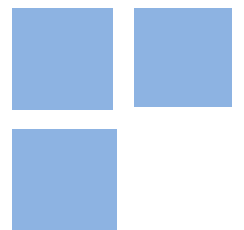


Edmond Malinvaud's criticisms of the New Classical Economics: Restoring the Nature and the Rationale of the Old Keynesians' Opposition

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Abstract:

Contrarily to standard accounts of the history of macroeconomics, recent research has increasingly paid attention to the Old Keynesians' criticisms of the New Classical Economics. In this paper, I study another study case through Edmond Malinvaud's criticisms of the New Classical Economics from the 1980s onwards. I argue that his opposition was radical in the sense that it was both multi-dimensional and systematic. I show, then, that the way he opposed reveals his own conception of macroeconomics, which owed much to the methodology and the practice of macroeconometric modeling. Finally, I suggest that the study of Malinvaud's opposition to the New Classical Economics shed light on both the nature and rationale of the Old Keynesians'.

Keywords: History of Macroeconomics; Edmond Malinvaud; Old Keynesians; Neoclassical Synthesis; The New Classical Economics; Macroeconometric modeling.

JEL Codes: B22; B23; B31; B41.

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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)²

Introduction

Edmond Malinvaud opposed the New Classical Economics and the Real Business Cycles since the 1980s. In so doing, he followed most of the macroeconomists of his generation, who were by and large all committed to the Neoclassical Synthesis. The latter notion, rather vague, is usually defined as the never-achieved theoretical enterprise, starting in the 1940s, to reconcile the Keynesian and Walrasian frameworks (De Vroey and Duarte 2013; De Vroey 2016). The Neoclassical Synthesis, however, can be defined in a more comprehensive way by referring to the “Keynesian consensus” that prevailed in the 1960s. From this perspective, the Neoclassical Synthesis consisted of the IS-LM model, the Philips curve, the large-scale macroeconometric models, along with a certain belief in the stabilization policies (Mankiw 1990; De Vroey 2016). From the 1970s onwards, the Neoclassical Synthesis’ proponents that opposed the New Classical Economics were in no way minor figures since they include James Tobin, Robert M. Solow, Franco Modigliani, Lawrence R. Klein, Arthur M. Okun, Richard G. Lipsey, and Otto Eckstein, among others. But these macroeconomists could also be labeled as “Old Keynesians”, a term that Tobin coined for himself.

“In this symposium I shall play the role in which I was cast, *the unreconstructed old Keynesian*. Time was when I resisted labels and schools, naively hoping that our fledging science was outgrowing them. [...] Considering the alternatives, I do not mind being billed as a Keynesian, an

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² This and all subsequent translations from Edmond Malinvaud’s publications in French are my own.

old Keynesian at that.” (Tobin 1993, 45–46, italics added)³

Yet, the Old Keynesians’ opposition to the New Classical Economics has long been neglected in the history of macroeconomics. This is in great part due to the “standard narrative” that does not mention any of their criticisms.⁴ Instead, the standard narrative claims that Robert Lucas and his New Classical followers took the upper hand during the 1970s by arguing that the Neoclassical Synthesis had failed on empirical grounds after it had been unable to explain the stagflation phenomenon. It also failed on theoretical grounds after the New Classical Economics had demonstrated that the neoclassical synthesis had no sound microfoundations. As a result, the Neoclassical Synthesis fell down without provoking any particular trouble or any resistance within the profession, as if each macroeconomist had become convinced of its theoretical and empirical failures and had abandoned it. The standard narrative reports the state of crisis that macroeconomics went through during the 1970s, and for the two subsequent decades, but it primarily refers to the New Keynesian Economics’ fierce opposition to the New Classical Economics, then to the Real Business Cycles. This way, the New Keynesian Economics is presented as having been the main opponent of the New Classical Economics from the mid-1970s onwards, and as the only approach capable of taking up the torch of Keynesianism and reintroducing Keynesian concerns in the rigorous modern macroeconomics.

In contrast to the standard narrative, the recent works in the history of macroeconomics has increasingly paid more attention to the Old Keynesians’ reactions, questioning the (implicit) claim that the Neoclassical Synthesis disappeared in the aftermath of the New Classical Economics’ assaults. First, De Vroey (2016) and Da Silva (2015) point out that the Old Keynesians were among Lucas’ early critics. Second, historians of macroeconomics have recently shown that the Old Keynesians actually opposed the New Classical Economics from the 1970s onwards, particularly opposing to the Lucas Critique (Goutsmedt et al. 2015, 2019), or to the relevance of macroeconomic models and the Phillips curve (Goutsmedt 2017; Goutsmedt and Rubin 2018). Third, historians have shown that the Old Keynesians’ opposition to the New Classical Economics was less due to ideological than to methodological concerns. For instance, this was the case of Modigliani (Rancan 2018). More significantly, this was the case of Solow whose opposition primarily owed to his “non-Walrasian” methodological position (Ballandonne and Rubin 2017), but also to his long-lasting concern for developing a macroeconomics of the “medium-run” (Assous 2015).⁵

³ Actually, Tobin coined this term “Old Keynesian” one year before (Tobin 1992). Interestingly, he referred again to that term in his allocution at the “Symposium on Keynesian Economics today” (1993) organized by Gregory N. Mankiw, whose intention was to consolidate the label “new Keynesian” in macroeconomics.

⁴ Coined by Duarte and Lima (2012), the “standard narrative” refers to the contemporary practitioners’ account of the history of macroeconomics (e.g., Mankiw 1990; Woodford 1999; Blanchard 2000). For a deeper and a critical presentation of the standard narrative, see Duarte (2012) and Sergi (2017).

⁵ Note that a similar case could be made about Tobin who also opposed the New Classical Economics in a considerable number of publications from the early 1970s onwards. For instance, Tobin (1972, 1977, 1980a, 1980b, 1984, 1992, 1993, 1995).

In this paper, I provide another study case to better assess the Old Keynesians's opposition to the New Classical Economics by studying Edmond Malinvaud's criticisms. From the early 1980s to the end of the 2000s, Malinvaud opposed the latter in a considerable number of publications, some of which some were entirely devoted to this purpose (Malinvaud 1984, 1985a, 1990, 1991a, 1997b). In a similar way to the Old Keynesians, Malinvaud did not make a clear distinction between the New Classical Economics and the Real Business Cycles, criticizing them both as part of the same doctrine. However, he started to oppose the New Classical Economics from the early 1980s, when the Real Business Cycles emerged. This is not a simple coincidence and this would explain that the RBC approach was the object of Malinvaud's most acerbic comments. More significantly, he probably realized at this very moment that the approach he championed, the Disequilibrium theory, had little chance to take root in the United States and thus to influence the development of modern macroeconomics.

“While my reflections during these past fifteen years were concentrating on the research program in disequilibrium macroeconomics, I witnessed with a good deal of dissatisfaction the main trends in macroeconomic theory that were occurring in American universities.” (Malinvaud 1989c, 309)

The study of Edmond Malinvaud's criticisms of the New Classical Economics reveals that his opposition was radical because it was both multi-dimensional and systematic. Indeed, he criticized almost every dimension of the New Classical Economics approach, such as the rational expectations, the market-clearing, the dismissal of the involuntary unemployment, the Lucas Critique, the Real Business Cycles canonic model, the calibration method, and their policy recommendations. Malinvaud's criticisms also present a systematic dimension since he not only opposed the New Classical Economics postulates, market-clearing and rational-expectations, but also the further developments based on these postulates. This systematic feature of Malinvaud's criticisms provides the main structure of this paper. Accordingly, section I shows that Malinvaud did not only oppose the market-clearing postulate but also the dismissal of involuntary unemployment and the Real Business Cycles canonical model. Then, section II shows that he did not only oppose the rational expectations postulate but also the Lucas Critique and the calibration method. Finally, Section III shows that Malinvaud opposed the New Classical Economics' policy recommendations that arose from both aforementioned postulates, namely the promotion of rules and the defense of structural policies.

The radical nature of Malinvaud's opposition to the New Classical Economics suggests he had a conception of macroeconomics, which was both incompatible and irreducible to the one promoted by the latter. Interestingly, he revealed this conception in criticizing the New Classical Economics, claiming instead his attachment to the Neoclassical Synthesis and to the “Keynesian consensus” (Malinvaud 1989a, 1989b, 2001). More fundamentally, Malinvaud revealed that his alternative conception owed much to the methodology and the practice of macroeconometric modeling. This second major feature shall surface throughout the paper as providing the ultimate rationale of his opposition to the New Classical Economics. This second point is important as Malinvaud is rarely presented as primarily being an econometrician, early committed to the structural methodology since his stay at the Cowles Commission (1950-1951). He is even more rarely presented as an applied macro-economist,

who worked along his career at *Institut National de la Statistique et des Etudes Economiques* (INSEE), carrying out various economic and statistical studies. As such, he was involved in the setting-up and the development of the large-scale macroeconomic models from the mid-1960s until the end of his professional career in 1987.⁶

Finally, section VI suggests that an important outcome of the study of Malinvaud's criticisms is to shed light on the nature and rationale of the Old Keynesians' opposition to New Classical Economics. Given that their criticisms were quite similar to Malinvaud's in terms of forms and contents, it follows that their opposition can be characterized along the same lines, as a radical opposition that was ultimately inspired by the methodology and the practice of the macroeconomic modeling.

