Edmond Malinvaud's Criticisms to New Classical Economics: Restoring the Rationale of the Old Keynesians' Stance

– Matthieu Renault[1] –

Abstract

The standard narrative of the history of macroeconomics usually depicts macroeconomics in a state of crisis during the 1970s, but it rarely goes into its details. The standard narrative basically states that Robert Lucas and his followers took the stage, arguing persuasively that Keynesian macroeconomics and the Neoclassical Synthesis had no sound microfoundations. Then, the standard narrative suggests that the breakdown of Keynesian macroeconomics occurred without any trouble or resistance. Instead, it heavily insists on the long-lasting conflicting period that opposed New Keynesian and New Classical economists. And yet, other voices, different from the New Keynesian's, did oppose New Classical Economics in the 1970s and afterwards. These dissonant voices owe to the old generation of Keynesian economists (James Tobin, Robert Solow, Lawrence Klein, Franco Modigliani, among others), who could easily be labeled "Old Keynesians" (Tobin, 1992, 1993). Edmond Malinvaud, another Old Keynesian figure, sheds light on the rationale of the Old Keynesians' stance to New Classical Economics through his criticisms. First, since Malinvaud took early part in the search for microfoundations, his criticisms were more informed about modern achievements in macroeconomics. Second, Edmond Malinvaud's criticisms overlapped and comprised all of the Old Keynesians' arguments. In this article, I argue that studying Edmond Malinvaud's criticisms shows that the Old Keynesians' opposition to New Classical Economics was multidimensional, since it incorporated theoretical, empirical, methodological, and epistemological concerns. In this sense, the Old Keynesian approach in macroeconomics is seen as irreducible and incompatible with that promoted by New Classical Economics.

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> "The theory of the 1960s failed, not because it was false, but because it was too basic. The risk that threatens us now, and to which some of our colleagues resist badly, would be to replace it with a most basic theory, professed with even more dogmatism." (Malinvaud 1982, 21 I translate)[2]

Introduction

Edmond Malinvaud opposed New Classical Economics since the early 1980s, joining most of the macroeconomists of his generation who were all committed, at various degrees, to the Neoclassical Synthesis. This generation of macroeconomists, which could be easily labelled "Old Keynesians" after James Tobin's self-characterization (Tobin 1992, 1993b), included among others Robert M. Solow, Franco Modigliani, Lawrence R. Klein, Gottfried Haberler, Arthur H. Okun, Abba Lerner, Frank Hahn, and Michael Rothschild.[3]

Old Keynesians' criticisms of New Classical Economics, however, have long been neglected in the history of macroeconomics. This neglect results notably from the "standard narrative" that does not mention any of those criticisms while it usually depicts macroeconomics in a state of crisis during the 1970s (Mankiw 1990; Woodford 1999; Blanchard 2000).[4] According to the standard narrative, Robert Lucas and his New Classical fellows took the upper hand in the 1970s in arguing that the Neoclassical Synthesis lacked sound microfoundations, provoking its disappearance in macroeconomics. This disappearance in itself did not generate any particular trouble or resistance within the profession, provided each macroeconomist at that time was convinced of its theoretical and empirical failures. By contrast, the standard narrative insists on the fierce opposition that took place afterwards in macroeconomics between New Keynesian Economics and New Classical Economics, then Real Business Cycles. Throughout the 1970s and the 1980s, New Keynesian Economics appears then as the most significant opponent to New Classical Economics, capable to both taking up the torch of Keynesianism and reintroducing Keynesian concerns in modern macroeconomics. For the standard narrative, this strategy has resulted in softening oppositions between New Keynesian and New Classical Economics and to give birth to the "New Neoclassical Synthesis" in the

[2] All the translations from Edmond Malinvaud's cited publications in French are my own.

[3] A few figures of the younger generation of Keynesians (mainly trained by Solow at MIT) can be included in this list, given their common baseline with Old Keynesians. These figures are Alan Blinder, David Laidler, Joseph Stiglitz, Robert J. Gordon, Benjamin Friedman or Wilhem Buiter.

[4] Firstly labeled as such by Duarte and Lima (2012) and Hoover (2012), the "standard narrative" refers to the historical narrative produced by some contemporary macroeconomists to reconstruct the recent history of macroeconomics. The standard narrative has since then been largely discussed in the history of macroeconomics (Duarte 2012; Hoover 2012; Hartley 2014; Goutsmedt et al. 2015, 2017; Renault 2016; Sergi 2017). For an exhaustive presentation of the standard narrative see Duarte (2012) and Sergi (2017).

mid-1990s.

Contrarily to the standard narrative, the history of macroeconomics has recently paid greater attention to Old Keynesians' criticisms to New Classical Economics. First, historian of macroeconomics have shown that Old Keynesians were among the early critics of Lucas and New Classical Economics (De Vroey 2016; Da Silva 2016).[5] Second, they have shown that Old Keynesians did oppose New Classical Economics throughout the 1970s and the 1980s in terms of the rational expectations postulate and the validity of the Lucas Critique (Goutsmedt et al. 2015, 2017), the relevance of macro-econometric models and of the Phillips curve (Goutsmedt 2017; Goustmedt and Rubin 2018). Third, historians of macroeconomics have shown that Old Keynesians' opposition to New Classical Economics was based rather on methodological concerns than on ideological, if not rhetorical, ones. This was especially the case of Robert Solow, whose long-lasting opposition to New Classical Economics appears to have been primarily based on his "non-Walrasian" standpoint (Ballandonne and Rubin 2017). A similar case could easily be made about the other Old Keynesian leading figure in this respect, namely James Tobin, who continuously opposed New Classical Economics through several publications since the early 1970s.[6]

In the same vein, this article focuses on Edmond Malinvaud's long-lasting opposition to New Classical Economics from the early 1980s to the end of the 2000s, providing an additional case study to better assess the Old Keynesians' opposition to New Classical Economics from a historical standpoint. In doing so, this article aims at challenging the standard narrative's implicit claim according to which the Neoclassical Synthesis disappeared in the aftermath of New Classical Economics' assaults.

At the same time, this article asserts that the study of Malinvaud's criticisms helps to bring out the rationale of the Old Keynesians' opposition to New Classical Economics. Thanks to Malinvaud's peculiar trajectory in the field, and notably to his involvement in the search for microfoundations and in the disequilibrium theory throughout the 1970s and the 1980s, the way he criticized New Classical Economics appears specific in two ways with regard to Old Keynesians. First, Malinvaud did not oppose only market-clearing and rational expectations postulates, but he also opposed further New Classical Economics developments based on these postulates, which concerned macroeconomic theory, econometrics and economic policy. His criticisms resulted from the conjunction and overlapping of most of the criticisms addressed by the Old Keynesians, and appear therefore more systematic. Moreover, they suffer less from the sort of heterogeneity bias that affected the other Old Keynesians'

[5] Interestingly, De Vroey (2009) did not mention either Old Keynesians' criticisms in his first attempt to synthesize the recent history of macroeconomics, remaining thus close to the standard narrative. However, in his second attempt to synthesize this history, he dedicates more time – even though no more credit – to discuss these criticisms in a general chapter devoted to "Early reactions to Lucas". (De Vroey 2016, 204–24)

[6] See for instance Tobin (1972, 1980a, 1980b, 1981, 1991, 1992, 1993b, 1993a, 1995) and Tobin et al. (1980).

criticisms.[7] Second, although Malinvaud was as much inclined as Old Keynesians to oppose New Classical Economics on evidence or even on common sense, his criticisms cannot be merely characterized as external criticisms.[8] As he opted for a more careful and precise way to oppose New Classical Economics, his stance would be better defined as an extended external criticism. Thanks to its twofold specificity, the study of Malinvaud's criticisms helps to restore the rationale of the Old Keynesians' opposition to New Classical Economics as a radical one. Indeed, the latter reveals multi-dimensional since it contained not only theoretical and empirical concerns, but also methodological and epistemological ones.

Section 1 shows Malinvaud opposed market-clearing as a postulate, as he opposed two other New Classical Economics developments based on the latter, namely the tendency to reduce unemployment to frictional unemployment and the Real Business Cycles dynamic framework. Section 2 shows Malinvaud opposed rational expectations as a postulate, as he opposed two other New Classical Economics developments based on the latter, namely the Lucas Critique and the Real Business Cycles method of calibration. Section 3 shows Malinvaud opposed two further New Classical Economics developments based on both postulates and related to economic policies, namely the requirement to adopt rules rather discretionary policies and the prevailing of structural policies in Europe.

