Foreword: Implementing a new curriculum for economics education after the crisis: a call for action

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Abstract: The financial and economic crisis that has been devastating a number of countries in the world since its outbreak in 2007–2008 originates in the currently still dominant paradigm in both finance and economics. The contributions selected for this special issue explain collectively that the only possible exit strategy from the ongoing crisis requires a fundamental change in the way and means that both teachers and researchers in economics put to practical use at secondary and university levels. The call for action that stems from the selected papers offers a variety of lines to reforming the economics curriculum on pluralistic grounds.

Keywords: critical thinking; economics education; financial and economic crisis; fiscal policy; macroeconomics; methodology in economics; monetary policy; pluralism.


Biographical notes: Sergio Rossi holds a PhD in Political Economy (1996) from the University of Fribourg, Switzerland and a PhD in Economics (2000) from University College London. He is a Full Professor of Economics at the University of Fribourg, where he holds the Chair of Macroeconomics and Monetary Economics since 2005. His research interests are in the area of monetary macroeconomics, where he has authored and edited many books, contributed a number of chapters to books, and widely published in academic journals.
1 Introduction

The financial and economic crisis that is ravaging the global economy at the time of this writing, particularly within the euro area, has become a widely-debated issue around the world. The challenges that this crisis poses to policy makers are unparalleled in history, as they concern a variety of problems whose solution is highly controversial as well as a conundrum for the conflicts they raise in addressing and solving them simultaneously or within a short period of time. The neoliberal approach to economic policy, which is still dominant in nearly all countries hit by the crisis, either owing to external constraints (as in Greece) or because of the government ideology, can offer no viable solutions. Indeed, the idea of ‘expansionary austerity’ is but a chimera: when neither consumers nor firms in the private sector are willing or in a position to expand global demand, because of the current or expected level of economic activity, cutting public spending and raising taxes (particularly on consumption goods, like value-added taxes) cannot but add to recession. Austerity plans give rise to a perverse effect, since they increase (rather than decrease) the targeted public-deficit-to-GDP ratio, thereby eliciting a negative spiral that affects in the end the whole economy damagingly.

Further, liberalising the labour market does not represent a solution, but is rather a curse: firms are set free to fire workers (who are thus less prone to spending) and to hire them with a temporary-job agreement (thus reducing their propensity to consume in light of higher job insecurity). Indeed, this liberalisation, as observed in Europe at the time of writing, does not induce the creation of new firms – or the expansion of economic activity – since no business person will ever invest capital in producing goods or services that no one can buy, owing to a lack of disposable income within and beyond the country’s borders.

Despite the fact that, in a number of countries, a variety of non-financial firms can dispose of a huge amount of funds in order for them to invest and expand economic activity, these firms prefer to keep their funds within the banking system, because of a lack of demand for their produced goods and services. As a result, the current economic recession will continue to aggravate, unless governments decide to implement expansionary fiscal policies, as suggested by Keynes at the time of the Great Depression. If the public sector increases its own spending, indeed, the private sector economy (formed by households and financial as well as non-financial businesses of any type and size) will benefit from this counter-cyclical fiscal policy and be induced to stimulate global demand further, thus enabling governments to earn fiscal revenues in order for them to balance their budgets and reimburse the maturing public debt.
Unfortunately, these simple prolegomena to a sound economic analysis do not feature in the large majority of economics programmes at universities around the world, with few notable exceptions where economics departments have a pluralistic or heterodox approach to contemporary issues in the relevant subject matter. This special issue of the *International Journal of Pluralism and Economics Education* aims therefore at contributing to the much-needed change in economics education, in light of the major shortcomings that the crisis has revealed – to those willing and capable to see them – regarding mainstream economics. The selected papers forming this special issue highlight a number of fundamental changes to be carried out in economics education before long, in order for the latter to learn the principal lessons that can and must be induced from the first systemic crisis of finance-dominated capitalism [see Rochon and Rossi (2010) for an analysis of the essential factors of this crisis].

The next section provides an overview of each contributed paper, and explains how the latter is a constituent part of the collective research work whose intermediate results are presented in this special issue. The third section summarises the main lessons that stem from the current crisis and that should feature in any economics education curriculum at the university level. The last section provides a ‘road map’ for researchers in economics in order to re-establish their usefulness in addressing the world’s most urgent economic problems.

