

Introduction: passing the smell test

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What is the relevance of macroeconomics today? The crisis that has been raging since 2007 has spread to economic theories, and it might seem that it is no longer possible to do macroeconomics as before. But what version of macroeconomics was at fault here? Macroeconomic questions have not really changed: they examine growth and fluctuations of the broad national aggregates (national income, employment, inflation, investment, consumer spending or international trade). How are these fundamental aggregates determined, and how differently should we think about them? The economic world is too complex to be thought about 'raw', so the use of a model to answer these questions helps make deductions and justify conclusions. It is easier, then, to perceive what beliefs they have been based on, and to challenge them. Economic concepts are not built to be put on a computer and run.¹ It is thus all the more important to point out fragility or recklessness wherever it appears. If intuition does not suffice to reject the hypothesis and reasoning, then experimentation must confirm our instincts: does it pass the smell test?

Economists do not directly perceive the concreteness of their world, but engage in diverse manoeuvres that seek to prepare that world for investigation. Using various abstractions and omissions, they build models to describe simple imaginary stage sets. Models are constructed rather than discovered; they are socially built because scientific work is an intrinsically social activity. If economic models of human interactions are socially constructed by economists, the social world is not constructed by the modelling practices of economists. It is from this standpoint that the authors of this volume offer to take stock of their discipline, with all its variety, from ancient to modern macro, or vice versa.

Since the late 1970s, a majority of macroeconomists have focused on developing what they call the 'modern macroeconomics of business cycle fluctuations'. Until the world entered a crisis initiated by subprime mortgage defaults, excessive leveraging followed by deleveraging, output and employment meltdowns and destruction of perceived wealth, there was a common belief that macroeconomic truth had been discovered. A

consensus had emerged about models that combined new-classical market clearing with the New-Keynesian contribution of sticky prices and other frictions. Along the way, contributions to this current had concluded that the great moderation of macroeconomic volatility in the 1984–2007 period was a positive side effect of their analysis. Neither the proponents of ‘modern macro’ nor the adherents of Keynesian ideas anticipated the crisis in advance (although there were exceptions, and mostly on the Keynesian side).

This book is consequently neither a programme of intellectual conservatism nor a nostalgic manifesto. Its discussion of the past, current or future state of macroeconomics is not a matter of being for or against a model. It does not argue that sounder economic reasoning will imply abandoning the use of formal mathematical analysis. Models provide a formal summary of how one experiences the economy: there is a set of variables, and the logical relationships between them represent economic processes. They make it easier to see how strong the assumptions must be for an argument to be valid, and how different conclusions depend on slight deviations in specific assumptions. How well they do that depends on how closely the assumptions resemble the world we live in. Economics is not the physics of society, and policy advisers cannot apply economics the way engineers use physical models.² History has shown that economic analysis should result in a collection of models contingent on circumstances, and not in a single, monolithic model for all seasons.

Our focus here is the relevance of contemporary macroeconomic ideas, which implies going back to the hypotheses and the causalities that founded the discipline. Fundamental macro still appeals to economists in its early versions. If you wake any economist in the middle of the night, our bet is that he or she would automatically think according to early macro, whether you choose to call it ‘1978-era macro’ as Robert Gordon,³ ‘primeval macro’ as Paul Krugman,⁴ or ‘eclectic Keynesianism’ as Robert Solow. Old-fashioned macro remains a useful tool for carrying out practical policy analysis. At times like the present, when the (world) economy is clearly suffering from almost universal shortage of demand, policy analysis has little need of ‘micro-founded’ intertemporal maximization. The quasi-static goods–bonds–money model respects the essential added-up constraints and represents the motives and behaviour of individuals in a sensible way, without containing any superfluous moving parts.⁵

Old-fashioned macro can even help us think about the relationships between markets and how the whole system fits together, not only producing two goods, but multiple goods where some pairs of goods might be substitutes or complements. Three decades of rational expectations, equilibrium business cycles, the new economy, or rescue plans have nonetheless

shown that debates about the actual state of affairs are always informed, sometimes implicitly, by old-fashioned macro. Although the traditional framework has remained the basis for most discussion, it has increasingly been pushed out of universities and research centres. As expressed in journals, conferences and speeches, 'modern macro' has become dominant.

Throughout the book, the contributors recurrently wonder in what ways this modern version belongs in 'macro'. Focus on individual preferences and production functions misses the essence of macro fluctuations, the coordination failures and the macro externalities that convert interactions among individual choices into constraints that prevent workers from optimizing working hours and firms from optimizing utilization, production and sales. By definition, modern macroeconomic models exclude involuntary unemployment (except through wage rigidities) and possess perfect capital markets; they fail to reproduce the observed dynamics of the economy with reasonable parameters. They had nothing useful to say about anti-recession policy, because they had built into implausible assumptions the impossibility of a crisis. They concluded that there was nothing for macroeconomic policy to do.