I. Market-clearing and its developments

As a proponent of the disequilibrium theory, Malinvaud's early and most recurrent criticisms to New Classical Economics naturally dealt with the market-clearing postulate. Interestingly, he did not only oppose this postulate in itself but also two further developments that derived from this postulate, namely the attempt to reduce the current unemployment to a rise of the

[7] Such a heterogeneity bias results from the natural tendency every Old Keynesian had to oppose New Classical Economics on specific themes. Tobin's main counter-attacks to Lucas were thus on monetary policy, Solow's ones were on growth theory, Haberler's and Lerner's on income policy, Hahn on microfoundations, *etc.* As a result of this seemingly heterogeneity, some historians of macroeconomics can logically be tempted to "De-homogeneize Keynesians" (Ballandonne and Rubin 2017). Such a perspective for the history of macroeconomics is however somewhat premature as long as it has not been showed that Old Keynesians' miscellaneous criticisms to New Classical Economics do not result from a similar position.

[8] In methodology, this critical stance consists in assessing any (scientific) proposal through its hypotheses and their adequacy to the "reality", no matter with their logical or internal consistency. This Old Keynesians distinctive character, noticed by De Vroey (2016, 223) about Tobin's criticisms to Lucas, was pushed to the extreme by Solow whose basic stance consisted in not taking the New Classical postulates for granted, and in refusing to discuss further developments. "Suppose someone sits down where you are sitting right now and announces to me that he is Napoleon Bonaparte. […] Since I find [New Classical Macro] fundamental framework ludicrous, I respond by treating it as ludicrous – that is, by laughing at it – so as not to fall into the trap of taking it seriously and passing on to matters of technique." (Solow 1983, 146)

frictional unemployment and the Real Business Cycles dynamic model.

1. *A full-aware rejection of the market-clearing postulate*

At the 1989 International Economic Association Conference, Malinvaud dedicated an entire communication at discussing the stakes and consequences of the market-clearing postulate in macroeconomics.[9] This communication, meaningfully entitled "Incomplete Market Clearing" (Malinvaud 1991a), illustrates at best the way he opposed the market-clearing postulate. To begin with, Malinvaud warned that rejecting market-clearing either on empirical grounds or on common sense would be loosely regarded by the profession. Instead, he argued, the market-clearing postulate raises two issues in macroeconomics, i.e. an empirical and a theoretical issue, which must be handled separately.

> "Do markets clear? Should economic theories assume that markets clear? To these two questions a small minority of economists answer: 'Always'." (Malinvaud 1991a, 179)

From an empirical point of view, he unequivocally deemed the market-clearing postulate unable to take into account short-run phenomena, which mostly consist in disequilibria and in quantity adjustments (Malinvaud 1984, 1989b, 1990a, 1991a, 1991b, 1991c).[10] To support his statement, Malinvaud referred then to the regular set of evidence highlighted by New Classical Economics critics for the early 1980s, including Old Keynesians. As such, he mentioned that real wages vary little with employment, that prices of manufactured goods and services are fairly insensitive to demand, and that the labour supply is nearly inelastic to real wages. But his privileged source of evidence on short-run market conditions stemmed from interviews and survey research (Malinvaud 1982, 1984, 1985a, 1989b, 1991a, 1991c, 1991b, 2000b). In line with the method of George Katona, interviews provided basic information on both producers' and consumers' experiences on markets, then reported in surveys (such as business, consumer or labour force surveys).[11] Throughout the 1970s and the 1980s, macro-econometric models at INSEE extensively used this information based on interviews through indexes called "indicators of tensions". As suggested by their name, these statistical tools aimed at assessing the degree of tensions, or the extent of disequilibria, which affect market conditions. For Malinvaud, evidence based on these indicators of tension was enough to discard the market-clearing postulate for the analysis of short-run phenomena. On the one

[9] This conference was somewhat special because it celebrated the 50th birthday of John Hicks's *Value and Capital*. Most of attendees were famous figures in mathematical economics, especially in general equilibrium theory, which included among others: Lionel MacKenzie (organizer), John R. Hicks, Frank Hahn, Werner A. Hildenbrand, Kenneth J. Arrow, and Amartya K. Sen.

[10] His book *Mass Unemployment* (Malinvaud 1984) was entirely devoted to survey and to discuss evidence related to the functioning of market economies in the short-run.

[11] On the method of Katona and its impact on research in macroeconomics, see Dechaux (2017).

hand, queues, delivery dates, and spill-over effects on substitute goods or imported goods were indeed regularly recorded. On the other hand, producers often declared to suffer either from an involuntary accumulation of stocks or from under-utilization of capacities, so as they were ready to produce more in case of an uprising demand for their output. For Malinvaud (1984, 1989b, 1991a, 1991c), the stock of available evidence is important enough to conclude that the market-clearing postulate is not appropriate for the analysis of short-run phenomena.[12]

However, this conclusion does not imply that macroeconomics should embrace a non market-clearing assumption. In other words, the observation that disequilibria dominate in the short-run does not necessarily imply that modelling should take into account non market-clearing. Here comes the theoretical issue raised by the market-clearing postulate in macroeconomics. In this respect, Malinvaud (1991a, 182) began with recalling that market-clearing is a highly theoretical postulate that is, in addition, inherent to the Walrasian equilibrium model. Consequently, any attempt to remove it is challenging, and its substitute, such as the fix-price postulate, is then required to be logically consistent with the rest of the model, in particular with the rationality postulate. By these remarks, Malinvaud shows he was perfectly aware of the sorts of logical consistency issues at stake within the Walrasian framework and that New Classical Economics popularized in macroeconomics through its "equilibrium discipline" (Lucas and Sargent 1979). As many macroeconomists of this period, Malinvaud had to deal with the New Classical methodological first principle according to which the rationality postulate, including rational expectations, must require the market-clearing postulate because no mutually advantageous exchanges could be left by rational economic agents. In line with Solow, Malinvaud refused to let himself be imprisoned in this trap, claiming instead his methodological preferences.

> "It amounted to saying that a completely new paradigm had to be used for macroeconomic thinking: the hypothesis of rational behaviour had to be made more systematic and to contain in particular what was called rational expectations; all markets had to be viewed as exactly and permanently cleared. Such a stance forces anyone to take sides: to be for New Classical Macroeconomics and then to reject the earlier methodology, or to believe that the principle of this earlier methodology remains appropriate and to reject New Classical Macroeconomics. Being faced with such a dichotomy I believe that the 1960 line of attack on policy analysis is still the proper one, notwithstanding some theoretical progress due to research done under the auspices of New Classical Macroeconomics." (Malinvaud 1994b, 10)

Malinvaud proposed three ways to get rid of the market-clearing postulate in macroeconomics (Malinvaud 1984, 1985a, 1985b, 1989b, 1990a, 1991a, 1991c, 1991b, 1992, 1994b, 1995b). The first way consisted in arguing that sub-optimal exchanges can be perfectly consistent with

[12] It is worth emphasizing the term "available" since Malinvaud was well aware of the profession's reluctance for considering interviews as sound statistics. A reluctance that was by no means justified, as he asserted in many places (Malinvaud 1991a, 1991b, 1991c). For instance: "Reluctance to use the results of regular business surveys or surveys on consumer finance can still be observed, but is no longer justified, since the techniques for making such surveys have been long probed and are now well defined." (Malinvaud 1991b, 110)

the rationality of economic agents. He referred then to New Keynesians' explanations for the wage and the price rigidity: menu costs, wage efficiency, long-term contracts, insiders-outsiders scheme, and monopolistic competition. The second way consisted in softening the rationality of agents, claiming arguably that rationality has no reason to be postulated in macroeconomics.[13] Malinvaud's third way to get rid of market-clearing was both the one he most regularly adopted and the one that fitted more his conception of macroeconomics. It consisted in asserting that an empirical observation, if firmly established, must dominate any theoretical proposal, even though its rationalization is still lacking.

> "[…] the 'why' question has secondary importance. Some of my economist colleagues seem to pretend that it should be answered before we assert anything about the existence of price and wage rigidity; but clearly this claim cannot be accepted." (Malinvaud 1991b, 112)

> "The question is to know whether the postulate is imperative or not: should we stick to it no matter what else? The only possible answer is no. The force of the postulate lies in observation and disappears as soon as the postulate is proved to be rejected by observation. […] When repeated and controlled observation, assisted by rigorous conceptualization, has led to a scientific fact, this fact stands even if its origin is not understood." (Malinvaud 1989b, 212–13)

Malinvaud's opposition to the market-clearing postulate consists thus in a twofold rejection, based on empirical and theoretical concerns. But he went on to oppose two further New Classical Economics developments based on this postulate, such as the attempt to reconsider the analysis of the labour market.