I. Against the market-clearing postulate and its developments

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

At the 1989 IEA Conference, Malinvaud dedicated his entire communication to discuss the stakes and consequences of the market-clearing postulate to macroeconomics (Malinvaud 1991a). Meaningfully entitled "Incomplete Market Clearing", this communication illustrates at best the way he opposed the market-clearing postulate. In particular, he argued that this postulate raises two issues that must be handled separately, namely an empirical issue and a theoretical one.

"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 of disequilibria and of various adjustments.⁷ To support his statement, he referred to the regular set of evidence highlighted by the critics of the New Classical Economics during the 1970s. As such, he mentioned that real wages vary little with employment, that prices of manufactured goods are fairly insensitive to demand, or that the labor supply is nearly inelastic to real wage. However, Malinvaud's privileged source of evidence on short-run market conditions stems from the business survey data.⁸ Developed after George Katona's survey methods, these data provided

⁶ For more biographical details on Malinvaud's career, see Renault (Renault 2016, 2–9).

⁷ See Malinvaud (1981, 1982, 1984, 1985a, 1985b, 1989b, 1991a, 1991b, 1991c, 1998a, 2000a). This is in particular the case of his book *Mass Unemployment*, which was entirely devoted to survey and discuss evidence on short-run phenomena (Malinvaud 1984).

⁸ Business survey data were extensively used in the macroeconomic models at INSEE through indicators of tensions assessing the extent of disequilibria (or tensions) on markets. For more details on the role of these data in the macroeconomic modeling practice, see Malinvaud (2000a).

basic information on producers' and consumers' experiences on markets and were gathered in different surveys (business, consumer or labor force surveys).⁹ On this basis, Malinvaud claimed that the short-run was more often characterized by queues, delivery dates, and spill-over effects on substitute goods or imported goods according to consumers. As for the producers' side, they often declared to suffer either from an involuntary accumulation of stocks or from under-utilization of capacities. According to him, the stock of available evidence was thus important enough to discard the market-clearing postulate for the analysis of short-run phenomena (Malinvaud 1984, 1989b, 1991a, 1991c).¹⁰

Such a conclusion did not imply, however, that macroeconomics must replace this postulate with an alternative one based on non-market-clearing. Here comes the theoretical issue raised by the market-clearing postulate in macroeconomics, about which Malinvaud (1991a, 182) reminds the highly theoretical dimension and the intimate connection to the Walrasian equilibrium model. Accordingly, any attempt to remove this postulate is challenging as its substitute is required to be logically consistent with the rest of the model, in particular with the rationality of agents. By these remarks, Malinvaud shows he was perfectly aware of the consistency issues at stake within the Walrasian framework, which were brought to the fore by the New Classical Economics through the "equilibrium discipline" (Lucas and Sargent 1979). According to this equilibrium discipline, the rationality of agents would require the market-clearing postulate since no mutually advantageous exchanges could be left by rational economic agents. Remarkably, Malinvaud refused to let himself be imprisoned in this "trap" and claimed, instead, his preferences for the methodology of macroeconometric modeling.

"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 [...]" (Malinvaud 1994b, 10)

Thereafter, Malinvaud proposed three ways to get rid of the market-clearing postulate. The first way consisted in arguing that sub-optimal exchanges can be perfectly consistent with the rationality of agents. Here he referred to New Keynesians' explanations of the rigidity of wages and prices, such as the menu costs, the wage efficiency, the implicit contracts, the insiders-outsiders scheme, or the monopolistic competition (Malinvaud 1984, 1991a, 1991c, 1994b). The second way consisted in softening the rationality of agents, claiming arguably that rationality had no reason to be postulated in macroeconomics (Malinvaud 1989b, 1991a, 1995). The third way he proposed was the one he most regularly adopted, but most importantly, it was also the one that fitted best his conception of macroeconomics (Malinvaud 1984, 1985b, 1985a, 1989c, 1989b, 1991a, 1991b, 1991c). It consisted in asserting that an

⁹ On Katona's method and its impact on research in macroeconomics, see Dechaux (2017).

¹⁰ The term "available" worth being emphasized since Malinvaud was well aware of the profession's reluctance for considering business data survey as sound statistics (Malinvaud 1991a, 1991b, 1991c).

empirical observation, if firmly established, should always dominate an inaccurate theoretical assertion, even though its rationalization is still lacking.

“The question is to know whether the [market-clearing] 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 did not only oppose fiercely the market-clearing postulate but he also went on in criticizing its application for the analysis of the labor market.

2. In defense of the Involuntary Unemployment

As applied to the analysis of the labor market, Malinvaud no longer considered the market-clearing postulate as unfounded but as properly “scandalous”. This postulate implied logically, indeed, to negate an involuntary dimension in the unemployment phenomenon (Malinvaud 1984, 1985b, 1991a). No need to say that such a perspective made little sense to him, in particular in a context of mass unemployment.¹¹ However, he embarked on discussing this perspective, along with the evidence brought that came along, because the New Classical Economics had already challenged mainstream macroeconomics on this matter.

“But what matters to us here is that the hypothesis of disequilibria on the labor market is not unanimously accepted. Some economists believe that statistical data are compatible with the opposite hypothesis of equality between supply and demand for labor [...]. The choice between these two alternative hypotheses for the labor market is important in terms of economic policies. That is why deciding which of these hypotheses is valid is crucial.” (Malinvaud 1991c, 342)

Yet, Malinvaud did not take either the statistical rate of unemployment for an indisputable measure of the extent of non-market-clearing (i.e., involuntary unemployment) on the labor market. However, he recalled that this was not new in macroeconomics and that the empirical existence of a “frictional unemployment” had long been recognized (Malinvaud 1984, 1985a, 1991b, 1994b, 1994c). From this perspective, the novelty with the New Classical Economics was rather to attach a greater importance to this phenomenon in the diagnosis of the current unemployment. Incidentally, Malinvaud argued that the recent rationalization of the frictional unemployment by Phelps (1968) did not make it more relevant to explain the current situation.¹² Then, he accumulated evidence to discredit the claim that unemployment could be

¹¹ “In countries affected by high unemployment, such as ours, we do not have to discuss much this point [the market-clearing postulate].” (Malinvaud 1998a, 336)

¹² Phelps (1968) stressed the dynamic and heterogeneous character of the labor market. Unemployed individuals with specific characters and preferences in terms of skills, location, or work time, rationally decided to lengthen their search period in the hope to find a better job. For an historical account of the emergence of search and matching models, see (Batyra and Vroey 2012).

reduced to a frictional unemployment, including the job search (Malinvaud 1984, 1985a, 1985b, 1991c). First, 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, given workers are ever paid at the minimum legal wage no matter the job. Second, he referred to the data issued from the labor force survey that contained information on the jobs that were actually searched.¹³ Last but not least, he scrutinized the factors that were commonly taken to be responsible for a rise in the frictional unemployment, such as an increase in the unemployment benefits, or a change in the legislation protecting the unskilled labor. Then, he concluded that it would be an “aberration” that all those factors taken together were enough to explain the rise in unemployment since the 1970s (Malinvaud 1985a, 470).

At the same time, Malinvaud deplored that the New Classical Economics fellows had not sought to develop empirical applications to substantiate their claims on the actual nature of the current unemployment. If they had done so, the highly abstract notions of frictional unemployment and of job search they mobilized could have been, at least, subject to quantification (Malinvaud 1984, 1985b, 1985a). However, Malinvaud was hardly more convinced by the literature that emerged after Pissarides’ achievements, which aimed at evaluating the importance of the job search phenomenon. In particular, he regarded insufficient the shift of the Beveridge curve highlighted in this literature to explain the rise in the unemployment rate since the end of the 1970s. Dissatisfied by this literature, he elaborated an alternative model of the Beveridge curve (Malinvaud 1994b, 1994c). In so doing, he intended to make room for the involuntary unemployment alongside the frictional unemployment within the Beveridge curve. In addition, his objective was to provide tractable specifications for econometric applications in order to improve the identification of both frictional and involuntary unemployment in macroeconomics. Remarkably, in Malinvaud's mind, this issue about the nature of the unemployment could be resolved on the mere statistical ground. In this respect, he argued that new conventional rules were needed.

“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)

In this goal, Malinvaud (1994b, 1994c) relied on an alternative set of definitions in his modeling of the Beveridge curve. The unemployment rate is composed of both the frictional unemployment and the “disequilibrium unemployment” (i.e., involuntary unemployment).