On the policy front, the precision of the model created the illusion that a minor adjustment in the standard policy framework could prevent future crises. With the economy attached to a highly leveraged, weakly regulated financial system, such reasoning and consequential inaction have proved unfounded. And the approach was no less false in earlier recessions that followed different patterns. If many economists have been led astray by reliance on certain categories of formal models, the consequences of such oversights have not only been methodological, but have challenged the legitimacy of the profession. This book wants to help expand the conversation on realism in macroeconomics. The contributors do not want the same answer for everything; they are looking for as many answers as there are questions.

In Chapter 1, Xavier Timbeau describes the contemporary challenge of economics by putting into perspective the criticisms of modern macroeconomics. Why do so many publications have so little to say about the crisis? Is this a failure of modern economic research in general, or specifically that of the dominant theory? The crisis has represented a profound violation of its world view, and has challenged many of its axioms. How can one determine a permanent income in such an event? How can one imagine companies going through the crisis independently of their balance sheet structure? How can one believe that people have reliable knowledge about the future when governments are embarking on massive stimulus packages? It becomes impossible to defend unrealistic axioms in the face of such overwhelming questions. The crisis has shown that uncertainty

is radical, and the heterogeneity of agents is central to human activity. These two elements interact, and one cannot analyse the economy without taking into consideration the nature of expectations. The crisis invites us to re-evaluate experimentation: it does not involve choosing the most realistic model out of a set of models, knowing that even the most realistic one is not credible.

A systematic comparative approach to macroeconomic modelling is proposed by Volker Wieland in Chapter 2, with the objective of identifying policy recommendations that are robust to uncertainty. By examining multiple structural macroeconomic models, he evaluates their likely impact if applied. Wieland suggests organizing a level playing field on which models can compete and empirical benchmarks – which the models must satisfy to stay in the race – can be determined. The breadth of the models covered makes it possible to compare vintage and more recent Keynesian-style models for a given country or cross-country comparison between the United States, the euro area and some small open economies. Whatever the case, the assessment concerns standard New-Keynesian dynamic stochastic general equilibrium (DSGE) models and DSGE models that also include some financial or informational frictions. In the latter case, the agents are so clever that they even know the model in which they are being studied. The result is that the models' forecasts perform differently from one period to another. In recession times, no single model dominates the others. By construction, models are in fact incapable of forecasting crises. This was not only true for the 2008–09 period, but also for the four preceding ones. Even a thorough construction of the financial sector, with the inclusion of learning and beliefs, can only make a crisis conceivable, and possibly understandable.

From the perspective of an international economist, in Chapter 3, Giancarlo Corsetti carries out an admittedly biased review of emerging issues in macroeconomics. This involves judging the vitality of different macroeconomic currents based on questions that the crisis is forcing us to address. How are shocks transmitted? What is the role of financial channels in magnifying shocks or in translating financial disturbances into real ones? What is the extent of misallocation at the source? Corsetti concentrates on the opposition between liquidity runs versus policy/market distortions. Both must be overcome theoretically as much as politically: it is a question of guarantees versus market discipline, implying the removal or correction of policy. A highly stylized model discusses over-borrowing and exchange rate misalignments as general features of economies in which financial markets are incomplete. How can one build the framework in which the international dimensions of the crisis, ranging from global imbalances, to fiscal crisis and cross-border contagion, have so far

typically been analysed as independent phenomena rather than as parts of the same process?

In Chapter 4, Jean-Bernard Chatelain lays out the historical conditions of how models are adopted and re-evaluated. Research results shape people's beliefs, and policy advice based on economic theories shapes economic policies. These in turn shape the economy. People's beliefs and economic facts are connected through mechanisms of self-fulfilment and self-defeat. In 'modern macro', models give a complete description of a hypothetical world, and its actors are assumed to understand the world in the same way it is represented in the model. When the complete economic systems happen to resemble experience, they are so pared down that everything about them is either known, or can be made up. Although fundamental to contemporary macroeconomics, questions such as (a) the impact of banking leverage, (b) interbank liquidity, (c) large shocks, (d) fire sales and (e) systemic crisis have consequently remained dangerously unaddressed. If weakly regulated financial sectors can be integrated into the models and the efficient capital market hypothesis can be rejected, then economists must investigate beyond macroeconomic policies. They will have to examine the interplay between innovative macroeconomic strategies and feasible banking and financial regulatory policy at the micro level, as well as political economy issues.