2. *Frictional versus Involuntary Unemployment*

As applied to the analysis of the labour market, Malinvaud (1984, 1985b, 1991a) did not only consider the market-clearing postulate as unfounded but as properly "scandalous". Here again, Malinvaud appears more cautious than Old Keynesians in opposing market-clearing on the labour market.[14] He warned indeed that evidence in this matter can be challenged and has already been challenged in macroeconomics.

> "But what matters to us here is that the hypothesis of disequilibria on the labour market is not unanimously accepted. Some economists believe that the available statistical data are compatible with the opposite hypothesis of equality between supply and demand for work, a hypothesis much

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[13] Malinvaud referred to Herbert Simon's notion of bounded rationality: "[…] now have enough evidence to know that pure rational behaviour in the pursuit of self-interest does not always occur: difficulties in information, computation and coordination lead to a 'bounded rationality' of households and firms; they also explain why expectations are not fully rational." (Malinvaud 1989b, 212)

[14] Despite Malinvaud was as willing as Old Keynesians to discard market-clearing on evidence or common sense arguments. For instance, he argued that the latter is a complete non-sense in countries that have experienced a long-standing mass unemployment for the end of the 1970s. "In countries affected by high unemployment, such as ours [France], we do not have to expand much on this point." (Malinvaud 1998a, 336)

> more attractive in their opinion because it conforms to the axioms from which economists are used to reasoning in the most varied fields. The choice between these two alternative hypotheses on the state of the labour market is of great importance for the modeling of economic policies. That is why deciding the validity of one hypothesis rather than the other is crucial." (Malinvaud 1991c, 342)

For Malinvaud (1985a, 1994c), this controversy about the very nature of the unemployment phenomenon arises from its theoretical and statistical definition that do not coincide. Indeed, the unemployment is theoretically defined by an excess of labour supply while its measure, in the sense of International Labour Organization (ILO), is based on three criteria: to be jobless, to be currently available for a job; to actually look for a job. This definitional mismatch gives then birth to a few anomalies such as jobless individuals, in refusing a job that does not suit them, remain unemployed in the statistical sense while they no longer convey an excess of the labour supply in the theoretical sense. In turn, these anomalies make room to all sorts of suspicions, allowing claims about the overestimated excess of the labour supply and the alleged voluntary dimension of unemployment. As for Malinvaud, he conceded that the unemployment rate could not be taken for an indisputable measure of the extent of non market-clearing on the labour market, i.e. involuntary unemployment. He conceded it easier that this was nothing new in macroeconomics, which has long recognized the notion of "frictional unemployment" (Malinvaud 1984, 1985a, 1991b, 1994b, 1994c).

> "The too simplistic idea according to which unemployment measures the extent of non-market clearing on the labor market has been dismissed for many years. Some unemployment is a natural phenomenon in a society where people are free to take a job or not and where market conditions vary from one location to another, from one type of job to another. Conceptual analysis has led us to consider that part of unemployment is 'frictional', the remaining part only corresponding to a disequilibrium between demand and supply." (Malinvaud 1991b, 110)

For Malinvaud, the novelty with New Classical Economics was thus rather attaching a greater importance to frictional unemployment in the unemployment diagnosis. Forcefully opposed to this purpose, he argued that the recent identification of the frictional unemployment logical possibility by no way implied it was relevant to explain the current situation (Malinvaud 1984, 1985b, 1985a, 1991c).[15] Then, he enlisted evidence to discredit this idea that the current unemployment could be reduced to a frictional unemployment.[16] In this respect, he pointed out a piece of evidence clearly challenging for the job search theory such as the long-run unemployment has fostered since the late 1970s while it had been nearly inexistent before.

[15] The empirical identification of the frictional unemployment phenomenon was indeed prior to the 1970s. The rationalization of this phenomenon by the microeconomic theory came later, with Phelps (1968, 1970) whose model stressed the dynamic and heterogeneous character of the labour market. Unemployed individuals with specific characters and preferences – in terms of skills, location, or work time – rationally decided to lengthen their search period (called "job search") in the hope to find a more suitable job.

[16] This is here again particularly the case in his book *Mass Unemployment* (Malinvaud 1984)

Likewise, he stressed the case of unskilled workers whose employment has steadily declined since the mid-1970s, while their real wage elasticity is probably the lowest one (since they are ever paid at the minimum legal no matter the job). Interestingly, Malinvaud (1991b) referred again to evidence coming from interviews, arguing that labour force surveys contain direct information on the jobs that are actually searched.[17] Last but not least, he enlisted the factors commonly taken to be responsible for a rise in the frictional unemployment to claim it would be an "aberration" that those factors, even taken together, were enough to explain the rise in unemployment since the 1970s (Malinvaud 1985a, 470).[18]

At the same time, Malinvaud deplored that proponents of New Classical Economics and job search theory not even sought to develop empirical applications so that highly abstract notions of frictional unemployment and job search could be subject to a regular quantification (Malinvaud 1984, 1985b, 1985a). This complaining was no longer justified after Pissarides's achievements, he then embarked on discussing the most recent literature on the job search theory in a series of three papers (Malinvaud 1994b, 1994c).[19] Nonetheless, this literature made him hardly more convinced that the unemployment rate could be explained by a rise in the frictional unemployment. In particular, the recent shift of the Beveridge curve pointed out in this literature looked to him insufficient to explain the rise in unemployment since the end of the 1970s. "Dissatisfied" by the job search literature, as he claimed he was,[20] Malinvaud (1994b, 1994c) elaborated on his proper model based on an alternative set of definitions. In so doing, he intended to offer theoretical specifications tractable for econometrical applications,

[17] Malinvaud illustrated how interviews help to improve the unemployment diagnosis in France: "The present French labor force survey permits us to follow a somewhat similar characteristic: to a question addressed to people looking for jobs concerning the kind of job sought, one entry for the answer is 'anything'; between 1982 and 1985 the number of people choosing this entry the number of people choosing this entry exactly doubled, a fact that would be difficult to reconcile with the idea that the increase from 7.8 to 10.2 per cent in the unemployment rate could have resulted from increased claims of unemployed workers." (Malinvaud 1991b, 111)

[18] Here are the factors enlisted by Malinvaud: a lengthening of the job search; an increase in unemployment benefits; a change in the composition of labour supply and demand; a legislation protecting unskilled labour; or a redeployment of productive capacities between sectors. Then, Malinvaud (1984, 27) ventured to "guesstimate" that the frictional unemployment would have increased between +200 000 and +500 000 from 1962 to 1982 while the unemployment rate increased from 200 000 to 2 billion people at the same time (the frictional unemployment part increased then from 10% to 25%).

[19] In Malinvaud (1994b), two chapters are indeed dedicated to this topic: "Diagnosing Unemployment Trends (chapter 4) and "The Beveridge Curve" (chapter 5). It is also worth mentioning that Malinvaud discussed in particular Pissarides (1990) and Jackman et al. (1990).

[20] "To what extent can we explain increased unemployment by worker's lack of mobility and reduced economic incentives that used to drive people rapidly either to take a job or to leave the labor force? [...] This chapter [...] expresses my feeling my way, dissatisfied as I am reading some of the articles trying to identify the role of mobility and economic incentives in the rise of unemployment in various countries." (Malinvaud 1994b, 95)

but also to improve the identification of both frictional and involuntary unemployment. In this respect, he indeed considered that new conventional rules were needed (Malinvaud 1991b, 1994b, 1994c).[21]

Malinvaud's alternative set of definitions basically consisted in determining at first the level of employment by the minimum of either the labour supply or the labour demand, through the "short-side rule".[22] From there, the unemployment rate could be defined as to be composed of both frictional and "disequilibrium" unemployment (i.e. involuntary unemployment). In the lack of any clear definition for frictional unemployment, he associated it with Friedman's definition of natural unemployment, i.e. a rate of unemployment that cannot be reduced by measures aimed at stimulating labour demand (Malinvaud 1994b, 95–96). This definition enabled him to distinguish another source to frictional unemployment, in addition to the job search phenomenon. He distinguished thus the "structural unemployment", which results in differences in the composition of labour supply and labour demand. Far from the a priori method, the task to identify the importance of job search and structural unemployment phenomena is left to statisticians in Malinvaud's modelling. As for the task of macroeconomics, it consists in organizing this empirical knowledge and drawing implications for the aggregate level. For this purpose, Malinvaud rearranged his system of equation to recapture the Beveridge curve equation, in which room is henceforth made for involuntary unemployment. The definition of the latter appears somewhat modified, as the residual part of the unemployment rate that does not rest on frictional unemployment variations due to changes either in job search rates or in the degree of mismatch on the labour market.