¹³ He illustrated how the labor force surveys helped determine the diagnosing the nature of current unemployment 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)

Unlike the latter, the frictional unemployment is the part of unemployment that cannot be reduced in stimulating the demand for labor. In turn, this incompressible unemployment is composed of job search, on the one hand, and of “structural unemployment” that result in differences in the composition of the labor supply and demand, on the other hand. Interestingly, Malinvaud noted that his set of definitions was inspired by categories existing in practice, unfolding his purpose to better organize at the macroeconomic level the statisticians’ knowledge about the current unemployment. Another striking point here was Malinvaud’s attitude towards the concept of involuntary unemployment. Indeed, he dropped easily the theoretical definition of this concept for adopting what could be called a statistical approach of the involuntary unemployment. As it results from his set of definitions, the involuntary unemployment is nothing but the residual part of the unemployment rate that is not due to variations in the frictional unemployment, provoked either by changes in the job search rates or by changes in the degree of mismatch on the labor market.

3. The Neoclassical Synthesis rather than the Real Business Cycles

From the early 1980s, Malinvaud opposed the Real Business Cycles’ claim to unify the short- and the long-run in macroeconomics through its dynamic model. He did not oppose this enterprise itself, as he was himself willing to acknowledge the “schizophrenic” character of the temporal dichotomy inherited from the Neoclassical Synthesis (De Vroey 2016). However, Malinvaud did not accept that such unification could be carried out by folding the long-run properties over those of the short-run (Malinvaud 1989c, 1989a, 1989b, 1991a, 1991b, 1998a). This point echoes Malinvaud’s understanding of the growth literature in macroeconomics, including Solow’s (1956) growth model (Malinvaud 1991b). Although this model assumed market-clearing, he always claimed its relevance both as a conceptual and a measuring tool in the study of economic growth. Moreover, he praised the random shocks (real or monetary) that had been introduced in this model over the years in order to take into account the erratic business fluctuations. In that way, he viewed the Real Business Cycles’ attempt to explain business fluctuations by random shocks of technical progress as a legitimate theoretical enterprise. Rather, Malinvaud’s reluctance was on the relevance to be given to this framework in the analysis of the actual macroeconomic phenomena.

“It was then a quite valuable objective to achieve this analytical extension. [...] 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 this respect, he argued that neither the Real Business Cycles dynamic model nor Solow’s growth model can satisfy all the needs of macroeconomics. They were hardly suitable for other purposes different from the study of the long-run growth phenomenon (Malinvaud 1991b). In spite of the claims of the promoters of Real Business Cycles, Malinvaud deemed that this model bypassed all sorts of disequilibrium phenomena occurring in the short-run, whether they are

real (such as unemployment) or monetary (such as inflation). Against this model, he recalled the same set of evidence that must discard the relevance of the market-clearing postulate for the short-run (Malinvaud 1991a, 1991b, 1991c, 1997b, 1998a, 2000a, 2004). For this reason, he did not regard this model as being better-suited than the dynamic framework it claimed to replace, the Neoclassical Synthesis. Instead, he spotlighted two other ways of elaborating a dynamic model capable to get over the limits of the Neoclassical Synthesis.

Malinvaud's first alternative way to the Real Business Cycles consisted of the Disequilibrium dynamics (Malinvaud 1984, 1989a, 1991c). Based on the Disequilibrium theory, this approach was developed by many theoreticians, including Malinvaud, from the end of the 1970s and throughout the 1980s.¹⁴ In contrast to the Real Business Cycles, this approach fully recognized the properties of the short-run. In particular, it took for granted that the economies are confronted with disequilibria resulting from prevailing fix-prices, placing them therefore in one of the disequilibrium regimes (Keynesian unemployment, Classical unemployment, and repressed inflation). Beyond the short-run, the evolution of the economy resulted from price changes in reaction to initial excess demand and/or excess supply. Interestingly, price changes were not assumed to be strong enough to clear the markets in the subsequent periods. In spite of a truly evolution of prices from period to period, non-Walrasian prices prevailed all along the sequence of temporary equilibria. Other variables were taken into account in Disequilibrium dynamics, such as the evolution of monetary assets or firms' investments. In his contributions, Malinvaud paid particular attention to the latter variable because of its irreversible nature, which he incorporated by assuming a productive capacity to firms. Hence, his dynamic scheme resulted from firms' inter-periodic investments depending on the uncertainty of future demand, among other factors. Unlike the Real Business Cycles, the Disequilibrium approach did not intend to get rid of the Neoclassical Synthesis, but rather aimed at refining its temporal dichotomy by developing a "medium-run macroeconomics".

Besides the Disequilibrium dynamics, Malinvaud suggested another way to get over the Neoclassical Synthesis in resorting what he called the "adjustment laws" (Malinvaud 1982, 1984, 1989c, 1989b, 1991c, 1995, 1997a). In the context of the macroeconometric modeling, the adjustment laws refer to the empirically-based relationships that provided a dynamic dimension to the large-scale models. Malinvaud's most typical example of adjustment law is the Phillips curve. In this respect, he stressed the very empirical origin of this curve, which had always been regarded as such by practitioners, notwithstanding the various attempts to rationalize its theoretical underpinnings (Malinvaud 1991c, 1991b, 1997a).¹⁵ In contrast to the behavioral laws or to any other theoretically-founded relationship, the adjustment laws relied on empirical observation rather than on theoretical deduction. Therefore, the adjustment laws did not have a similar explanatory character to behavioral laws. For this reason, Malinvaud

¹⁴ For more details on Malinvaud's contributions to Disequilibrium dynamics, see Plassard et al. (2019).

¹⁵ In passing, he confessed that he had always been impressed by the Phillips curve ability to describe – without explaining it – the co-evolution of wages and unemployment until the end of the 1960s. As the Phillips curve became instable later on, his reaction was to encourage new empirical researches (Malinvaud 1991c, 1997a).

taunted the New Classical Economics' criticized adjustment laws, such as the Phillips Curve, because of their lack of theoretical foundations (Malinvaud 1997a, 20). In Malinvaud's view, the recourse to the adjustment laws resulted primarily from the limits of the proposals issued from the economic theory for macroeconomic modeling. This was particularly the case of the proposals derived from the General Equilibrium Theory that turned into empirical anomalies, such as the real wages sluggishness in reaction to an excess supply for labor. In this context, he claimed that macroeconomic modeling should substitute these theoretical proposals with alternative ones such as the 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 1989c, 314)

In short, Malinvaud opposed the market-clearing postulate and two other major developments derived from it and were in line with the New Classical Economics. Remarkably, he opposed the rational expectations postulate in a very similar way.

II. Against the rational expectations postulate and its developments

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

From the early 1980s, Malinvaud opposed the New Classical Economics' attempt to impose the rational expectations postulate in macroeconomics. His opposition was not about this concept itself that he viewed rather as a step forward since it enabled to endogenize expectations. Yet, he prompted the macroeconomists' community to be more vigilant and critical regarding the whole literature based on this concept (Malinvaud 1981, 1982). In particular, he aimed at stamping out the spontaneous tendency to associate the rational expectations postulate with the New Classical Economics' destructive results for the economic policy. In this respect, he rightly emphasized that this postulate was less responsible for these results than the one of market-clearing.¹⁶

Yet, even if he was aware of the exact role of the rational expectations postulate in the New Classical Economics models, Malinvaud did not give up criticizing it over the years (Malinvaud 1989b, 1990, 1991c, 1995, 2004). Interestingly, he remarked 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 its claim on the actual behavior. And these two

¹⁶ The Old Keynesians' very early attitude towards the concept of rational expectations has been often reported misleading in the history of macroeconomics (De Vroey 2016; Goutsmedt et al. 2015; Da Silva 2015). Arguably, they only got clear that this concept was logically disconnected of the market-clearing postulate thanks to New Keynesians' seminal papers (Fischer 1977; Phelps and Taylor 1977). It seems that Malinvaud also benefited from this clarification coming from the New Keynesians, given that he quoted Fischer (1977).

ways cannot be easily disentangled since the rational expectations are defined in respect to a theoretical model. As such, expectations can be said rational as soon as agents form their expectations in using at best all available information, including present and past values of all relevant variables of the model, but also the model itself. Regarding the first way to understand the rational expectations, Malinvaud noticed that its introduction into a model implies that (i) all agents share the same representation of the economy, provided they have the same model in mind. It also implies that (ii) the model is a good representation of the economy. As for (i), he asserted that claiming that agents have the same model in mind is highly disputable per se, given that even professional economists do not succeed in agreeing on a single model. As for (ii), Malinvaud noted that the New Classical Economics' models depicted a representation of the economy so simplified that few macroeconomists were ready to adhere. This claim was, however, obviously rhetorical and rather reflects Malinvaud's own astonishment that macro-economists ended up to rally the New Classical Economics. His comment on Lucas (1972) illustrates that point.

“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)

Regarding the second way to understand the rational expectations as a claim on the actual economic behavior, it is worth introducing Malinvaud's distinction between “pure theory” and “applied economics”. Unlike the “pure theory”, which refers to mathematical economics and notably to the General Equilibrium Theory, the “applied economics” basically refers to the methodology of macroeconometric modeling. Given its ultimate aim to assist and/or guide macroeconomic policy, macroeconometric modeling was required to test the realism of any specification it mobilized, whether its hypotheses and its conclusions. This methodology distinguished from “pure theory” since it conferred an utmost importance to the inductive validation.¹⁷ It follows that the concept of rational expectations cannot be understood in the same way in “pure theory” and in “applied economics”. Accordingly, while it was perfectly legitimate to postulate rational expectations in mathematical economics – and potentially instructive –, to postulate it made no sense in the macroeconometric modeling (Malinvaud 1990, 2004). In that context, the concept of rational expectations was nothing but a hypothesis that had to be tested, as any other theoretical proposal coming from mathematical economics.

