serious rethinking of the future of macroeconomics if its relevance to policy is to be maintained.

Even within the quagmire of an economic crisis, there are fewer consensuses regarding what should be the appropriate policy to rising debt levels, smoothing business cycles and correcting failures in the market system. This is very well encapsulated by George Bernard Shaw's insight that "if economist were laid end to end, they would not reach a conclusion". The key to explaining this however, lies in the fundamental distinction between reality and illusion, and this in turn is a function of perception. We can obviously take the middle way by saying that because of differences in scientific judgment and values, some disagreements among macroeconomist are inevitable. However, that leaves the question only partially addressed. Perception is a function of the perceiver, in this case the macroeconomist. And each individual macroeconomist can only perceive a very limited expanse of what is perceivable, hence limiting the extent of awareness possible within an endless stream of consciousness. Every thought of the macroeconomist thus only makes up some segment of the world that s/he sees. It is with these thoughts, then, that macroeconomists tend to work with and to change the world implies a change in the perception of the world. To this end we can say perception is very consistent. What the macroeconomist sees reflects his/her thinking. Thus all models and policy prescription must of necessity arise from the particular way in which any given economist views the world. Yet, over time, it has become the norm to view macroeconomic models and policies as omnibus and very much applicable to large sections of society and countries, and in fact the world. It is therefore not an overstatement to conclude that most of what we have come to consider as models and policy are nothing but mere aberration's in the minds of macroeconomists. A belief in non-exist phenomenon can have no bearing at all on what is real. Our main point therefore is that mainstream formulation, modeling, forecasting and policy prescriptions have always been based on these very narrow perceptions of reality.

The other strand of our argument is that mainstream macroeconomics lack self-knowledge: knowledge beyond the external events and their underlying

internal impulses that give rise to the concepts and phenomena macroeconomists study. This is where economics, psychology and philosophy must look for answers to all crisis situations such as the current one. As C.J Jung argues in the *Undiscovered Self* (Jung, 1958), most macroeconomist confuse real knowledge of the economy with what illusion present as real. And it is not uncommon to assume without any challenge that what rational thinkers prescribe for the world is all there is to know. Thus in the main, macroeconomist spend their time interacting with very subjective and unconscious elements of their petty minds without recourse to the underlying impulses that gave birth to those elements. The totality of what gives rise to national income, exchange rate dynamics, financial development among other issues in economics are for the most part hidden from economist who analyses and theorize about them. Not only this, but also most of the totality of the events surrounding the macroeconomist is completely unknown to him. What is commonly called knowledge in economics and related disciplines is therefore a very limited knowledge and most of it dependent on social factors of what is already known by our limited perception. The proof of this is seen in the countless repetition of the same cyclical events in the economy with exact precision with only minor changes within the time-space paradigm.

Self-knowledge is what macroeconomics need and this involves getting to know individual facts. In this respect theory, models and concepts are of little help. For the more a theory or model lay claim to universal validity, the less capable it is of doing justice to individual facts. Any theory based on experience is necessarily statistical; that is to say it formulates an ideal average which abolishes all exceptions at either end of the scale and replaces them by an abstract mean. This mean may be quite valid but it need not necessarily occur in reality. Despite this it figures in macroeconomic theory as an unassailable fundamental fact. The exceptions on either extreme, though equally factual, do not appear in the final result at all, since they cancel each other out (see Jung, 1958).

The statistical method shows the facts in the light of the ideal average but does not give us a picture of their empirical reality. While reflecting an indisputable aspect of reality, it can falsify the actual truth in a most misleading way. This is true of theories which are based on statistics and econometrics and the corresponding forecasts and policy arising from them. The distinctive thing about real facts, however, is their individuality. Not to put too fine a point on it, one

could say that the real picture consists of nothing but exceptions to the rule, and that, in consequence, absolute reality has predominantly the character of irregularity. These considerations must be borne in mind whenever there is talk of theory serving as a guide to policy. There is, and can be no self-knowledge based on theoretical assumptions, for the object of self-knowledge is an individual—a relative exception and irregular phenomena. Hence it is not the universal and the regular that characterize the individual but rather the unique.

Our conclusion from this review is that, though we do not support the position of most critics on the view that macroeconomics of the last 30 years is completely useless, we are of the view that there is need for serious rethinking about the future of macroeconomics. This is the only way forward, if the subject has anything to say about policy.

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