3. The Neoclassical Synthesis framework better than Real Business Cycles

From the early 1980s, Malinvaud opposed New Classical Economics dynamic model aimed at unifying the theoretical framework underlying the short- and the long-run in macroeconomics. In opposing, Malinvaud displayed his commitment to the 1960s Neoclassical Synthesis and its "Temporal Dichotomy", in which short-run fluctuations were superimposed on long-term trends. In addition, he praised the division of labour that took place in macroeconomics at this time, thanks to Neoclassical Synthesis's assumption that the study of fluctuations and growth was independent. This twofold characteristic has disappeared since New Classical Economics imposed his alternative framework; and not for the better.

> "This natural division of the discipline is now challenged in various ways. In particular, one can no longer be satisfied with the idea that business fluctuations ought to be studied as being only the

[21] "But the dividing line between frictional and disequilibrium unemployment and the corresponding precise definitions of the supply of labor and demand for it are not a priori clear, especially when one stands at the level of aggregate observations and analysis. Conventional rules become necessary." (Malinvaud 1991b, 110)

[22] The "short-side" rule is the disequilibrium theory's most characteristic assumption. The latter assumes the output to be determined by the minimum of either the aggregate demand or the aggregate supply.

> rather short-lived impacts of a sequence of random perturbations. […] I do not want to dismiss here this new conception, although it may be a little overstressed at present. In any case, I believe it is hardly better suited than the previous one for dealing with the phenomena that have the dimension of a decade or so – as the European mass unemployment has." (Malinvaud 1989a, 315)

Yet, Malinvaud by no means discarded New Classical Economics' attempt to reconcile the short- and the long-run analysis within a unified theoretical framework. Indeed, he recognized likewise a somewhat "schizophrenic" character to the Neoclassical Synthesis (De Vroey 2009, 2016). In a nutshell, he simply did not support this unification was being achieved by applying the market-clearing postulate all along the dynamic path, neglecting again the short-run phenomena. Malinvaud targeted here more specifically Real Business Cycles dynamics.[23] First of all, he criticized the latter misleading use of Solow's growth model that merely resulted in folding the long-run properties over those of the short-run (Malinvaud 1987, 1989a, 1989b, 1991a). While he was discussing Solow's canonical growth model, Malinvaud (1991b) defended its relevance for understanding economic growth both as a conceptual and a measuring tool.[24] More, he even praised the manifold innovations that have been incorporated into this model during the past decades. From that perspective, he viewed the Real Business Cycles as a theoretical enterprise that was perfectly legitimate. However, Malinvaud's reluctance was on the weight to be given to this framework in the analysis of actual macroeconomic phenomena.

> "A number of contributions made during the past 15 years, notably by proponents of the 'new classical macroeconomics', can usefully be studied from this point of view. This comment applies in particular to the group of articles dealing with the 'real business cycles' generated by exogenous shocks to technology under permanent and full market clearing, a representative of this group being that by Kydland and Prescott (1982). But one must decide on the weight to be given to results coming from this approach when one wants to understand actual macroeconomic phenomena." (Malinvaud 1991b, 107)

In Malinvaud's view, a theory must provide a sufficient approximation of the phenomenon to be explained in order to be subject to any sort of empirical application. In line with Solow (2000, 2008), he claimed then the Real Business Cycles model, along with Solow's model, in no way fits all macroeconomics needs; they cannot pretend to be more relevant than to the analysis of the long-run economic growth phenomenon (Malinvaud 1991a, 1991c, 1991b, 1994d, 1997c, 1998a, 2004). In spite of the claims of its promoters, Malinvaud reproached the Real Business Cycles model bypassing every phenomenon that matters in the short-run, such

[23] The first generation of New Classical Economics had indeed a monetarist inclination that, along with Lucas's imperfect information hypothesis, led them drawn a distinction between the short and the long run.

[24] It is needful reminding here that Malinvaud took part, with two other colleagues from INSEE, to Moses Abramovitz's launched project in the 1960s to analyze through Solow's model the origins of the economic growth in western countries since the end of the Second World War. They published first this study in France, in 1972, then they translated into English (Malinvaud, Dubois, and Carré 1975).

as unemployment or inflation. In line with Solow's (1988) retrospective views on his model and its uses by the Real Business Cycles, Malinvaud (1991b, 108–9) agreed that time series was unfortunately too limited to discard alternative theories. However, while Solow called then for more common sense and direct observation in macroeconomics, he called rather for widening the set of data in macroeconomics. Rather consistently, he kept claiming that the stock of available data, in particular interviews, was far enough to discard the market-clearing postulate in the short-run. Considering the Real Business Cycles abolished times in bypassing short-run phenomena, Malinvaud concluded that this dynamic framework was not better-suited than the one it had replaced, i.e. the Neoclassical Synthesis framework.

On the other hand, Malinvaud proposed two alternative paths for elaborating a dynamic framework in macroeconomics, both in line with the Neoclassical Synthesis. The first method was the one elaborated on by the disequilibrium theory since the end of the 1970s, and to which Malinvaud contributed throughout the 1980s. By opposition to the Real Business Cycles model, the dynamic path of the disequilibrium theory was primarily based on the specificities of the short-run, such as uncertainty and disequilibria of all sorts.[25] Far from "random shocks" [of technical progress], the dynamic path that arose depended on both initial price disequilibria and the agents' rapidity to adapt to their new environment (Malinvaud 1989a, 1991c). In this alternative framework, agents' short-run decisions were irreversible ones, so that they impacted the medium-run trajectory of economies; provided that these disturbing effects tended to disappear in the long-run. Based on the temporal dichotomy, this alternative dynamic path aimed thus at getting over the Neoclassical Synthesis in developing a "medium-run macroeconomics"; in line with Solow's own perspective (Solow 2000).[26]

In addition to disequilibrium dynamics, Malinvaud suggested getting over the Neoclassical Synthesis framework in resorting more to adjustment laws (Malinvaud 1982, 1984, 1987, 1989b, 1991c, 1995b, 1997b). Referring to the macro-econometric modelling practice, the adjustment laws were empirically-based relationships that provided a dynamic dimension to structural macro-econometric models. The most typical example of an adjustment law was the Phillips Curve. In this respect, Malinvaud reminds the very empirical origin of this relationship that, he added, had ever been regarded as such by practitioners, regardless of the several attempts to rationalize its theoretical foundations (Malinvaud 1991c, 1991b, 1997b).[27]

[25] "[…] we could introduce consideration of the uncertainties about business conditions. Since these conditions are not well known, and since they will undergo irregularities both at the micro and at the macro levels, the reference growth path cited above [Solow's growth model] cannot be real. Some firms will have less capacity, some workers will not find the jobs they expected, at times the whole economy will be depressed. A better approximation to reality would then be provided by a stochastic growth path in which uncertainties, irreversibilities and disequilibria would be given their role." (Malinvaud 1984, 83–84)

[26] For an historical account of Solow's longstanding efforts, since his growth model (Solow 1956), to develop a macroeconomics of the medium-run, see Assous (2015).

[27] Malinvaud (1991c, 1997b) confessed to have ever been impressed by the capacity of the Phillips curve to

Unlike behavioural laws or any other theoretically-founded relationship, the adjustment laws relied on empirical observation, and on econometrics progress, rather than on theoretical deduction. Accordingly, the adjustment laws could not pretend to have a similar explanatory character to behavioural laws. For this reason, Malinvaud deemed to be a complete nonsense that New Classical Economics discarded adjustment laws and the Phillips Curve, in particular, for their lack of theoretical foundations during the search for microfoundations.