“There is no categorical imperative that we give any privileged place to rationality. In other words, from a methodological point of view, the real difficulty lies in knowing how a hypothesis can be empirically validated, or can be based on the collective judgment of economists. It is not to know what special treatment should be given to hypotheses of rationality; the answer is then simple: none.” (Malinvaud 1990, 11)

According to Malinvaud, it was thus left to applied macroeconomics to determine the appropriate specification for expectations, hence, to discriminate between rational or adaptive

¹⁷ For more details on Malinvaud's view on structural econometrics, see Armatte et al. (2017)

expectations (Malinvaud 1982, 1989c, 1998b).¹⁸ In this respect, he argued that business survey data could help identify the state of expectations. From a more instrumental point of view, he pushed for adaptive anticipations because they fitted better the pragmatic attitude that prevailed in the practice of macroeconomic modeling (Malinvaud 1982, 1991c, 1995, 2004). On the one hand, adaptive expectations were flexible enough to fit various situations, and could be amended if needed. On the other hand, they were more in line with the multiple adjustment processes contained in macroeconomic models. It is also worth noticing that, from a more personal point of view, he always assessed that rational expectations were not relevant except for trouble times, such as wars, revolutions, or any period marked by considerable shortages (Malinvaud 1982, 1991c, 2004). He presented this personal assessment as resulting from his experience of the economic 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.” (Malinvaud 1981, 1369 footnote 10)¹⁹

2. From rational expectations to the Lucas Critique

In his famous article, Lucas (1976) argued that macroeconomic models were unable to correctly predict the effects of alternative economic policies. More exactly, he targeted the unsatisfying treatment of expectations in these models. By assuming rational expectations in various examples, he showed how a change of economic policy induced a change of the macroeconomic models' structural parameters. From the early 1980s, Malinvaud frequently reacted to the Lucas Critique (Malinvaud 1980, 1989c, 1991c, 1997a, 1998a, 2007a, 2007b). Considering it carefully, he agreed with some of the points raised by Lucas. He admitted easily that the treatment of expectations was unsatisfying in the macroeconomic models, recalling that they were mainly assumed to be extrapolative at that time (Malinvaud 1989c, 1991c, 2007b). He recognized that the Lucas Critique helped think the theory of economic policy in less simplistic terms (Malinvaud 1991c, 1997a, 1998a, 2004). He even conceded that a change in economic policies could completely modify agents' expectations on certain circumstances (Malinvaud 2007a). However, and despite its growing influence in macroeconomics over the years, Malinvaud did not change his position about the Lucas Critique's general conclusion. In a nutshell, although he praised its correctness in principle, he claimed its empirical relevance (i.e., its *scope*) was limited in practice:

¹⁸ For this reason, he monitored the econometric literature on the relative performances of both hypotheses during the 1980s, which he commented later on (Malinvaud 1998b, 1560–93).

¹⁹ Lucas reacted to Malinvaud's statement 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)

“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 1997a, 21)

According to Malinvaud, the Lucas Critique was and should be regarded as nothing but a theoretical proposal, no matter how insightful it was. To be considered in macroeconomics, its empirical relevance had to be demonstrated. In this respect, he considered that the burden of the proof was on Lucas’ and on his followers’ shoulders. For this reason, he deplored that no proponent of the New Classical Economics has sought to estimate it over the years. This observation made him even more convinced that the latter only satisfied with theoretical proposals (Malinvaud 1989b, 1991c, 1998a). In this respect, he noticed that the recent history of Western economies had provided some examples of drastic changes in economic policies that could have been grasped to test the empirical relevance of the Lucas Critique. Thus, he mentioned the implementation of the European Monetary System (1979), the deindexation of prices and wages in France (1982-1983), or the shift from the control of the money supply to the targeting of interest rates in many central banks throughout the 1980s.

Moreover, Malinvaud stood up against the New Classical Economics’ claim that the Lucas Critique required to get rid of the macroeconomic models. He also opposed the claim that postulating rational expectations was the unique way to render models “immune” to the Lucas Critique (Malinvaud 1991c, 1998a, 2007b). In contrast, he asserted that the rational expectations postulate was nothing but Lucas’s (1976) “theoretical solution” to his own critique. In addition, there was an “empirical” solution through Sims’s proposal for replacing the macroeconomic models by his VARs models. As for him, Malinvaud pleaded for a third solution that asserting the Lucas Critique did not demonstrate the need for getting rid of the macroeconomic models (Malinvaud 2007b). In doing so, he kept claiming that the Lucas critique should not be taken for granted as long as its empirical relevance had not been shown. Instead, he interpreted interestingly this critique in a positive manner as a word of caution addressed to the macroeconomicists on the way they carried out their estimations. Furthermore, he also kept claiming in line with his assessment of the rational expectations postulate that there was no particular reason to prefer this hypothesis to the one of adaptive expectations as long as it has not been evidence-based (Malinvaud 1998a, 1998b, 2007b).²⁰ In a similar way, Malinvaud’s position about the Lucas Critique was in line with his personal conviction. Indeed, he confessed to be skeptical that agents could take into account changes in monetary and fiscal policies until these changes really affect them (Malinvaud 1998a).

3. Calibration as a step back for econometric theory

Unlike the Lucas Critique, the Real Business Cycles’ calibration method introduced by Kydland and Prescott (1982) did not directly derive from postulating rational expectations.

²⁰ Note that in Malinvaud’s discussion of performances of both rational and adaptive expectations, a section is dedicated to the empirical relevance of the Lucas Critique (Malinvaud 1998b, 1563–67).

However, this method emerged as a priori solution after Sargent's difficulties to estimate New Classical Economics' basic postulates, especially the rational expectations postulate, on the basis of structural econometrics methods (Sergi 2015). For this reason, Malinvaud interpreted the rise of calibration as a trick to preserve basic postulates while allowing confronting the model with empirical data. Therefore, he regarded the Real Business Cycles as hardly more founded on the empirical ground than the New Classical Economics. More, he stated that the calibration method consisted of a step back for econometric theory.

“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)

From the early 1990s, Malinvaud forcefully opposed the method of calibration that had disseminated in macroeconomics (Malinvaud 1991c, 1997a, 1998a, 1998b, 2004, 2007b). Taking for example Hansen and Heckman (1996), he claimed that few econometricians could reasonably support this method.²¹ In particular, Malinvaud criticized that calibration involved the use of econometric estimations selected in the literature to calibrate some microeconomic parameters of the model (such as elasticity of supply for labor). In this respect, he argued that micro-econometric estimates are rarely transferable to macroeconomic models (Malinvaud 2004). He asserted also that micro-econometric results are often too vague and disputable to be mobilized as such, mentioning then the value of the supply labor inter-temporal elasticity of substitution. More generally, Malinvaud deplored the absence of any explicit methodology in calibration that could generate in turn a lot of perverse effects in applied macroeconomics (Malinvaud 1991c, 1997a, 2007b).²² First, he pointed out that calibration left room for maneuver in the selection of values in econometric samples that could strongly bias, intentionally or not, the final results. Second, he warned that calibration could divert attention from the values of the parameters to focus only on the empirical performance of the model, so that macro-economists could turn to imagine good values for their models. Third, he highlighted the risk that calibration ended up to depreciate any rigorous econometric investigations, if not any empirical contribution. Interestingly enough, Malinvaud promoted methodological rules to better frame the use of calibration in applied macroeconomics. This way, he suggested that the parameters resulting from calibration be highlighted, the econometric sources be presented, the selected values be justified, or the sensitivity of simulations to the values of the model's parameters be tested (Malinvaud 1991c).

In addition to the calibration method, Malinvaud criticized another important step in the Real Business Cycles empirical procedure, namely the one comparing simulations results to the stylized facts. In this respect, he deplored that ‘stylized facts’, and even time series, could be regarded as if they summed up the empirical knowledge in macroeconomics (Malinvaud

²¹ Note that calibration critics were numerous throughout the 1980s (De Vroey 2016, 292–93).

²² “Many of the supporters of this movement [RBC] substituted “calibrations” with econometric estimates or used coarse tests that do not honor mathematical statistics.” (Malinvaud 2007b, 420)

1991c, 1997a, 1998a). On many occasions, he argued against the tendency to focus on time series in macroeconomics, while these aggregate data were little conclusive in order to discriminate between alternative theories. In contrast, he pleaded for extending the set of data sources in macroeconomics and for including business survey data, in particular. By pushing for this need, Malinvaud wished that the New Classical Economics postulates could be finally discarded on an empirical basis in macroeconomics.

“Although fairly rare now direct use of business survey results is valuable for business cycle research, so valuable that it should be more frequent. This is so because of the importance of the two aspects [...], namely the nature of market disequilibria and the formation of expectations or intentions of market participants.” (Malinvaud 2000a, 13)

III. Against the New Classical Economics’ conception of policy-making

Provided that the New Classical Economics’ conception of policy-making arose from their two major postulates, Malinvaud’s criticisms mainly concerned its developments, namely the promotion of rules and of structural policies.