2 An overview of the contributions to this issue

The current economic crisis being the result of the bursting of a global financial crisis in 2008 (after the failure of Lehman Brothers in the USA), it is but natural that the first paper in this special issue focuses on that financial crisis. Poul Thøis Madsen aims at knowing if this crisis has changed the best-selling principles-of-economics textbooks in the USA. His analysis identifies seven main changes in these textbooks that their authors have made collectively as a reaction to the financial crisis, as follows:

1. the existing contents have been reorganised so that the structure of the textbook has been modified to take into account the financial crisis
2. some new theoretical concepts have been introduced, whilst existing concepts have been developed and applied to the financial crisis
3. some textbooks point out a number of disagreements among economists concerning possible causes of, remedies towards, and actual or theoretical consequences of the financial crisis
4. the global financial crisis is briefly analysed in light of previous financial crises
5. the global financial crisis is briefly presented with its most important features or by devoting an entire chapter to financial crises
6. the main changes in fiscal and monetary policies as a result of the global financial crisis are presented
7. the possible long-run effects of the global financial crisis are discussed briefly.
Madsen notes that it is only when considered altogether that these best-selling textbooks address the seven points summarised above: as individual contributions, these textbooks do not succeed at all in integrating the financial crisis in their presentation of economics principles. Further, some of the above points are dealt with very briefly, and most of the changes are descriptive rather than analytical and without any theoretical anchoring.

The Madsen analysis shows that principles of economics textbooks have thus a long way to go to improve the integration of the financial crisis. In turning the seven points above into recommendations, Madsen explains how textbooks’ authors could take the global financial crisis far more seriously even though they are not ready to change their paradigm fundamentally. This would, however, at least require:

a. a discussion of the objectives of economic policy in the current situation (lowering unemployment rates rather than focusing on inflation and inflationary expectations)
b. a development of the coverage of the financial sector and the global financial crisis both theoretically and historically
c. an application of the existing theoretical apparatus in discussing the causes for and likely consequences of the financial crisis on magnitudes such as economic growth, inflation, public deficits and debt, as well as current and capital account imbalances
d. a more thorough discussion of the true reasons for disagreement among economists concerning the causes, remedies, and consequences of the financial crisis
e. a discussion of the possible microeconomic effects of the financial crisis (textbooks tend so far to discuss macroeconomic effects only)
f. a discussion of possible long-run effects of the financial crisis (on the independence of central banks, the role of fiscal and monetary policies, growth versus austerity).

As Madsen argues, making the discussion of the global financial crisis more analytical and theoretically founded would make it possible to demonstrate the relevance and also the weaknesses of parts of economic theory to students, thereby enhancing their interest, sense of relevance, and learning. This would require developing the curriculum in economics education to incorporate theoretical and historical dimensions of the global financial crisis, combined with a more pluralistic approach integrating conflicting interpretations of that financial crisis and its causes, remedies, and possible effects.

The need to improve the theoretical foundations of economics education is also pointed out by Oliver Simon Baer in his contribution. Baer argues that a more careful use of language in economics education will prove to be a valuable piece of equipment for the next generation of economists, who must be provided with a sound theoretical understanding of any economic phenomenon in order for them to take appropriate decisions at the individual, business or policy-making level. As Baer notes, educators can greatly improve economics courses by insisting on a more precise use of words in their classes. By critically discussing the different meanings of ‘the market’ in Mankiw’s Essentials of Economics, Baer points out how ambiguous language is too often used in today’s economics courses. Over the course of time, ‘the market’ has indeed been associated with a cacophony of meanings that make an unprejudiced treatment of the subject matter difficult. In textbooks, the market is often identified with a physico-mathematical equilibrium of countervailing forces, with capitalism itself, or even with a higher being that governs our lives as if it were a force of nature.
Because sloppy language directly translates into sloppy thinking, exact and transparent definitions are pivotal for a sound economics education. The Baer analysis shows how normative elements are smuggled into seemingly scientific theories when words are used imprecisely. This is even more problematic for economics education, since realistically teachers and lecturers often cannot decide freely which textbooks students must read. Hence, debates about a number of expressions will allow students to deepen their understanding even without greatly altering their curriculum. Openly questioning the language used in textbooks will not only sharpen students’ minds, it will also enable them to scrutinise theory and to identify any value judgements hidden in the underlying assumptions.