> "It was rather obvious at the time when it was fashionable to complain about the lack of 'Microfoundations' of these adjustment laws as if this would lead to challenging or rejecting its appearing in economic theories. If, by contrast, as opposed to what may be the case regarding behavioural laws, statistical observation tends to be more important than deductive reasoning, it is because of the complexity of the formation of prices, wages, and other market variables. In the search for Microfoundations, [...] we can certainly propose models adapted to this or that aspect of market phenomena. We would, then, gain in understanding phenomena. But the modeling would remain too partial and too specific to lead, in a direct and a convincing way, to a specification that would be better than the one resulting from data analysis, inspired by common sense, and repeated for many countries and periods."[28] (Malinvaud 1997b, 20)

In Malinvaud's view, the recourse to adjustment laws primarily resulted from the limits of proposals issued from economic theory for the macro-econometric modelling practice. This was particularly the case of the theoretical proposals derived from the general equilibrium theory, which often turned out in empirical anomalies, such as the real wages sluggishness in front of an excess of labour supply. In this context, Malinvaud claimed that the macro-econometric modelling practice had better substituting these theoretical proposals by new ones, even inspired by observation such as adjustment laws.

> "There is no shame in recognising this situation and in stating that the justification lies in observed regularities. The wrong thing to do, when one cannot fully explain a complex phenomenon, is to pretend the phenomenon is different so as to be able to easily explain it by maximising the behaviour." (Malinvaud 1987, 314)

> "If we can correctly identify elementary behavior, this is perfect; but when we cannot, we have to stick to the results of a more complex and unfocused preconception." (Malinvaud 1989b, 207)

To end up this first volley of Malinvaud's criticisms to New Classical Economics, it is worth emphasizing that he opposed not only the market-clearing postulate but also two other further developments based on this postulate. These developments were far from minor ones, even for modern macroeconomics, since they concerned the job search theory and the Real

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describe – without explaining it – the co-evolution of wages and unemployment until the end of the 1960s. As the Phillips curve became more instable later on, his reaction was rather to encourage new empirical researches; such as the ones of Robert J. Gordon (Goustmedt and Rubin 2018).

[28] It is worth remarking the very econometric flavor of the term "specification", which was regularly used by Malinvaud. This term refers to one particular equation in a structural macro-econometric model that aimed at catching one or several phenomenon; so that we speak for instance of a specification for prices, wages, etc.

Business Cycles dynamic framework. However, Malinvaud's systematic opposition to New Classical Economics was not restricted to the market-clearing postulates and its derivatives, since he opposed rational expectations in a similar manner.

II. Rational expectations and its developments

Remarkably, Malinvaud opposed the rational expectations postulate as he opposed market-clearing. In addition to opposing the rational expectations postulate in itself, he opposed two further New Classical Economics developments based on this postulate, namely the Lucas Critique and Real Business Cycles' method of calibration.

1. A full-aware rejection of the Rational Expectations postulate

More than the concept of rational expectations in itself, Malinvaud opposed New Classical Economics' attempt to impose the latter as a basic postulate in macroeconomics. According to him, this concept was indeed a progress in macroeconomics since it enables to endogenize economic agents expectations (Malinvaud 1982, 1991c, 2004). Yet, from the early 1980s, Malinvaud prompted macroeconomists to be more vigilant regarding the literature based on this concept.

> "We do appreciate that the treatment of expectations is currently the object of so much interest. […] Nevertheless modern literature does not seem to transmit the best possible message on the role of expectation formation in the phenomena which interest macroeconomic policy." (Malinvaud 1981, 1368)

> "[…] I think that all modern literature on the role played by the formation of expectations requires a critical examination. It would be premature to draw conclusions from it now." (Malinvaud 1982, 16)

In so doing, Malinvaud aimed at stamping out the macroeconomists' spontaneous tendency to associate rational expectations with New Classical Economics' destructive conclusions for economic policy.[29] In this respect, he rightly emphasized that this concept is less responsible

[29] Malinvaud had refrained to cite New Classical economists' papers throughout the 1980s, mentioning instead their disseminated name such as the "Lucas Critique" and the "monetary policy ineffectiveness". However, in the 1990s, he embarked on discussing at length New Classical Economics' "little models", as he used to call them. For instance, he discussed in details Barro (1974), Lucas (1972), Sargent and Wallace (1975), and the literature that derived from the latter about the monetary policy effectiveness (Malinvaud 1991c, 1997a, 1998b, 1112–43).

than the one of market-clearing (Malinvaud 1982, 1991c, 2004).[30]

> "[...] we must regret the haste with which we have claimed to draw conclusions for economic policy. The presentation that some theorists have given to their contributions is also regrettable because we have sometimes come close to the scam. [...] many recent theoretical works, even among the most cited, oversimplify the rest of the model to the point of making it quite inadequate. It then becomes completely unreasonable to present results as directly applicable and as having clear implications for economic policy. What about a study of the role of monetary policy for short-run regulation when prices are assumed to adjust instantaneously to ensure a balance between the supply and demand for money? What about a study on the possible stimulating effect of fiscal policy when full employment is assumed to prevail in any circumstance?" (Malinvaud 1982, 15–16)

Although Malinvaud highlighted that New Classical Economics' results primarily owed to the market-clearing postulate, he never gave up criticizing rational expectations from the early 1980s to the 2000s (Malinvaud 1981, 1982, 1991c, 1995b, 2004). In a similar manner to market-clearing, his criticism on rational expectations is very cautious. According to Malinvaud, the concept of rational expectations is highly problematic because it can be understood in two different ways, depending on its role in a model or on the actual behaviour it aims at describing. Two ways that, indeed, cannot be easily disentangled since rational expectations are defined with regard to a theoretical model; so that expectations are said to be "rational" whether economic agents form their expectations by using at best, in a rational way, all available information, which includes present and past values of all relevant variables of the model and the model itself.

As for the first way to understand rational expectations, Malinvaud notices that its introduction into a model implies that: (*i*) all agents share the same representation of the functioning of the economy, since they have the same model in mind; but also that (*ii*) the model is a somewhat good representation of the functioning of the economy. Interestingly, Malinvaud opposes those two implications on empirical grounds. Regarding (*i*), he argues that claiming that economic agents have a model in mind is highly disputable in itself. But, claiming economic agents could share (hence, agree) a similar representation of the functioning of the economy appears very unlikely to him, when, he adds, even professional economists do not succeed in it. Regarding (*ii*), Malinvaud basically states that New Classical Economics' models depict an outrageously simplified representation of the functioning of the

[30] Old Keynesians' misleading reaction throughout the 1970s to rational expectations has been often pointed out, either by the standard narrative or the history of macroeconomics (De Vroey 2016; Goutsmedt et al. 2015). As a matter of fact, Old Keynesians only got clear thanks to some New Keynesians papers (Fischer 1977; Phelps and Taylor 1977) that "rational expectations is an assumption about behavior which may be right or wrong but which is logically disconnected from the hypothesis that prices move instantly to clear markets. It is more from the latter than from the former that New Classical Economics derives its distinctive implications." (Blinder 1986, 211) Likewise, it seems that Malinvaud's claims on rational expectations benefited of these papers, since he quotes in particular Fischer (1977).

economy, to which a few macroeconomists would be ready to adhere, he added.[31]

As for the second way to understand rational expectations, *i.e.* as a positive manner to describe the economic behaviour, it is meaningful to introduce Malinvaud's distinction between "pure theory" and "applied economics". Unlike the "pure theory", which refers to mathematical economics and the general equilibrium theory, "applied economics" basically refers to the practice of macro-econometric modelling that ultimately aimed at guiding and/or rationalizing economic policies. In Malinvaud's view, this ultimate goal constrained the practice of macro-econometric modeling to test the realism of any theoretical proposal it mobilizes, either its hypotheses or its conclusions.[32] In this perspective, "applied economics" is to be epistemologically distinguished from "pure theory" since it confers an utmost importance to the inductive validation. It follows that the concept of rational expectations cannot be understood in the same way in "pure theory" or in "applied economics". In mathematical economics ("pure theory"), postulating the concept of rational expectations is perfectly legitimate and may be instructive in many respects. In "applied economics" (macro-econometric modelling), however, this concept can no longer be regarded as a postulate. It is nothing but a hypothesis, which has to be tested, as any other hypothesis coming from "pure theory" (Malinvaud 1990b, 2004). Here states a major point of discrepancy between New Classical Economics and Old Keynesians, such as Malinvaud or Solow about rationality.