1. A mere return to traditional Liberalism

From the early 1980s, Malinvaud confessed to be puzzled by the New Classical Economics’ statement that policy-makers should adopt rules rather than discretionary economic policies, regardless of business cycles (Malinvaud 1982).²³ According to him, the priority given to rules over discretionary policies rested on a “narrow” conception of the economic policy. In contrast, he claimed that nothing can prevent a government from resorting to discretionary policies as long as the economic situation requires it.

Remarkably, Malinvaud had not changed his mind over the years, whereas he became more familiar with the literature about temporal inconsistency, optimal taxation, the effectiveness of monetary policy, and the fiscal theory of the price level (Malinvaud 1989c, 1991c, 1997b, 1998b, 2004). He kept claiming that the government had an unequaled knowledge of economic phenomena thanks to their experts. Therefore, it would be absurd not to take advantage of this knowledge to regulate the economy, maximizing then the social welfare. However, Malinvaud seemed to be rather intrigued by the New Classical Economics’ conception of economic policy. In a paper specifically dedicated to this purpose, he strove identifying the sort of regulation that was actually promoted by the New Classical Economics (Malinvaud 1997b). In this respect, he mocked their commitment to the Walrasian framework when they came to analyze economic policy issues. At the same time, he noticed interestingly that no fellow of this school of thought ventured so far to recommend the implementation of the perfect competitive equilibrium.

²³ These rules stipulated that fiscal policy did not compromise the inter-temporal balance of the public budget, and for the monetary policy that it be reduced to the constant rate growth of the money supply.

“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 and that economic policy should aim only at implementing the conditions required for this equilibrium. This is so even though, on the surface, it seems that the hinted conditions for good performance of market economies refer to Walrasian theory. Actually, when economists approach particular politic issues they usually eschew competitive equilibrium language and speak in much more ad hoc terms, referring to a different world from that of any formal modern theory.” (Malinvaud 1997b, 159)

Hence, Malinvaud concluded that the New Classical Economics’ conception of economic policy was nothing but a return to the kind of *laissez-faire* that prevailed in economics before the Second World War. In passing, he recalled that the superiority of *laissez-faire* had never been demonstrated in economic theory. Considering the liberal turn in western economies, he pointed out two major criticisms that contributed to discredit state intervention, along with the widespread belief that international openness would negate the effectiveness of the demand policy (Malinvaud 1991c, 1997b, 1998a). First, he highlighted the New Classical Economics’ systematic claim that governments were unable to properly regulate the economic activity without generating destabilizing effects of any sort. Second, he emphasized the Public choice’ systematic claim that representatives sought 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. According to him, these two critics were parts of a similar academic front that aimed at knocking down the “Keynesian consensus”, especially the assertion that the optimal functioning of market economies required state intervention.²⁴ Interestingly, Malinvaud never took these two claims for granted. Instead, as a mark of his reaction in front of this academic front, he brought to the fore his proper set of postulates.

“From now on, we will admit that the government seeks the public good and that, on the other hand, it has a knowledge of economic phenomena from which it takes advantage in a smart way.” (Malinvaud 1991c, 563)

Thus, Malinvaud was forcefully opposed to the New Classical Economics’ conception of policy-making, which he also took responsible for the resurgence of Liberalism. From this perspective, his opposition to the implementation of liberal policies in Europe can be regarded as an entire part of Malinvaud’s criticisms of the latter.

2. The undue prevalence of structural policies in Europe

Throughout the 1990s, Malinvaud kept claiming that the role of macroeconomics was to study market failures and not to convey the idea that the market economy maximized social well-being (Malinvaud 1991c, 1991b, 1994a). In 1993, he grasped the opportunity offered by the

²⁴ “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 1997b, 161) Note that the New Classical Economics and the Public Choice shared similar concerns in terms of economic policy, such as the promotion of an economic constitutionalism.

economic crisis to query “Are macroeconomic theories challenged by the present European recession?” (Malinvaud 1994a) There, he deplored the economic performances of western countries in the recent years, and blamed the tendency inherited from the New Classical Economics to discredit a priori the benefices that could result from macroeconomic policies in the regulation of markets.

From the mid-1990s, Malinvaud turned out to be more critics of the prevailing economic policies in Europe while the influential OECD came to promote structural policies to improve employment. Indeed, in the 1994 *Jobs Strategy* OECD report, five out of eight policy recommendations aimed at increasing the flexibility of the labor market (OECD 1994). Highly critical of the shift of OECD strategy, Malinvaud closely followed recommendations of this institution over the years (Malinvaud 2000b, 2003, 2009).²⁵ In particular, he targeted the New Classical Economics’ concept of structural unemployment on which he noticed OECD based all their policy recommendations. About this concept, he recalled that the great number of econometric studies carried out during the 1980s on the effects on employment of such policies – whether about the amount and duration of unemployment benefits, or about the level of the minimum wage – were far from conclusive (Malinvaud 2000b, 2003). More concretely, he argued that the measurement given to the unemployment rate was highly disputable in OECD estimations. This was hardly more relevant than a smoothing of the observed unemployment rate once eliminated short-run fluctuations.²⁶ For this reason, he came to wonder whether the OECD had not simply converted to the belief in the efficiency of the market economy (Malinvaud 2000b, 2003). This general feeling became even stronger some years later after the publication of two OECD reports on the expected effects of a reinforcement of the competition for market economies:

“This being said, they [OECD’ texts] express a belief, perhaps not dogmatic but well anchored, in the benefits of competition. [...] It sounds curious for an economist to see it nowhere suggested that additional conditions may exist for the competition to be beneficial. After all, the competition is certainly not perfect ‘everywhere’. [...] let me ask an incidental question. Is there not an anti-state bias in certain OECD corridors?” (Malinvaud 2009, 32)

Malinvaud’s clearest opposition to the dissemination of liberal economic policies in France and in Europe remained the call he broadcasted with Jacques Drèze. Entitled “Growth and employment: the scope of a European initiative”, this call co-signed by many other European macroeconomists aimed at promoting an alternative economic program in Europe (Drèze and Malinvaud 1994). This program stressed the high priority to return to full-employment and suggested for this purpose a set of measures supporting both the supply and the demand side of the economy.²⁷ Noteworthy, the measures related to the demand side included an ambitious

²⁵ For a better illustration of this claim, see Malinvaud (2009).

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

²⁷ For a synthetic presentation of this program, see Drèze and Malinvaud (1994, 503).

investment program and a strong reduction of real interest rates as long as an upward trend of the economic activity was not observed. However, this call was not only addressed to the policy-makers. It was also addressed 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 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)

Malinvaud directly criticized the New Classical Economics' conception of policy-making by opposing their promotion of rules. His criticisms also arose, in a more indirect manner, from his opposition to the structural policies in Europe and his support for alternative policies.

IV. What about the Old Keynesians?

An important outcome of the study of Malinvaud's criticisms of the New Classical Economics shed light on both the nature and the rationale of the Old Keynesians'. Indeed, this rationale can be outlined alike as a radical opposition that was primarily inspired by the methodology and the practice of macroeconomic modeling. To a lesser extent, this twofold claim also applies to a few Keynesians figures of the younger generation that were trained by Old Keynesians – mostly by Solow. These figures include Alan S. Blinder (Solow), Robert J. Gordon (Solow), Stanley Fisher (Franklin M. Fisher), Benjamin M. Friedman (?), Willem H. Buiter (Tobin), Ray C. Fair (Solow), and Robert Shiller (Modigliani).

Regarding the first claim, it is worth highlighting that Malinvaud's criticisms of the New Classical Economics were almost all conveyed by one or another of the Old Keynesians, and by many of them in most cases. This was also the case of a few Keynesians of the younger generation, even though to a lesser extent. Accordingly, the radical nature of Malinvaud's opposition could be easily applied to the Old Keynesians' taking as a whole, which appears as much as systematic and multidimensional. To illustrate this claim, the table below displays the Old Keynesians' criticisms of the New Classical Economics, along with the ones of the younger generation, overlapping Malinvaud's in terms of form and of content. Noteworthy, this table is mainly based on the recent research in the history of macroeconomics about the Old Keynesians (De Vroey and Duarte 2013; Goutsmedt et al. 2015, 2019; Assous 2015; De Vroey 2016; Da Silva 2015; Ballandonne and Rubin 2017; Goutsmedt and Rubin 2018; Rancan 2018; Goutsmedt 2017).²⁸ In a similar way to Malinvaud, the Old Keynesians did not only oppose the market-clearing and rational expectations postulates. Indeed, all the other developments based on them in macroeconomics were the matter of their concerns, except for

²⁸ In addition to the secondary literature cited above, some pieces of primary literature have been considered to complete the table (Buiter 1980; Blinder 1986, 1987, 1988, 2001; Lipsey 2001, 2000, 2016; Okun 1980; Tobin 1972, 1977, 1980a, 1980b, 1984, 1992, 1993, 1995; Solow 1978, 1983, 1984, 1985).

the method of calibration. In particular, this is the case of a few Old Keynesian figures, such as Tobin, Solow, Modigliani, and Klein, who endorsed almost all of Malinvaud's criticisms. For the younger generation of Keynesians, this observation is only true for Blinder. Therefore, it is not an undue generalization to conclude that the Old Keynesians' opposition to the New Classical Economics was also radical.