As Baer shows, this will allow students to develop an informed scepticism of some of the core concepts in mainstream economics, making them less susceptible to ideologies and more open to various heterodox economic theories. This approach allows Baer to explore a multilayered view of markets, which stresses the need for pluralism in economics. Following the arguments of the theory of money emissions (Rossi, 2006), Baer isolates exchange as the economic ‘core’ of markets from behavioural as well as institutional aspects. He thereby proposes a demarcation line between macroeconomics and microeconomics that can be built into a financial and economics curriculum of the future. As Baer argues, while exchange is a monetary phenomenon that is carried out by banks’ emissions of money and therefore adheres to the laws of banking, the laws that govern behaviour and institutions are in fact much more complex and diverse, so much so that a single theory or method will never capture them in their entirety. The didactical approach proposed by Baer can easily be implemented at both the university and secondary levels, because it requires no mathematical modelling but builds on two skills that students inherently possess: language and logical reasoning.

The third paper, contributed by Corinne Pastoret, elaborates on the conclusions reached by Baer arguing that economics needs critical thinking in order to evolve and to improve on its understanding of economic reality. As a matter of fact, economists have been much criticised for their failure to anticipate the 2008 economic crisis and provide solutions for a lasting recovery. Yet, as Pastoret explains, a different crisis was taking place in the background: that of the almost exclusive teachings of a single (neoclassical) paradigm in economics, and the neglect of pluralistic approaches as provided by the history of economic thought as well as any alternative economic theory or critique to mainstream (group) thinking in economics.

The analysis presented by Pastoret indicates that one of the consequences of the general impoverishment of the academic teaching of economic theory is the widespread homogenisation of the discourse of economists and its negative impact on the policies implemented at national or international level. This enshrined a theoretical rigidity for those economists who do not possess the necessary tools to understand new phenomena and make adequate policy recommendations.

Pastoret begins her analysis highlighting the discontents with the curriculum in economics education and the social role of economists. She considers in particular the ‘post-autistic’ students’ social movement in France in 2000, which deeply criticised the failures of the current curriculum to provide economics students with the tools needed to understand the (mal)functioning of the actual economic world. In order to escape the ‘autism’ of the discipline, post-autistic students urgently asked economics professors to carry out some profound reforms of the teaching of economics within universities. More recently, it was the turn of public opinions all around the world to be puzzled by the
S. Rossi and L-P. Rochon

(mainstream) economists’ failure to predict the 2008 crisis and to provide solutions for a recovery. Drawing lessons from these critiques, Pastoret emphasises the need for both pluralism and a critical theory in economics that would go beyond the unrealistic and asocial neoclassical paradigm. She draws a parallel between the educational concept of critical thinking in economics and the arguments of post-autistic economics students, who were eager to understand the complexity of the actual world in order to become useful actors of social and economic change.

The need and urgency for a pluralistic approach in teaching economics are also a matter of concern for Daniel Louis Chable. In his paper, Chable outlines an undergraduate curriculum reform of economics in Western universities centred around eight main themes following a pluralistic, interdisciplinary approach. According to Chable, a fundamental change in attitude, similar to the reaction of European thinking towards scholasticism in the seventeenth century, is necessary in economics, to permit graduates pursuing further studies or directly entering the professional world to make sensible judgements once again on matters of practical importance, instead of being straight-jacketed into formalistic reasoning based on models significantly at odds with empirical evidence at the macroeconomic level.

The Chable critiques of mainstream economics are not aimed at discrediting the theory per se. More to the point his critiques intend to reduce the unhealthy predominant role that mainstream economics plays today in academic teaching, in finance as well as in economic policies despite its visibly flagrant shortcomings. Chable begins his analysis by outlining eight main themes around which educational approaches to economics at the undergraduate level should be articulated in Western universities. He then presents specific proposals for a curriculum reform in an interdisciplinary framework. The scope of Chable’s analysis is restricted to the bachelor curriculum, since it is at this level that preparatory measures must be undertaken as a first priority in order to equip future graduates in economics with the required critical mental attitudes on entering the master’s programme or a professional career. According to Chable, the basic aim of the relevant reform should be to educate young people to give them a clear understanding of what well organised, socially responsible capitalist systems can offer to modern societies.

The analysis presented by Yulia Vymyatnina addresses this challenge, proposing a number of changes in economics education within the Russian framework. As she argues, the needed changes are motivated not only by the financial and economic crisis and the problems in the economics profession that it revealed, but also by changes in society, major educational trends, as well as the university missions. Suggested changes include a careful treatment of models and theories, development of broader understanding in social sciences, development of social responsibility among economists, and changes in the self-reproducing system of economists within academia.