> "No categorical imperative requires that we give rationality a privileged place. In other words, from a methodological point of view, the real difficulty is to know how a hypothesis can be validated empirically, or can be based on the collective judgment of economic scholars. It is not to know what particular treatment should be reserved for the hypotheses of rationality; the answer is then simple: none." (Malinvaud 1990b, 11)

> "The assumption of conventional rationality has to earn its wings every day, as Mr. Bormann of Eastern Airlines would say; and if it doesn't earned its wings it is not entitled to fly [laughter]." (Solow 1983, 141)

In the context of the macro-econometric modelling, the good formalization of expectations is

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[31] Malinvaud attributed at first this simplistic representation to the technical challenge of integrating rational expectations into a model, but he finally attributed it to the monetarist tropism of New Classical Economics (Malinvaud 1991c, 2004). Moreover, the second part of his claim is obviously rhetorical since most macro-economists ended up to adhere to New Classical Economics "simplistic representation" of the economy. Hence, this statement rather reflects Malinvaud's own astonishment that macro-economists have finally adhered to New Classical Economics; as his comments on Lucas (1972) tend to illustrate: "Why such a result so often quoted as supporting the proposition that anticipated monetary policy was ineffective? Probably not because the model would have been found realistic in its representation of the economic structures or in its representation of economic behaviour. On both accounts it was obviously unrealistic." (Malinvaud 2004, 132)

[32] Malinvaud's proposal to build on an alternative dynamic framework on adjustment laws was also in line with this distinction between pure theory and applied economics.

then to be determined. In other word, it is up to econometrics to assess the relative merits of rational, extrapolative and adaptive expectations (Malinvaud 1982, 1987, 2001b).[33] At the same time, Malinvaud had ever been sceptical about the relevance of rational expectations, excepting for wars, revolutions, and any specific period of time marked by considerable shortages (Malinvaud 1977, 1982, 1991c, 1999, 2004). Moreover, he claimed that adaptive anticipations should dominate rational expectations, as the former assumption better fits the pragmatic attitude that prevailed in the macro-econometric modelling (Malinvaud 1982, 1991c, 1995b, 2004). First, adaptive expectations were flexible enough to be assumed and to be amended in case of strong changes in the economic environment or/and in the economic policy. Second, adaptive expectations better articulated with macro-econometric models multiple adjustment processes. But Malinvaud's support of adaptive expectations was not only instrumental; it also resulted from his personal experience of the crisis in the 1970s.

> "Fanatics of rational expectations should think about the long delay which is necessary for Western public opinion to understand the new petroleum context and its consequences."[34] (Malinvaud 1981, 1369 footnote 10)

Malinvaud's criticisms did not concern the rational expectations postulate alone, but they tackled two further developments based on this postulate such as the Lucas Critique.

2. *The Lucas Critique, hardly more than a theoretical insight*

New Classical Economics' first development based on the rational expectations postulate, which Malinvaud opposed, is the Lucas Critique. In his famous article, Lucas (1976) claimed that, once rational expectations are assumed, macro-econometric models turn out to be irrelevant for studying the effects of alternative economic policies. In the standard narrative, the Lucas Critique is usually presented as a milestone, as well as a decisive argument that provoked both the collapse of Keynesian macroeconomics and the decline of macro-econometric models in the 1970s.[35] As for Old Keynesians, the standard narrative let even suppose that they either misunderstood the issue at stake or underestimated it. The study of Malinvaud's comments on the Lucas Critique, at different periods of time (Malinvaud 1977,

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[33] Malinvaud (1998b, 1560–93) discussed the literature comparing performances of rational and adaptive expectations for the 1980s that he found rather inconclusive. Here again, he concluded in calling for a better account of interviews in macroeconomics to asess the actual state of expectations at any period of time.

[34] This paper had apparently been read by Lucas, since he reacted, annoyed, to it in a preliminary version of the preface for the Japanese edition of his *Models of Business Cycles*. "I suppose those who were expecting to hear a representative of what Edmund [sic] Malinvaud has referred to the "rational expectations fanatics" were little disappointed at the lectures' rather technical tone, and the absence of any very new or startling recommendations for economic policy." (Lucas, Box 13, Folder: Models of Business Cycles 1985-1987)

[35] Malinvaud's reaction to the Lucas Critique is in line with Old Keynesians' common line of defense with regard to this critique of the macro-econometric modeling. See Goutsmedt et al. (2015, 2017).

1987, 1991c, 1997b, 1998a, 2007a, 2007b), allows to easily discard the standard narrative on this score. First, Malinvaud's comments on the Lucas Critique show he was perfectly aware of the issue at stake. Second, his position about the Lucas Critique was quite clear since he recognized its correctness *in theory* but he deemed that its scope (i.e. its empirical relevance) was limited *in practice*.

> "At the time, many macroeconomists, especially [me], were not convinced of the scope of [the Lucas Critique], although they recognized the correctness of the remark that inspired it. Indeed, the small illustrative models presented by Lucas and others showed no more than a possibility and were in no way tested as to their empirical validity." (Malinvaud 1997b, 21)

Malinvaud (2007b) recalled that the Lucas Critique aimed at challenging macro-econometric models in two ways, (*i*) by pointing out that economic agents expectations were not properly taken into account and, (*ii*) by claiming these models were no longer relevant to study the effects of alternative economic policies. While he subscribed to the first objection, Malinvaud strongly rejected Lucas's claim according to which macro-econometric models turned out to be irrelevant for studying the effects of alternative economic policies. Moreover, he reproached Lucas (1976) for having insidiously presented the issue along with his favourite solution, i.e. rational expectations, spreading into the profession the misleading conclusion that postulating rational expectations alone would suffice to render macro-econometric models "immune" against the Lucas Critique. Instead, in Malinvaud's view (1991c, 1998a), the rational expectations postulate was just Lucas's "theoretical" solution to his own Critique. A second solution, which Malinvaud called the "empirical" solution, was Sims's call for replacing macro-econometric models by VARs models. As for himself, Malinvaud (2007b) claimed he was pleading for a third solution that asserted that the Lucas Critique did not really call into question the macro-econometric modelling practice. To discard macro-econometric models, according to Malinvaud, it would have been necessary to show, at first, that these models could not incorporate rational expectations. Second, it would have been necessary to show that rational expectations dominate adaptive expectations.[36] The way he discussed the Lucas Critique gets then him back to his discussion on the relevance of rational expectations with regard to applied macroeconomics.[37] Consequently, Malinvaud (1998a) simply recalled that evidence in econometrics did not allow concluding in favour of rational expectations, as he kept claiming to be highly sceptical that economic agents could take into account changes in monetary and fiscal policies, at least until these changes really affect them.

Despite its growing influence in macroeconomics over the years, Malinvaud has not changed

[36] To Malinvaud (2007a, 2007b), this first condition shortly turned out to be unsatisfied since Wallis (1980) showed how rational expectations could be incorporated into macro-econometric models, showing then that the conclusions to be drawn from it were ultimately less destructive than those anticipated by Lucas (1976).

[37] In his discussion of the literature on relative performances of rational and adaptive expectations, Malinvaud also discussed the empirical relevance of the Lucas Critique (Malinvaud 1998b, 1563–67).

his mind towards the Lucas Critique. Far from taking it for granted, he regarded the latter as nothing but a theoretical insight, which its empirical scope is indeterminate. Interestingly, Malinvaud (1989b, 1991c, 1998a) noticed that no proponent of New Classical Economics, since Lucas (1976), has sought to estimate the empirical relevance of this Lucas Critique. Such an observation was for him a proof that those macroeconomists only satisfied with theoretical proposals. Though, he argued, the recent history had provided many situations to test the Lucas Critique, such as the creation of the European Monetary System (EMS), the deindexation of wages and the shift from control of the money supply to the targeting of interest rates in central banks. According to him, such a study would be enough to reveal the narrow empirical relevance of the Lucas Critique.

> "[…] panels of national time series should have some power for the characterization of the impact that policy changes have on expectations, attitudes, and behaviors. If this question is studied, it will appear that the so-called and over-emphasized 'Lucas critique' does not imply that macroeconomic models have to conform to the standards imposed by what is called the 'New Classical Macroeconomics'." (Malinvaud 1989b, 216)

Yet, Malinvaud did not intend to completely discredit the Lucas Critique, conceding it has helped to think the theory of economic policy in less simplistic terms and in a more dynamic context (Malinvaud 1991c, 1997b, 1998a, 2004). He would even be up to consider that, on certain occasions, a change in economic policies could completely modify economic agents expectations (Malinvaud 2007a). However, for him, the challenge in macroeconomics would be then to identify such drastic changes in expectations, in order to cope with their effects. To do such, the best method is proceeding by inference from data obtained by interviews and certainly not in postulating rational expectations. Interestingly, Malinvaud interprets then the Lucas Critique in a positive sense as an appeal to be more cautious in the estimation of macro-econometric models. In this sense, he opposed less the issue posed by this Critique to macro-econometric modelling than Lucas' conclusions.