Regarding the second claim, it is worth stressing that Malinvaud's connection to the methodology and the practice of the macroeconomic modeling criticisms emerged thanks to his careful and extended manner to criticize the New Classical Economics. Here again, Malinvaud's case study offers a sort of ideal reference that helps shed light, in turn, on the rationale of the Old Keynesians' opposition. This second claim is by no means surprising for the Old Keynesians who were involved in the setting-up of the macroeconomic models, especially at the time they were criticizing the New Classical Economics. This was, of course, the case of Klein, involved in Project LINK since 1968. This was also the case of Eckstein and Modigliani, who were respectively involved in the setting-up of the DRI model (1969-1979) and of the FRB-MIT-Penn model (1966-1970).²⁹ For all of them, it is not disputable that their criticisms of the New Classical Economics were inspired by the methodology and the practice of macroeconomic modeling. Incidentally, this point has already been pointed out in the history of macroeconomics (Goutsmedt et al. 2015, 2019; Rancan 2018; Goutsmedt 2017). This claim is only disputable for the Old Keynesians who were not directly involved in the setting-up of large-scale models from the 1970s, such as Okun, Lipsey, Tobin, and Solow. In this respect, it is worth recalling, however, that at least Tobin and Solow were close to the Cowles Commission. While Tobin was research director of the Commission from 1955 to 1967, Solow was an active member of the Cowles and was aware of the developments that took place there (Solow 1983). More significantly, it is worth stressing that both stood up for the macroeconomic models when these were under the fire of the New Classical Economics' assaults during the 1970s. Thus, Tobin (1984, 111) contested that these attacks had caused irreparable damages to the macroeconomic models, while Solow saw no reason for discarding them.

“I share Franco Modigliani's view that the alarmism [...] simply doesn't square with what in fact actually happened. If you give grades to all the standard models, some will get a B and some a B minus on occasion, especially for wage equations, but I don't see anything in that record that suggests suicide.” (Solow 1978, 204)³⁰

²⁹ In his 1977 AEA Presidential Address, Modigliani discussed the New Classical Economics' statements by relying on the results of the FRB-MIT-Penn model (Rancan 2018).

³⁰ In his disclosure talk of the 1978 Conference “After the Philips curve”, Solow concluded he was convinced that the large-scale models could be improved in the future. Elsewhere, he expressed a still sympathetic but more balanced view on these models, and in particular on the DRI model (Solow 1985).

Edmond Malinvaud	Old Keynesians	Younger Keynesians
Market-clearing	Tobin, Solow, Klein, Modigliani, Lipsey, Okun	Blinder, Friedman, Fischer
Rational Expectations	Tobin, Solow, Klein, Modigliani, Lipsey, Okun, Eckstein	Blinder, Friedman, Fischer, Buiter, Schiller
Involuntary Unemployment	Tobin, Solow, Klein, Modigliani	Blinder
RBC dynamic model	Tobin, Solow, Klein, Modigliani, Lipsey	Blinder
Lucas Critique	Tobin, Solow, Klein, Eckstein	Blinder, Fischer, Gordon, Buiter, Fair
Phillips Curve	Solow, Klein, Modigliani, Lipsey	Blinder, Gordon, Friedman
Method of calibration / NCE Econometrics	X	X
Rules Vs Discretionary Economic policies	Tobin, Solow, Klein, Modigliani	Blinder, Buiter
Natural Unemployment / Structural Policies	Tobin, Solow, Modigliani, Lipsey	Blinder, Gordon, Fair

This second claim is clearly less obvious for the younger generation of Keynesians. First, fewer of them had been directly involved in the setting-up of the large-scale models (only Fair and Shiller). Second, they had little chance to be influenced by the macroeconomic modeling in a similar way than the Old Keynesians, given that the large-scale models were probably less influential at the time they started their academic careers.³¹ Yet, these Keynesians of the younger generation surprisingly opposed the New Classical Economics in a very Old Keynesian fashion way. This is typically the case of Blinder, who long claimed his attachment to the Neoclassical Synthesis, which he defined in assigning a key-role to the macroeconomic models (Blinder 1986, 1987, 1988). Later on, he asserted that the major contributions to macroeconomics up to the 1970s were the major contributions to the large-scale models, such as Klein-Goldberger's model of the US economy (1955) or Tobin's work on the demand for money (1958) (Blinder 2001, 111).

The second claim according to which the Old Keynesians' criticisms of the New Classical Economics were inspired by the methodology and the practice of macroeconomic modeling can hardly be illustrated by the preceding table.³² Instead, some of these criticisms shall be commented in much detail as they clearly display such a connection to macroeconomic modeling. In the first place, it is worth highlighting that the Old Keynesians did not oppose the concepts of market-clearing and of rational expectations for themselves. In contrast, they all refused meaningfully to take these concepts for postulates in macroeconomics. In line with Malinvaud, they considered macroeconomics had not to take postulates into account. It only had to take into account hypotheses that are routinely assessed through an empirical validation process.³³ For this reason, neither of them took for granted the New Classical Economics' conclusions in respect to economic policy (Assous 2015; Ballandonne and Rubin 2017; Rancan 2018). On the particular concept of rational expectations, it is noteworthy that they did recognize the unsatisfying treatment of expectations in the macroeconomic models. However, this did not lead them to embrace the concept of rational expectations, and even less to adopt it as a postulate. Rather, the Old Keynesians proposed to assess the state of agents expectations on an empirical basis, and in line with Katona's method (Goutsmedt et al. 2015; Goutsmedt 2017).

³¹ This point can be mitigated by highlighting that the macroeconomic models continued to develop in various institutions out of academic circles throughout the 1980s and the 1990s (Goutsmedt 2017).

³² However, note that no Old Keynesians discussed the method of calibration is a meaningful piece of information. Given that calibration was quite antithetical to the methodology of structural econometrics, that no Old Keynesian discussed this method except for exceptions, such as Malinvaud, rather tends to support the claim they were primarily inspired by the macroeconomic modeling. I thank Marcel Boumans who raised this point.

³³ Solow's assessment on rationality, hence on rational expectations, is representative of the Old Keynesians' attitude. "The assumption of conventional rationality has to earn its wings ever day, as Mr. Bormann of Eastern Airlines would say; and if it doesn't earn its wings it is not entitled to fly [laughter]." (Solow 1984, 141)

Second, a few Old Keynesians opposed the RBC dynamic model in line with Malinvaud. This was particularly the case of Solow who argued that neither his growth model nor the Real Business Cycles dynamic models could pretend to be relevant for any purpose other than studying the long-term phenomenon (Assous 2015; Ballandonne and Rubin 2017). Yet, Solow was not satisfied either by the temporal dichotomy inherited from the Neoclassical Synthesis, and he strove to develop an dynamic approach along these lines (Assous 2015). At this point, it is striking to see how much Solow's perspective was close to Malinvaud's general line of attack in dynamics. Indeed, both considered that a dynamic analysis should be based on the specificities of the short-run disequilibria, which Solow rationalized with various models of imperfect competition. Both specified, then, dynamic relationships to indicate how the economy was likely to evolve after the short-run and across subsequent periods. In this respect, Solow emphasized similarly the role of capital accumulation to connect short- and long-run modeling. At last, both deployed a dynamic approach that intended and came to address medium-run macroeconomics. Note that all these observations could be also made about the dynamic approach endorsed by Modigliani (Rancan 2018)

Third, many Old Keynesians opposed the Lucas Critique in line with Malinvaud. In a nutshell, they all recognized the correctness of Lucas' argument in principle, which revealed a weakness in the practice of the macroeconomic modeling, especially in the treatment of expectations. However, no one of the Old Keynesians saw any reason to conclude to the irrelevance of these models for studying the effect of alternative policies. At least, as long as no persuasive evidence was brought up for this purpose. With this reaction, they also put the burden of the proof on the New Classical Economics' shoulders (Goutsmedt et al. 2015, 2019). As an example, Gordon discussed Lucas's paper at the Carnegie-Rochester Conference Series on Public Policy (1976) and claimed that Lucas's rejection of the large-scale models was an extreme and unnecessary conclusion. Interestingly, Gordon kept standing against this conclusion in a series of letters he exchanged with Lucas after the conference (Da Silva 2015, 7–8). As this example illustrates, the reaction of the younger generation of Keynesians was interestingly quite in line with the Old Keynesians' since they never took for granted the empirical relevance of the Lucas Critique. Unlike the Old Keynesians, however, this younger generation carried out empirical devices to test this theoretical argument, which they eventually rejected the empirical relevance (Goutsmedt et al. 2019).