If the crisis has set a major challenge for alternative theories, those which link micro-behaviour with aggregate dynamics have a major advantage. In Chapter 5, Giovanni Dosi and his colleagues develop an evolutionary model, which goes back to basic Keynesian issues. The model first examines the processes by which technological change affects macro variables, such as unemployment, output fluctuations and average growth rates. The model then deals with the way endogenous, firm-specific changes in the supply side of the economy interact with demand conditions. Finally, the chapter explores the possible existence of long-term effects of demand variations. Is long-term growth only driven by changes in technology, or does aggregate demand affect future dynamics? Are there multiple growth paths whose selection depends on demand and institutional conditions?

In Chapter 6, Paul De Grauwe tackles the subject of strong growth followed by sharp declines. His model, written in the behavioural vein, is compared to a DSGE model where agents experience no cognitive limitations. De Grauwe's hypothesis forces agents to use simple rules to forecast output and inflation, and rationality is introduced by assuming a learning mechanism that allows for the selection of those rules. What information is available to the agents? When and how do they correct their beliefs? Are their expectations the same during periods of growth and periods of crises? In the DSGE model, large booms and busts can only be explained

by large exogenous shocks. Price and wage rigidities then lead to wavelike movements of output and inflation. Thus, booms and busts are explained exogenously. Although it does not introduce financial markets and the banking sector, the behavioural model provides an endogenous explanation of business cycle movements. The inflation targeting regime turns out to be of great importance for stabilizing the economy in both models. In the behavioural model, this follows from the fact that credible inflation targeting also helps to reduce correlations in beliefs and the ensuing self-fulfilling waves of optimism and pessimism. Its conclusion is meaningful: strict inflation targeting cannot be an optimal policy.

Among the numerous rival research programmes, what were the criteria, and which programmes were adopted? In Chapter 7, Xavier Ragot provides an original perspective by placing himself in the position of the laboratory mouse, whose trajectory itself is the subject of observation. Within this framework, he endeavours to formalize Keynesian intuitions. The benchmarks of economic research have themselves been under debate: should they be able to reproduce past historical data, make better predictions than the others, or make fewer mistakes, and over what time horizon? A considerable simplification in the modelling strategy has clearly been decisive. In the dominant current, it has reduced macroeconomics to microeconomics, with one sole agent and one good. Ragot evaluates how the questions of information and frictions on the markets have challenged or reinforced the programme. New questions, however, are still being posed inside the community of economists. Like lab mice, researchers look for the cheese without knowing which labyrinth they were put in, and they may find themselves at a loss if the cheese is suddenly moved. The effervescence in the work produced by economists has not been on a par with the issues at stake. A new research programme and perhaps a new paradigm are needed, Ragot believes, and the cheese may have to wait a long time if the mice are in the wrong maze.

In the round table discussion that concludes this volume (Chapter 8), Wendy Carlin recalls the experience of the euro. The eurozone's first decade was celebrated as a success, before it was swiftly followed by a major crisis. Beneath the surface of the successful achievement of inflation close to target and a modest output gap for the eurozone as a whole, the diverse performance of its members reflected the failure of countries to implement stabilization policy at the national level in response to country-specific shocks. The macroeconomic apparatus at stake in Europe was not simply a powerful modelling tool, and its methods and recommendations may not have been at the service of building and improving the policy regime. It has rather dictated or defined those things. Fundamentally, good models of the leverage cycle need to be built to incorporate distribu-

tional effects. If a process is underway of moving to a new macroeconomic paradigm and policy regime, in what ways will it contain the seeds of the next crisis?

Robert J. Gordon takes an American perspective to clarify the co-existence of the Great Depression, the Japanese lost decade(s) and the Great Moderation followed by the Great American Slump. From the structure of shocks and propagation mechanisms, what can be learned from history about shocks? What are the propagation mechanisms that are essential to explaining this history? To answer these questions, Gordon points out, just as the other contributors to this book, that economists must not be too parsimonious: their 'models must be as simple as possible, but not more so'.⁶

NOTES

1. Lucas, R. (1988), 'On the mechanics of economic development', *Journal of Monetary Economics*, **22**(1), July, 3–42.
2. Among the pioneers who developed mathematical modelling for the social sphere, Augustin Cournot (1801–77) affirmed the mathematization of social phenomena as an essential principle. He made clear, however, that economics could not be constructed as an axiomatically based hard science, and that the scientific approach for understanding how society functions should not lead, in and of itself, to policy recommendations.
3. Gordon, R.J. (2009), *Is Modern Macro or 1978-era Macro more Relevant to Understanding the Crisis?*, Contribution to the International Colloquium on the History of Economic Thought, Sao Paulo, Brazil, 3 August.
4. Krugman, P. (2012), 'There is something about macro', MIT course, available at: <http://web.mit.edu/krugman/www/islm.html>.
5. Krugman, P. (2012), 'The macro wars are not over', *The New York Times*, 23 March.
6. Quote from Albert Einstein by Robert Solow during the round table.