> "The conclusions that were drawn by Robert Lucas from his Critique, and drawn more generally by the 'Chicago school', pushed the recommendation of prudence much further. According to them, it was no longer necessary to pretend to have the capacity to thwart spontaneous business cycles." (Malinvaud 1998a, 335)

In addition to the Lucas Critique, Malinvaud opposed another New Classical Economics development based on the rational expectations postulate, namely the calibration method.

3. Against the method of calibration

By postulating rational expectations and by taking for granted the Lucas Critique, New Classical Economics could no longer base its assertions on structural econometrics. Although such a task was initially performed by Thomas Sargent, it owed to Real Business Cycles to have achieved confronting New Classical Economics' "little models" with data.[38] To this purpose, Real Business Cycles introduced calibration that consisted in choosing among available econometric estimates those ones whose values fit the parameters of a model and its uses. The theoretical model can thus avoid the complications related to econometric estimation and be confronted with empirical data. Remarkably, while he identified well Real Business Cycles specific empirical strategy, Malinvaud kept on regarding the latter as a New Classical Economics by-product.

> "Despite its claim to establish [the] validity [of the Lucas Critique], the so-called Real Business Cycles school did not fundamentally change the situation because of the lightness of its methodology regarding empirical validation (avoiding, in particular, anything that could falsify the models presented)." (Malinvaud 1997b, 21)

If Malinvaud evoked New Classical Economics econometric achievements, notably those ones of Real Business Cycles, it was primarily due to the growing dissemination of the calibration method within the profession (Malinvaud 1991c, 1992, 1997b, 1998a, 1998b, 2007b). Definitely opposed to this method in econometric, he claimed that no econometrician can reasonably support either of the two stages of this quantitative approach, whether it is the calibration or the comparison (by simulation) of the model to empirical data, or to 'stylized facts' that are supposed to summarize the observation of main economic aggregates according Real Business Cycles (Malinvaud 1997b, 1998a).[39] Focusing on the second step, calibration, he even asserts it a step back compared to the 1960s econometric theory (Malinvaud 1991c, 1998a, 1997b, 2007b).[40] In a nutshell, to Malinvaud, the calibration method lacked rigor.

> "For the econometric estimation of a model, [...] well-defined procedures are applied to an adequate database; for its calibration, all kinds of pre-existing data or estimates are used, choosing at best from among them, possibly making them a synthesis. There is, therefore, no precise methodology for calibration. What to think about that?" (Malinvaud 1991c, 457)

Moreover, Malinvaud (2004) argued that micro-econometric results were too vague and too disputable to be mobilized as such, referring for instance to the value of the supply labour

[38] In this respect, Sergi (2015) shows that the Real Business Cycles calibration method was an *a priori* response to the econometric problems met by Sargent's research program.

[39] Malinvaud referred mainly to Hansen and Heckman (1996). However, it is worth noticing that calibration critics were numerous throughout the 1980s (Young 2014, chapter 5; De Vroey 2016, 292–93).

[40] "Such practices reflect a step back with regard to requirements that have allowed progress in econometric theory for a half century. It would be irresponsible, for me, to plead against those retained teachings from progress in applied macroeconomics." (Malinvaud 1998b, 336–37) "A lot of adepts of this movement [Real Business Cycles] replaced econometric estimations by "calibrations" or called for rough tests that do not honor mathematical statistics. In my view, the practices of a few people were serious breaches in scientific deontology." (Malinvaud 2007b, 420) In the same vein, Malinvaud apologizes to the reader for discussing the calibration method in a book section dedicated to the "daily work of econometricians" (Malinvaud 1991c, 456).

inter-temporal elasticity of substitution. He also noted that it would be wrong to believe in that micro-econometric estimates could be directly transferable to macroeconomic models. Then, Malinvaud pointed out three weak points in the calibration method that could entail perverse effects within macroeconomics. First, calibration leaves room for manoeuvres in the selection of econometric results; whether this bias is intentional or not (Malinvaud 1991c, 1997b). Second, calibration diverts attention from the values of the parameters to focus only on the empirical performance of the model.[41] Third, calibration could depreciate rigorous econometric investigations, if not any empirical work, so that macro-economists turn to imagine good values for their models.

Likewise, Malinvaud not only opposed the rational expectations postulate in itself, but he opposed two further developments based on the latter postulate, namely the Lucas Critique and calibration. Now, let us turn to the third set of Malinvaud's criticisms on New Classical Economics conception of the role of macroeconomics towards economic policy.

III. Macroeconomics and economic policy

Instead of deriving from a definite postulate, New Classical conception of macroeconomics towards economic policies derived from both market-clearing and rational expectations postulates.[42] Accordingly, Malinvaud' third set of criticisms focused only on New Classical Economics developments based on these postulates. On the one hand, he opposed the claim that policy-makers should adopt rules rather than discretionary policies and, on the other hand, he opposed the growing role of structural policies in Europe.

1. Beyond the rules, a return to traditional liberalism

From the early 1980s, Malinvaud confessed being puzzled by New Classical Economics' statement that policy-makers should adopt rules rather than discretionary economic policies, regardless business cycles (Malinvaud 1982).[43] Remarkably, he has not changed his mind throughout the next decades whereas he has become more familiar with the literature about time inconsistency, on optimal taxation, on the effectiveness of monetary policy, or on the fiscal theory of the price level (Malinvaud 1986, 1987, 1991c, 1997c, 1998b, 2004).

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[41] In this respect, Malinvaud (1991c) suggested adopting ethical rules to avoid those perverse effects disrupt the empirical validation process in macroeconomics: highlighting the calibrated parameters; presenting econometric sources and justifying any value; carrying out tests to show the sensitivity of the (simulated) results to the values of parameters of the model; testing conjectures on observations from other sources than time series.

[42] For instance, the whole literature on temporal inconsistency derived from the rational expectations postulate.

[43] These rules stipulate that fiscal policy does not compromise the inter-temporal balance of the public budget and, for monetary policy, that it be reduced to the constant rate growth of the money supply.

According to Malinvaud (1982), the priority given to rules over discretionary policies rests on a "narrow" conception of economic policy that merely reveals the resurgence of the liberal conception, the one that prevailed in economics in the inter-war period. After recalling his opposition to the rational expectations postulate, he claimed that nothing can prevent a government from resorting to discretionary policies as long as the economic situation requires it, especially after a change in the international environment (Malinvaud 1991c, 1997c). Moreover, Malinvaud argued that the government, thanks to their experts, has an unequalled knowledge of macroeconomic phenomena, so that it would be absurd for this latter to not taking advantage of this knowledge to regulate the economy, maximizing then the social welfare (Malinvaud 1991c). Such a conception of economic policy was even so far-fetched to him that he came to wonder how it has so easily been established in academic research. In a paper dedicated to that purpose, entitled "The Proper Role of Theory" (Malinvaud 1997c), he recalled that the superiority of the *laissez-faire* has never been demonstrated. Reflecting upon the sort of regulation promoted by New Classical Economics, Malinvaud concluded it was hardly different than the "laissez-faire" since no economist of this school ventured so far to propose implementing the perfect competition.[44]

> "Few, if any, would go as far as saying that the Walrasian competitive equilibrium provides the perfect reference to the real world for the purpose [sic] and that economic policy should aim only at implementing the conditions required for this equilibrium. This is so even though [sic], on the surface, it seems that the hinted conditions for good performance of market economies refer to Walrasian theory." (Malinvaud 1997c, 159)

Considering in retrospect the liberal turn back to the late 1970s, Malinvaud identified two main criticisms that, taken together, ended up discrediting the state intervention (Malinvaud 1997c).[45] First, he mentioned at New Classical Economics' claim that governments are unable to properly regulate the economic activity. Such an action is to be considered as destabilizing in any case. Second, he emphasized Public choice claim according to which representatives seek to satisfy their own interests rather than the public good, resorting to Keynesian recipes for the sole purpose of maximizing their chances to be re-elected. In Malinvaud's view, these

[44] According to Malinvaud (1999), this is the logical consequence of adopting the pure microeconomic theory as an exclusive framework of analysis whose normative implications are quite clear indeed. It aims either at pleading for the laissez-faire (if not at implementing the perfect competition), or at preventing market failures. This alternative drawn by Malinvaud allows recalling that the neoclassical approach is crossed by a major opposition, depending on whether this latter is fundamentally or methodologically understood. As for the methodological approach, adopted at length by the French engineers-economists after the Second World War, stability and optimality of the market economy are not postulated, so that the neoclassical theory primarily serves as a normative framework for defining public policies. Marcel Boiteux's work on the optimal pricing of a natural monopoly, which was implemented at the French electric company (EDF), illustrates at best this approach.