Fourth, the Old Keynesians and the younger generation had a similar understanding of the Philips curve. In line with Malinvaud, they claimed the Philips curve was primarily an empirical relationship and not necessarily a stable one in the long-run. For this reason, they could not believe this relationship entailed an inflation-unemployment trade-off for policy-making.³⁴ Accordingly, the Old Keynesians' reaction in front of the instability of the Philips curve in the 1970s was not one of a great surprise. In particular, this was the case of Lipsey, who wished to report the empirical attitude in respect to the Phillips curve that prevailed in the 1960s (Lipsey 2001, 2016). In line with this attitude, Klein and a few Keynesians of the

³⁴ For a historical account of the Old Keynesians' attitude towards the Philips curve, see (Forder 2014)

younger generation, such as Blinder and Gordon, embarked on identifying the displacements of the Philips curve, and its causes, from the end of the 1970s. Eventually, they showed that the Philips curve still displayed certain empirical regularity in the short-run once modified to take into account supply shocks through additional variables, such as oil or imported prices. On this basis, they argued that the Philips curve could no longer be depicted in two traditional dimensions, inflation and unemployment, and turned out to be a multivariate relationship (Goutsmedt et al. 2019; Goutsmedt 2017; Goutsmedt and Rubin 2018).

V. Concluding remarks

In conclusion, the study of Edmond Malinvaud's criticisms of the New Classical Economics revealed to be fruitful. First, it unveiled his opposition was of a radical nature because it was both multi-dimensional and systematic. Indeed, he argued against the main dimensions of the approach promoted by the New Classical Economics in macroeconomics. The most striking part of Malinvaud's criticisms is their systematic character. Accordingly, he did not only oppose the market-clearing and rational expectations postulates, but also the major developments based on them. Thus, he criticized the attempt to explain unemployment by getting rid of the reference to involuntary unemployment, the Real Business Cycles dynamic model, the Lucas Critique, and the method of calibration. In addition, he also took a stand against the New Classical Economics' conception of policy-making, whether the promotion of rules and the resurgence of liberal policies in Europe that were allowed by this conception. Second, this radical opposition suggested Malinvaud had an alternative conception of macroeconomics. Interestingly, the way in which Malinvaud opposed the New Classical Economics also unveiled the rationale of his criticisms, which turned out to rest on the methodology and the practice of macroeconomic modeling.

Incidentally, this commitment turns out to be stronger than Malinvaud's commitment to the Disequilibrium approach. This point emerged throughout the paper. The way he refused to postulate market-clearing or rational expectations make only sense in the context of the macroeconomic modeling, in which hypotheses must be in accordance with empirical data. On the one hand, he pointed out that the market-clearing postulate would a priori rule out short-run observed disequilibria in the identification process. On the other hand, he asserted merely that postulating rational expectations is contrary to the methodology and practice of macroeconomic modeling. This commitment also came up in Malinvaud's defense of the involuntary unemployment based on a statistical rather than on a theoretical approach that was in line with Disequilibrium theory. In more surprising manner, the way he opposed the Lucas Critique and the calibration method unfolded unambiguously his strong commitment to the methodology and the practice of macroeconomic modeling.³⁵

³⁵ However, note that Malinvaud's commitment to the macroeconomic modeling is not contradictory with his involvement in the Disequilibrium approach. I argued elsewhere that his main goal in there was to work out alternative specifications derived from this theoretical approach in order to implement them within the current macroeconomic models and, thus, to improve their performances (Renault 2016, chapters 4 and 6).

Last but not least, the study of Malinvaud's criticisms shed light both the nature and the rationale of the Old Keynesians' opposition to the New Classical Economics. Along the same lines, the latter disclosed being a radical opposition as much inspired by the methodology and the practice of the macroeconometric modeling. However, this twofold claim about the Old Keynesians is nothing but a hypothesis at this stage. Thereby, it primarily invites further research to be scrutinized, whether about the aforementioned figures or about other Old Keynesian figures not tackled in this paper – such as Albert K. Ando, Abba Lerner, Michael Rothschild, and others. Notwithstanding its suggestive character, I hardly resist sketching the two main consequences this twofold claim about the Old Keynesians would have, if valid, for the history of macroeconomics.

First, this claim would put the macroeconometric large-scale models at the forefront as one of the main concerns, if not the major one, in macroeconomics throughout the 1970s and 1980s. This was the case because these models were the actual benchmark of the Old Keynesians, of a few Keynesians of the younger generation and of the Disequilibrium approach, such as Edmond Malinvaud. Adhering to this benchmark means, in turn, they all acknowledged a certain primacy to the “applied economics” and regarded the macroeconometric models as providing the relevant framework to deal with economic policy issues.³⁶ In that context, it is very likely that these large-scale models were the New Classical Economics' actual target in opposing “mainstream macroeconomics”. As a matter of fact, it was Lucas (1976)'s target (Goutsmedt et al. 2015, 2019). This point can also be illustrated by the famous Conference “After the Phillips curve” in 1978, where both camps came to focus their opposition on the macroeconometric models (Goutsmedt 2017). From this perspective, the opposition between the Old Keynesians and the New Classical Economics was primarily methodological from the 1970s onwards. More specifically, the focal point of this opposition was about the relevance of the macroeconometric models to assist and/or guide macroeconomic policy-making.

Second, this twofold claim about the Old Keynesians would result in a reframing of the understanding of the Neoclassical Synthesis from the 1970s onwards. Indeed, this notion could no longer be considered as the theoretical project to reconcile the Neoclassical and Keynesian analyzes, or as the patchwork of elements composing the “Keynesian consensus”. Rather, the Neoclassical Synthesis would primarily refer to the methodology and the practice of macroeconometric modeling. In turn, this would explain why these models did not only rest on the Keynesian framework, often the IS-LM model, but integrated other types of specifications such as the very empirically-based “adjustment laws” that Malinvaud hinted at. Interestingly, such a redefinition goes in line with what De Vroey and Duarte called the second understanding of the Neoclassical Synthesis (De Vroey and Duarte 2013, 21–23).

³⁶ Noteworthy, the vast majority of the Keynesians aforementioned including Malinvaud were involved in expertise activities, whether as members of the Council of Economic Advisers (Tobin, Solow, Okun, and Klein), or/and personal advisers of presidents (Eckstein, Klein, and Blinder), or/and economic advisers for various institutions of policy-making such as central banks (Tobin, Modigliani, Fischer, Blinder, Friedman, and Buiter).

Based on their analysis of Solow's criticisms of the New Classical Economics and modern macroeconomics – taken as an outspoken advocate of the Neoclassical Synthesis –, they concluded thus that this second understanding of the Neoclassical Synthesis rested less on a definite research program than on a “methodological principle”.

References

- Armatte, Michel, Annie L. Cot, Jacques Mairesse, and Matthieu Renault. 2017. “Edmond Malinvaud and the Problem of Statistical Induction.” *Annals of Economics and Statistics*, no. 125/126: 79–111.
- Assous, Michaël. 2015. “Solow's Struggle with Medium-Run Macroeconomics, 1956–95.” *History of Political Economy* 47 (3): 395–417.
- Ballandonne, Matthieu, and Goulven Rubin. 2017. “Keynesians De-Homogenized: Solow's Non-Walrasian Conception of Economics.” SSRN Scholarly Paper. Rochester, NY. <https://papers.ssrn.com/abstract=2996433>.
- Batya, Anna, and Michel De Vroey. 2012. “From One to Many Islands: The Emergence of Search and Matching Models.” *Bulletin of Economic Research* 64 (3): 393–414.
- Blanchard, Olivier. 2000. “What Do We Know about Macroeconomics That Fisher and Wicksell Did Not?” *The Quarterly Journal of Economics* 115 (4): 1375–1409.
- Blinder, Alan. 1986. “Keynes after Lucas.” *Eastern Economic Journal* 12 (3): 209–16.
- . 1987. “Keynes, Lucas, and Scientific Progress.” *The American Economic Review* 77 (2): 130–36.
- . 1988. “The Fall and Rise of Keynesian Economics.” *Economic Record* 64 (4): 278–94.
- . 2001. “Keeping the Keynesian Faith.” Edited by Brian Snowdon. *World Economics* 2 (2): 105–40.
- Buiter, Willem H. 1980. “The Macroeconomics of Dr. Pangloss: A Critical Survey of the New Classical Macroeconomics.” *The Economic Journal* 90 (357): 34–50.
- Da Silva, Danilo. 2015. “The First Keynesian Reactions to Lucas's Macroeconomics of Equilibrium.” In *HES Annual Conference*. Michigan.
- De Vroey, Michel. 2016. *A History of Macroeconomics from Keynes to Lucas and Beyond*. Cambridge: Cambridge University Press.
- De Vroey, Michel, and Pedro Duarte. 2013. “In Search of Lost Time: The Neoclassical Synthesis.” *The B.E. Journal of Macroeconomics* 13 (1): 965–995.
- Dechaux, Pierrick. 2017. “L'économie Face Aux Enquêtes Psychologiques 1944-1960 : Unité de La Science Économique, Diversité Des Pratiques.” Paris: Ph.D. Dissertation, Paris 1 University Panthéon-Sorbonne.
- Drèze, Jacques, and Edmond Malinvaud. 1994. “Growth and Employment: The Scope of a European Initiative.” *European Economic Review* 38 (3): 489–504.
- Duarte, Pedro. 2012. “Not Going Away? Microfoundations in the Making of a New Consensus in Macroeconomics.” In *Microfoundations Reconsidered: The Relationship of Micro and Macroeconomics in Historical Perspective*, edited by Pedro Duarte and Gilberto Lima, 190–237. Cheltenham, UK: Edward Elgar Publishing.