According to Vymyatnina, there should be, first of all, different goals in educating BA, MA, and PhD students in economics. Of these three levels, the first two are most crucial in changing societal trends. Educational goals for MA students should prepare them for analytical work without long on-the-job training. BA level education serves rather as providing deeper general understanding of a particular area of science. At this level, it is important to give general knowledge and understanding of the various interconnectedness of social sciences. For instance, specialisation in economics requires a general knowledge of the historical, social, and political framework, and it is through these lenses that most of the subject matter should be taught.
Secondly, Vymyatnina argues in her paper that one has to account for the change in the ‘quality’ of average students entering the university today. Within the Russian framework, new students possess a very different set of characteristics (both skills and knowledge) as compared to a decade or even to just five years ago. The most worrying trend, however, is nearly absolute absence of any critical thinking – an issue addressed in the Pastoret paper. Most students expect that there is a right answer to any problems or questions raised by the teachers or the society. These trends are, probably, very different from one region or country to another, and this regional component certainly influences the reforms to be undertaken in economics education at university level.

In light of the two issues mentioned above, Vymyatnina proposes some suggestions for changing the nature of BA (and partly MA) education in economics, as follows.

- Students should be taught some baseline cases in micro- and macroeconomics. This block of courses has to include the main terms, notions, and models of economics. Its aim must be to enable students to understand basic ideas of professional or near-professional discussions of topical economics issues. However, economic theories should not be made ‘sacred cows’ that are not to be criticised, and this point has to be explained to students at the very beginning of their studies.

- The mathematical part of the curriculum at the BA level should not be as important as it is today: mathematics should be taught at the minimum level required to enable students’ understanding of the essence of so-called optimisation principles and basic economic dynamics, so that they could understand the basic models. The (ab)use of mathematics made economics look as if it were a science in the sense of physics, but this false sense of superiority over other social sciences relying less on mathematics should be overcome.

- An important change that has to accompany reforms in economics education is the stress placed on a careful and honest description of all the assumptions on which any models are based. This will inevitably lead to discussions of methodological issues. While for BA students deep discussions could be too difficult to follow thoroughly, they have to understand for instance the principle of methodological individualism on which microeconomics is based, which is not really openly discussed at the BA level. MA level education in economics should include methodological discussions as one of the main components in deepening economic analysis. These discussions are to be an integral part of any course, not pushed out in courses like ‘methodology of research’ or similar ad-hoc seminars.

- After some baseline cases are taught, further education in economics should proceed through discussions of different theories or competing models. A suitable strategy in this respect is to follow the historical development of the corresponding discipline (for instance, macroeconomics), putting it in its historical, social as well as political context, thereby explaining how the conditions and prevailing ideas of each period influenced how various theories were viewed. If so, then a combination of history of economic thought and economic history seems appropriate in order to organise class discussions fruitfully.

- The previous block of courses should be based on a development of critical thinking through two important tools – essay writing (depending on the task at hand, this has to be either a predetermined task suggested by the professor or a general topic, in the
framework of which students choose on what they want to concentrate) and debating (this can be following previous essay writing, when different students or groups of students are asked to defend different viewpoints in economics). This will definitely show students that there is no one absolute truth. Most of the problems or questions asked should be formulated by teachers so as to miss some assumption, to induce students to find out the assumption that is missing and to discuss one case or several cases relevant for different ‘missing’ assumptions. This teaches students to pay attention to assumptions and to ground the argument on the chosen assumptions, to comply with the model’s assumptions, and to see also how these assumptions are bounding for economic analysis. This is a very important issue, as part of the crisis of mainstream economics lies in not discussing carefully the assumptions underlying various models within that strand of thought.

- Another important characteristic to be developed in economics students is their skill of observation: this means not only reading news, but actually wondering at what is going on and how it could be explained. Students are therefore encouraged to look, describe and analyse economic data (relevant to their specific course). Ideally, students should be taught the proper ways of dealing with data, not to get lost with spurious regressions and not to infer causality from a correlation. It is also important that they should know how to deal with data, how to interpret results, and what are the pitfalls regarding data quality, and in terms of their methodological construction and relevance for the phenomenon they are supposed to measure. Students have to get used to finding issues worth studying by looking at the world outside, not getting used too much to ground research on repeating another’s research on a different set of data, or slightly changing one assumption in the model to get a new version of it. Students have to get used to research and explain phenomena around them, not some hypothetical ideal situations as imagined by most of peer-reviewed research work.