[45] Two main criticisms that came along for Malinvaud (1997b) with the widespread belief that the international openness would negate the effectiveness of any demand policy.

two critics were nothing but belongings of a similar academic front that aimed at putting into question the "Keynesian consensus", especially the assertion that the optimal functioning of a market economy requires the state intervention.[46] Confronted to this academic movement, Malinvaud did not hesitate to put on his proper set of postulates.

> "The logic of policy intervention in modern market economies was also re-examined, starting from the so-called 'Lucas critique', or the so-called 'Ricardian equivalence', or still the so-called 'Public Choice theory'." (Malinvaud 1997c, 161)

> "From now on, we will admit that the government is seeking the public good and that, on the other hand, this government has a knowledge of economic phenomena from which it intelligently takes advantage of." (Malinvaud 1991c, 563)

Strongly opposed to New Classical Economics' attitude towards economic policy, Malinvaud criticized at the same time the growing importance of structural policies in Europe in the 1990s, which he imputes to New Classical Economics' rising influence in macroeconomics.

2. *Against the prevalence of structural policies*

Throughout the 1990s, Malinvaud kept on claiming that the role of macroeconomics is to study market failures, such as unemployment or inflation, and not to convey the idea that the market economy maximizes social well-being (Malinvaud 1991c, 1991b, 1992, 1994a, 1995b, 1995a, 1997a). In 1993, at the pick of the early 1990s recession, he took the opportunity of a conference of the European Association of labour economics to ask "Are macroeconomic theories challenged by the present European recession?" (Malinvaud 1994d). He dedicated his communication to overview western economies' performances since the early 1990s. He complained about the tendency inherited from New Classical Economics to discredit the role of economic policies in the regulation of activity.

From the mid-1990s, Malinvaud turned out to be more critic of the growing role of structural policies in Europe, while the OECD itself turned away from Keynesianism and promoted structural policies.[47] The reversal of OECD appeared most sharply in 1994, through its *Jobs*

[46] In this respect, it is worth to emphasize that the Public Choice was fully in line with the New Classical Economics perspective, by promoting an economic constitutionalism with the stated objective of improving the credibility of economic policy. In addition, let recall the historical evidence that Public Choice's main founders, James Buchanan and Gordon Tullock, were also established at the University of Chicago.

[47] Malinvaud even criticized the term of "structural policies" that he finds risky to oppose to the one of "discretionnary policies". The risk is that structural policies are associated with supply-side policies, while these two sets of policies do not necessarily overlap. For instance, the introduction of a minimum wage is a structural policy, but it is in no way a supply-side policy. Conversely, reducing real wages for restoring profits is a supply-side policy but it has no structural character. Such a clarification is needed to Malinvaud (2000c, 2003), who claims that the spectrum of macroeconomic policies should be broadly understood, recalling in particular that a supply-side policy can quite be articulated with a policy of demand regulation.

Strategy famous report (OECD 1994), where five out of eight policy recommendations to reduce unemployment in Europe directly aimed at increasing the flexibility on the labour market. Highly critical of the OECD strategy in 1994, and throughout the 1990s, Malinvaud closely followed the evolution of this institution until the end of the 2000s (Malinvaud 2000c, 2000a, 2001a, 2003, 2009). His main critic is that the alleged performance of structural policies to reduce unemployment in Europe, and all OECD' recommendations, rests upon a highly disputable value of the structural unemployment rate. Indeed, according to Malinvaud (2000c, 2003), this measure is hardly more relevant than a smoothing of the observed unemployment rate aimed at eliminating short-run fluctuations. In this respect, he recalls that a great number of econometric estimates on the effects of structural policies on employment – whether in terms of the amount and duration of unemployment benefits, the level of the minimum wage, and so on – have not allowed for the 1980s to draw evidence (Malinvaud 2000c, 2003). Seemingly sceptical of the value of the natural rate of unemployment, Malinvaud finally came to wonder whether the OECD did not simply convert to the belief in the efficiency of the market economy:

> "It is natural to wonder how the authors of recommendations as detailed as those of the OECD can be sure that their implementation will be beneficial. Quite frankly, it is questionable whether the assurance with which those recommendations are made is most often based on the belief that problems would disappear if the labor market functions as the goods market. [...] this belief is out of place." (Malinvaud 2003, 17)

> "Let's have enough bravery to face our doubts. With that in mind, I say that I do not know if today the French structural unemployment rate is 9 or 8, or maybe 5 percent." (Malinvaud 2003, 26)

But the clearest illustration of Malinvaud's opposition to the growing importance of structural policies remains the appeal he broadcasted in 1994, along with Jacques Drèze and other European macroeconomists, to promote an economic program that aims at recovering growth and full-employment in Europe (Drèze and Malinvaud 1994).[48] This call, entitled "Growth and employment: the scope of a European initiative" and co-signed by many other French speaker macroeconomists (including among others Jean-Paul Fitoussi, Guy Laroque, and Henry Sneessens), was addressed to European policy-makers both at the national and the European level.[49] It was also addressed but to the European economists' community:

> "Since almost twenty years old now, European Unemployment has been a major social problem and the sign of underutilization of resources at a time of unfilled needs. According to current

[48] In the spring of 1993, Jacques Drèze and Edmond Malinvaud invited several colleagues to meet them in Louvain-la-Neuve and Paris to discuss the terms of a program capable of boosting growth in Europe. The result of this collective work was presented for the first time in Helsinki in August 1993, at the 8th Annual Congress of the *European Economic Association*.

[49] This text is actually an alleged version of the French call, entitled "Croissance et emploi : l'ambition d'une initiative européenne", published on the same year in the *Revue de l'OFCE*.

> forecasts, the slack in the labour market will still prevail over this decade. Faced with such a prospect, European economists cannot remain silent. We think that independent academic economists have a specific role to play." (Drèze and Malinvaud 1994, 489–90)

This initiative consisted in a combination of demand and supply-side policies, accompanied by structural policies applied on the labour market and on the welfare state. In terms of demand support, this included the reduction of real interest rates to a level close to 0, maintained at this level until a revival of economic activity was observed. It also included an investment program in labour-intensive activities, such as social housing building and urban renewal. With regard to the supply side, this call provided for a sustainable reduction of the cost of unskilled labour by reducing employers' social security contributions (notably in the French case), offset by a tax (or energy) so as not to destabilize the social security budget, but also to maintain the wage moderation as long as the supply-side policy has not produced its effects.[50] This economic program aimed at supporting both the supply and the demand side of the economy, perfectly in line with the disequilibrium approach as well as the Neoclassical Synthesis. It also illustrates how much Malinvaud's conception of the role of macroeconomics towards economic policy was far from the one developed by New Classical Economics.

In conclusion, Edmond Malinvaud's opposition to New Classical Economics appears far from being anecdotal. It has indeed a multi-dimensional nature since it has theoretical, empirical and methodological concerns, if not epistemological ones; all these concerns were somewhat interrelated. In this respect, the manner he opposed market-clearing and rational expectations is quite illustrative. He regarded these latter as bad *theoretical* approximations with regard to the phenomena they intended to explain since they contradicted *empirical* evidence available in macroeconomics. From a *methodological* point of view, Malinvaud also regarded market-clearing and rational expectations as being nothing but hypotheses that ought to be confronted to data in order to to be worth considering as relevant in macroeconomics. His opposition to New Classical Economics eventually had an epistemological concern since those three aspects fell into an alternative conception of macroeconomics, highly connected to the practice of the macro-econometric modelling, which ultimate purpose is to guide economic policies. Besides, as pointed out all along this article, nearly all Edmond Malinvaud's criticisms to New Classical Economics had been addressed by one or another of the other Old Keynesians. The study of Malinvaud's criticisms sheds then some light on both the nature and the rationale of the Old Keynesians opposition to New Classical Economics. Thanks to its multi-dimensional, this opposition can be characterized as a radical one, and its rationale ensued from the macro-econometric modelling practice.

[50] For a synthetic presentation of this program, along with its budgetary and political implications, see Drèze and Malinvaud (1994, 503).

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