These reforms in economics education will lead to an important change, as Vymyatnina points out: students must be given the sense of social responsibility. They should be responsible for what they are doing, thinking, and learning. There should be a moral dimension in pursuing economics. Economics should be redefined as a science working on solving the most appalling contemporary problems of mass poverty, inequality (broadly understood), environmental degradation, and so on. Students have to be confronted with the problems the world faces. This means that an important part of the economics curriculum has to focus on moral (or social) philosophy. Courses devoted to these issues have to discuss social justice theories, their validity and applicability to real-life situations and must point out what are the values underlying different economic theories.

In his paper, Sergio Rossi elaborates on these points with respect to mainstream economics. He notably explains that the financial and economic crisis has revealed a number of conceptual and methodological flaws of orthodox macroeconomic analysis. As Rossi argues, the foundations of that analysis are flawed, since they rely on rational behaviour, representative agents, and microfounded macroeconomics, where money and banking are analysed as if the microeconomics of goods and business activities applied to them. In fact, Rossi shows that macroeconomic analysis requires a systemic approach to money and banking, both of which are essential for the working of economic systems all around the world. In this regard, the paper points out how the banking system has to be integrated in economic analysis. It also shows that teaching macroeconomics requires
indeed a deep knowledge of the history of monetary thinking, and that monetary circuits best illustrate both the nature and key role played by money and banking in economic activity. It is indeed plain that every transaction implies money and involves at least a bank as settlement institution. As a matter of fact, contemporary economic systems are monetary economies of production and exchange. This observation should be enough to convey the importance of ‘monetary analysis’, which “spells denial of the proposition that, with the exception of what may be called monetary disorders, the element of money is of secondary importance in the explanation of the economic process of reality” [Schumpeter, (1954/1994), p.277]. As Schumpeter (1954/1994, p.278) puts it, “monetary analysis introduces the element of money on the very ground floor of our analytic structure and abandons the idea that all essential features of economic life can be represented by a barter-economy model”. The Rossi paper sets off from this perspective, and argues that money, banking and finance require a macroeconomic understanding to avoid another systemic crisis. It provides thereby a critical appraisal of neoclassical monetary economics, to show that this approach is flawed both conceptually and methodologically. Rossi presents therefore a truly macroeconomic or ‘systemic’ approach to money and banking, explaining both of them with regard to the monetary circuit that encompasses all transactions in any market. This allows him to conclude elaborating on the proper role of monetary policy in such a framework.

The seventh paper, contributed by Hassan Bougrine, considers monetary policy from the perspective of so-called neo-chartalists. The paper starts with some of the challenges that neoclassical monetary economics poses to those teachers explaining that money is not a commodity, that it is not backed by gold, and that it is not scarce. Bougrine notes that one thing which fascinates students is when they discover that money can actually be created at will ex nihilo, with a simple stroke of a banker’s pen. He then discusses the role of commercial banks in issuing money when a borrower draws on the credit line he or she received from a bank, thus reversing the established (orthodox) view according to which ‘deposits create loans’. According to Bougrine, the loans-to-deposit causality is enough in order for the central bank to pay for any government expenditures without the need to have pre-existent tax receipts. As Bougrine argues, this view induces students to ask a series of challenging questions. If money can be created so easily, why is there so much poverty? Why do not we have all the schools and hospitals we need? And why is public infrastructure so under-developed or inexistent in various countries? Students are thus led to formulate the correct economic (fiscal and monetary) policies that are needed for the creation of wealth and prosperity, considering various issues. Is not there a risk of creating too much money and therefore causing inflation? Can the creation of money be controlled? In addressing these questions, Bougrine discusses the role played by the central bank in setting interest rates and using different instruments and mechanisms to influence the total sum of deposits within the banking system as a whole.

In the last paper, Louis-Philippe Rochon elaborates on monetary policy, pointing out the changes that should be made in teaching this subject matter at the undergraduate level after the global financial and economic crisis. As a matter of fact, this crisis has seen central banks around the world turn to some rather heterodox practices in order to deal with the economic slowdown and the ensuing ‘great recession’. In particular, the Federal Reserve in the USA has made considerable use of ‘quantitative easing’ (QE). As such, this practice marked a great departure from standard or textbook treatments of monetary policy, whether neoclassical, or under its New Consensus representation. Yet, for post-Keynesian economists, QE is ‘much ado about nothing’ and a practice wholly
S. Rossi and L-P. Rochon

consistent with the overall conduct of monetary policy. Rochon argues thereby that the economics profession at large has been teaching the fundamentally wrong theory of money and, as a result, reached some rather startling conclusions as regards QE.

3 Main lessons from the crisis for economics education

The contributions gathered in this special issue point collectively to a number of lessons that must be drawn for economics education. In fact, these lessons are important both at the educational level and for economic-policy making all around the world. Let us stress a number of major changes that have to be introduced in economics education in light of the recent global financial and economic crisis.

First, at the methodological level, the orderly or disorderly working of economic systems should be learned and appraised with a truly macroeconomic (to wit, systemic) approach. As King (2012) shows, macroeconomics has its own analytical methods, and cannot be reduced to microeconomics. Aggregating representative agents or goods, and then considering the aggregate as a macroeconomic magnitude or phenomenon, can lead to results that are either wrong or misleading, as Samuelson (1955) pointed out referring to the now famous ‘fallacy of composition’ [see Caballero, (1992), p.1279]. As a matter of fact, understanding the global financial crisis that has been triggered by the failure of Lehman Brothers in the USA (on 15 September 2008) requires a truly systemic approach, because a number of banks as well as non-bank financial institutions are now largely interconnected, both within and beyond a country’s borders (Panza and Rossi, 2011). Indeed, financial stability cannot be assessed and preserved on microeconomic grounds, because of these interconnections that form a network of relations that imply the system as a whole. As a result, both our financial and economic systems require that macroeconomic analysis has truly macroeconomic foundations, in order for it to grasp the systemic dimension that a variety of financial or economic transactions elicit at the international and/or domestic level, independently of agents’ forms of behaviour (Rossi, 2010).

Secondly, economics education has to be grounded on a deep knowledge of both economic history and the history of economic thought. Economic history is relevant at a factual and analytical level. As a matter of fact, the development of the euro-area crisis at the time of writing is best explained (and predicted) by historians rather than by the mainstream economics profession. As Mark Twain put it, “history does not repeat itself, but it does rhyme”. Studying economic history allows one to understand the complexity of causes and consequences of major economic events (like the Great Depression, and a number of financial crises all around the world), including economic-policy mistakes. In addition, and as an analytical complement to economic history, the history of economic thinking provides both students and scholars with the theoretical framework that authors of the (distant or recent) past considered in their positive and normative analyses. These investigations must be appraised within their historical framework, to understand how a phenomenon observed in the past has been investigated by contemporary authors. Thus, today’s analysis of economic issues could be inspired by the methodological approach – classical, neoclassical, Keynesian, or you name it – that in the past proved either useful or beside the point in addressing and solving the relevant problem in the real world. For a number of questions that still remain unanswered today, one could learn from earlier errors in order not to repeat them, because any wrong economic policy
affects a number of individuals negatively and potentially for an important number of years, with different negative effects also for the economic system. In this respect, economics students should be exposed to Keynes’ (1936, p.383) message that “the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else”. It does not come as a surprise that a large number of mainstream economists ignore the history of economic thought and that they neglect methodological issues in their research work, while both these features may be considered the basic pillars of heterodox economics.

Thirdly, and as a result of the two previous changes, financial risks and financial stability have to be assessed at the ‘systemic’ level, that is, for the economy as a whole, abandoning the wrong ideas that risk and uncertainty are synonymous, and that risks in either financial or economic activities can be measured referring to probability calculus. There is an essential difference between the risk of getting a 1 when one rolls a dice on a table, which has a probability of 1/6 if the dice has not been manipulated, and the ‘risk’ of recording a loss of 1 billion euros when one buys a given financial asset on the marketplace, whose probability cannot be calculated for a simple, and fundamental, reason: the set of possible future events is unknown and unknowable [as Keynes pointed out in his *General Theory*; see Rossi (2011) for analytical elaboration on this point]. The problem for financial stability in this regard stems from the fact that the sum of all those ‘risks’ that financial institutions and their supervisors claim to ‘measure’ with a variety of ‘risk-assessment’ models and methods, does not and cannot capture the ‘risk’ for the system as a whole. “The behaviour of such systems […] cannot be deduced from simple extrapolation of the behaviour of a single individual. The whole is different from the sum of the parts. There is such a thing as society” [Ormerod, (1994), p.91].

Fourthly, as this is implicit in the previous point, economists should be aware of the fact that no mathematical model can do justice to the macroeconomic laws that stem from the workings of a monetary economy of production, where money and banking are instrumental for either the orderly or disorderly working of such an economic system. A mathematical model suffers from an essential problem: it cannot but provide the results that its author has implicitly inserted into the set of equations forming this model, and as a result of calculation the model users will obtain explicitly. Indeed, the ‘best’ model in the world of economics cannot but provide the results that its inventors have inscribed into it: mathematical calculus, as sophisticated as it may be, does not enhance a researcher’s or society’s understanding of its economic object or contents. This has also a perverse effect, since too many ‘researchers’ in economics start from the conclusion they want to attain, in order to design the best model that allows to reach this conclusion, thereby fabricating the dataset that best ‘fits’ in this ‘research’ work – thus providing the alleged ‘empirical evidence’ these ‘researchers’ were looking for in their pre-scientific attempt to support some well-identified (and for them very rewarding) ideology.

Fifthly, and as implied in the previous point, one should abandon the hypothetic-deductive method, which starts from a set of (either implicit or explicit) assumptions, to deduce a number of ‘conclusions’ that are then deemed valid at a more general level, or even for the economic system as a whole. This method, and the related set of techniques in mathematical or ‘quantitative’ economics, are grounded on the hypothesis that, given some initial conditions, the same causes give rise to the same results. In other words, the world is ‘ergodic’, and the future is simply a reproduction of the past, by a sort of social inertia upon which the behaviour of economic agents has no
unpredictable outcome, for agents have rational expectations, are correctly informed, and always and everywhere in a position to make the ‘optimal’ decisions using the ‘correct’ economic or econometric model [see Davidson (2002) for a fundamental critique of this point]. The various events that led to the failure of Lehman Brothers in the USA – and the ensuing global financial crisis – are the ‘empirical evidence’ that economic rationality is but a chimera, and that the efficient market hypothesis must be abandoned, together with various other hypotheses that are essentially unrealistic and, in fact, serve one purpose only: to protect the neoclassical ‘core’ of mainstream economics from any attacks coming from outside the orthodox ‘citadel’ (see Caballero, 2010).

These major lessons stemming from the global financial and economic crisis are to be taken seriously by the economics profession. In particular, regarding professors of economics, there is a moral duty and responsibility to search for the ultimate reasons for the dramatic events that unfolded during the recent crisis. These reasons have to be publicly expressed, even though they can hurt a number of powerful lobbies and interest groups, so much so when economics scholars are paid a research grant or their salary with taxpayers’ funds – who must obtain, as a result, a sort of public good in the form of a better understanding of economic and financial activities both within their country’s borders and at the global level. These advances in economics education will not only lead to better economic policies around the world (which will be a long-awaited step in the right direction, after nearly four decades of neoliberalism that ravaged the economy and the society of various Western countries). They will also lead to a demand for much more and better information about a variety of financial products, thereby enhancing financial stability at both domestic and international levels through a fundamentally improved economic and financial literacy of the entire population (Rossi, 2013). Indeed, as pointed out in the recent ‘Appeal of Teachers and Researchers’ (2011, point 3) signed by more than 400 teachers around the world, “professors, lecturers and researchers have been entrusted by society with the task of serving the society through their search for a better understanding of reality. Only in this context does academic freedom have a real meaning. Such freedom entails a responsibility and not a mere license. Today the major priorities for research in finance, economics and management should be to examine their foundations as well as the implications of these foundations for practice in light of the events that led to the financial crisis. Only on the basis of such an examination will it be possible to design policies and remedies which lead to a balanced functioning of the economy”.

4 A ‘road map’ for reforming economics education

The papers selected for this special issue provide a clear and coherent call for action for economics teachers and researchers, as summarised in the previous sections. Let us thus draw a ‘road map’ for reforming economics education, in an attempt to stimulate debate and show the way to reform in what Samuelson labelled ‘the queen of social sciences’.

The first, seminal step is the most difficult to accomplish, as it cannot be made without the explicit support of citizens and their representatives at any political level: pluralistic approaches to economic issues are crucial in advancing our understanding of economics and economic policy. To avoid the self-referential, reproduction schemes of mainstream economists, who are in control of nearly all economics departments around the world – with the resulting dominating influences also on many research grants, chair
appointments and various economic policy-advice and policy-making – government and academic institutions will have to require from the relevant departments the fulfillment of conditions for the required return to intellectual pluralism in economics education and research [see Appeal of Teachers and Researchers, (2011), point 5]. Indeed, a call for action to promote this pluralism must at least include:

- A critical review of recent teaching and research programmes in economics, in order to raise awareness concerning the relevance to society of scientific disciplines that are supported by public funding. “Academic freedom cannot be a justification for teachers and researchers to ignore their broader social responsibility” (*ibidem*, point 6).

- An expansion of those criteria that are used for evaluating research work in economics to include its practical relevance and the authors’ willingness, as shown in publications, to address broader socio-economic problems and issues concerning the equity, stability, and sustainability of the actual economic and financial system (*ibidem*, point 7).

As the global financial and economic crisis has shown clearly, the second step amounts to rewriting the curriculum in economics education in order to dispose of the conditions, supported by neoliberalism, that generated a regime for economic growth that is neither equitable nor sustainable on financial, economic, social, and environmental grounds. At the financial level, financial liberalisation, deregulation, and globalisation gave rise to a variety of financial products and institutions that have become increasingly opaque and, in many cases, largely interconnected both within and across a country’s borders. Thus, the link between traceability and responsibility has been severed or, at least, has become less clear for both market participants and financial regulators. At the economic level, these developments in financial markets, products, and institutions made it possible to support economic growth, although the distribution of income and wealth has become a problem for its growing inequality and the resulting fragility of financial and economic stability. While the (1%) population at the top of the distribution pyramid earned increasing amounts of wages and rents on financial markets, thus increasing the amount of savings in the economic system, at the bottom of the pyramid, (the 99% of) the population experienced an increase in poverty. Thereby, individual (over-)indebtedness, nourished by a too generous and irresponsible amount of bank credits, gave rise to a ‘systemic’ credit bubble, whose explosion obliged the public sector to intervene (in support of creditors rather than debtors) and thereby led to a sovereign-debt crisis in several Western countries. Thus, at the social level, both the economic cohesion and the purchasing power of the ‘middle class’ have been reduced considerably, exacerbating competitive individualism as well as the class struggle between rich and poor, workers and unemployed, men and women, national and foreigners, and so on.

At the environmental level, this crisis has affected an array of natural resources, such as gas, oil, and many agricultural products, both because of their financialisation and as a result of the unsustainable use of these resources by an increasing number of mature or emerging economies around the world.

The new economics curriculum must therefore be reformed, in order to dispose of these financial, economic, social, and environmental factors of crisis, replacing them with four major building blocks for a sustainable regime of economic development, as follows:
Strengthening financial sustainability, by making financial institutions responsible for any products they sell or hold on their own books, forbidding off-loading practices that in fact cannot reduce the risks both for the relevant institutions and for the whole system (see the previous section). This will reduce the system’s financial fragility as well as the size and interconnectedness of the financial sector, inducing it to become again ancillary for the working of the economic system that produces non-financial goods and services.

Strengthening economic sustainability, by reducing inequalities in the distribution of income and wealth both within and between countries. This will require a major change in fiscal policy, which has to be targeted to redistribute income and wealth in order for a given economic space to be less prone to systemic crises by a reduction in poverty and a parallel increase in global demand as a result of an appropriately calibrated fiscal policy.

Strengthening social sustainability, by reducing ‘competitive individualism’ in favour of social cohesion and collaboration, taking into account all stakeholders’ interests, even if the latter are not supported or defended by (powerful) interest groups.

Strengthening environmental sustainability, by accelerating the transition to renewable sources of energy and the introduction of energy-saving materials and techniques in any economic sector.

Individually and as a whole these four building blocks offer a series of job opportunities that may attract a number of students to those economics departments whose education curriculum, at both BA and MA level, will have been reformed to provide students with the capability to understand and act upon the ‘mega-trend’ that can be seen already with regard to the unavoidable need to make our economic systems comply (once again) with the laws of nature.

Let us hope that the papers gathered in this special issue will contribute to such a needed change, making thereby economics a useful science in addressing and solving an array of urgent problems, whose ultimate origin lie in the current neoclassical paradigm.

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References