- Duarte, Pedro, and Gilberto Lima. 2012. "Privileging Micro over Macro? A History of Conflicting Positions." In *Microfoundations Reconsidered: The Relationship of Micro and Macroeconomics in Historical Perspective*, edited by Pedro Duarte and Gilberto Lima, 1–18. Cheltenham, UK: Edward Elgar Publishing.
- Fischer, Stanley. 1977. "Long-Term Contracts, Rational Expectations, and the Optimal Money Supply Rule." *Journal of Political Economy* 85 (1): 191–205.
- Forder, James. 2014. *Macroeconomics and the Phillips Curve Myth*. Oxford: Oxford University Press.
- Goutsmedt, Aurélien. 2017. "Stagflation and the Crossroad in Macroeconomics: The Struggle between Structural and New Classical Macroeconometrics." 2017.43. CES Working Papers.
- Goutsmedt, Aurélien, Erich Pinzón-Fuchs, Matthieu Renault, and Francesco Sergi. 2015. "Criticizing the Lucas Critique: Macroeconometricians' Response to Robert Lucas." SSRN Scholarly Paper 2837766. Rochester, NY.
- . 2019. "Reacting to the Lucas Critique: The Keynesians' Pragmatic Replies." *History of Political Economy*, no. Forthcoming.
- Goutsmedt, Aurélien, and Goulven Rubin. 2018. "Robert J. Gordon and the Introduction of the Natural Rate Hypothesis in the Keynesian Framework." *History of Economic Ideas* Forthcoming.
- Hansen, Lars Peter, and James Heckman. 1996. "The Empirical Foundations of Calibration." *Journal of Economic Perspectives* 10 (1): 87–104.
- Kydland, Finn E., and Edward C. Prescott. 1982. "Time to Build and Aggregate Fluctuations." *Econometrica* 50 (6): 1345–70.
- Lipsey, Richard G. 2000. "IS-LM, Keynesianism, and the New Classicism." In *Macroeconomics and the Real World*, edited by Roger E. Backhouse and Andrea Salanti, 2: Keynesian Economics, Unemployment, and Policy:57–82. Oxford: Oxford University Press.
- . 2001. "Successes and Failures in the Transformation of Economics." *Journal of Economic Methodology* 8 (2): 169–201.
- . 2016. "The Phillips Curve and an Assumed Unique Macroeconomic Equilibrium in Historical Context." *Journal of the History of Economic Thought* 38 (4): 415–29.
- Lucas, Robert. 1972. "Expectations and the Neutrality of Money." *Journal of Economic Theory* 4 (2): 103–24.
- . 1976. "Econometric Policy Evaluation: A Critique." *Carnegie-Rochester Conference Series on Public Policy* 1 (1): 19–46.
- Lucas, Robert, and Thomas Sargent. 1979. "After Keynesian Macroeconomics." In *After the Phillips Curve: Persistence of High Inflation and High Unemployment*, 29–46. Boston: Federal Reserve Bank of Boston.
- Malinvaud, Edmond. 1980. *Profitability and Unemployment*. Cambridge: Cambridge University Press.
- . 1981. "Econometrics Faced with the Needs of Macroeconomic Policy." *Econometrica* 49 (6): 1363–75.
- . 1982. "Où En Est La Théorie Macroéconomique?" *Revue Européenne Des Sciences Sociales* 20 (62): 5–22.
- . 1984. *Mass Unemployment*. Oxford: Wiley-Blackwell.

- . 1985a. “Le Marché Du Travail En Déséquilibre.” In *Keynes Aujourd’hui: Théories et Politiques*, Paris, *Economica*, by Alain Barrère, 462–77. Paris: Economica.
- . 1985b. “Sur l’analyse Macroéconomique Du Chômage.” *L’Actualité Économique* 61 (2): 147–70.
- . 1989a. “Lessons to Be Learned from the European Unemployment of the 80s.” *The Pakistan Development Review* 28 (4): 311–33.
- . 1989b. “Observation in Macroeconomic Theory Building.” *European Economic Review* 33 (2–3): 205–23.
- . 1989c. “The Challenge of Macroeconomic Understanding.” In *Recollections of Eminent Economists*, edited by Jan A. Kregel, 297–316. London: Macmillan.
- . 1990. “Microéconomie et Macroéconomie Relèvent-Elles Des Mêmes Principes Méthodologiques?” In *La Méthodologie de l’économie Théorique et Appliquée Aujourd’hui*, edited by AFSE, 3–13. Paris: Nathan.
- . 1991a. “Incomplete Market Clearing.” In *Value and Capital: Fifty Years Later*, edited by Lionel McKenzie and Stefano Zamagni, 179–96. London: Macmillan.
- . 1991b. “Macroeconomics and Market Failures.” In *Information, Strategy and Public Policy*, 104–23. Wiley-Blackwell: Oxford.
- . 1991c. *Voies de La Recherche Macroéconomique*. Paris: Odile Jacob.
- . 1994a. “Are Macroeconomic Theories Challenged by the Present European Recession?” *Labour* 8 (1): 3–16.
- . 1994b. *Diagnosing Unemployment*. Cambridge: Cambridge University Press.
- . 1994c. “Statistiques, Analyse Économique et Économétrie Pour La Connaissance de l’emploi.” *Swiss Journal of Economics and Statistics* 130 (3): 251–65.
- . 1995. “Sur l’hypothèse de Rationalité En Théorie Macro-Économique.” *Revue Économique* 46 (3): 523–36.
- . 1997a. “L’économétrie Dans l’élaboration Théorique et l’étude Des Politiques.” *L’Actualité Économique* 73 (1-2-3): 11–25.
- . 1997b. “The Proper Role of Theory.” In *Economic Science and Practice: The Roles of Academic Economists and Policy-Makers*, edited by Peter Van Bergeijk, 149–65. Cheltenham, UK: Edward Elgar Publishing.
- . 1998a. “La Modélisation En Macroéconomie Appliquée: Quarante Ans Après.” *Brussels Economic Review* 160 (4): 329–42.
- . 1998b. *Macroeconomic Theory: A Textbook on Macroeconomic Knowledge and Analysis*. 3 vols. Amsterdam: North-Holland.
- . 2000a. “The Role of Business Survey Data in Macroeconomic Research and Practice.” In *Economic Surveys and Data Analysis*, edited by Günter Poser and Daniel Bloesch, OECD, 11–18. CIRET Conference Proceedings. Paris.
- . 2000b. “The Role of Structural Policies Meant to Promote Employment.” *Rivista Di Politica Economica* 90 (12): 9–32.
- . 2001. “Some Ethical and Methodological Convictions.” *The American Economist* 45 (1): 3–16.
- . 2003. “Réformes Structurelles Du Marché Du Travail et Politiques Macroéconomiques.” *Revue de l’OFCE* 3 (86): 7–30.
- . 2004. “The Difficult Dialogue between the Development of Macroeconomic Theory and Macroeconomic Policy Concerns.” In *Macroeconomic Theory and Economic*

- Policy: Essays in Honour of Jean-Paul Fitoussi*, edited by Vela Velupillai, 128–44. London: Routledge.
- . 2007a. “About the Role, in Older Days, of Econometrics in Quantitative Economics.” *European Journal of the History of Economic Thought* 14 (3): 423–48.
- . 2007b. “Quelle Place Donner Maintenant à La Macroéconomie Dans l’enseignement de l’économétrie?” *Revue d’économie Politique* 117 (3): 411–30.
- . 2009. “La Réévaluation de La Stratégie de l’OCDE Pour l’emploi: Deux Pistes d’amélioration.” *Travail et Emploi*, no. 118: 29–35.
- Mankiw, Gregory. 1990. “A Quick Refresher Course in Macroeconomics.” *Journal of Economic Literature* 28 (4): 1645–60.
- OECD. 1994. *The OECD Jobs Study: Facts, Analysis, Strategies*. Paris: OECD.
- Okun, Arthur M. 1980. “Rational-Expectations-with-Misperceptions as a Theory of the Business Cycle.” *Journal of Money, Credit and Banking* 12 (4): 817–25.
- Phelps, Edmund. 1968. “Money-Wage Dynamics and Labor-Market Equilibrium.” *Journal of Political Economy* 76 (4, Part 2): 678–711.
- Phelps, Edmund, and John Taylor. 1977. “Stabilizing Powers of Monetary Policy under Rational Expectations.” *Journal of Political Economy* 85 (1): 163–90.
- Plassard, Romain, Matthieu Renault, and Goulven Rubin. 2019. “Modeling Market Dynamics: Jean-Pascal Bénassy, Edmond Malinvaud, and the Development of Disequilibrium Macroeconomics.” *History of Economic Ideas* forthcoming.
- Rancan, Antonella. 2018. “The Fed MIT Penn Macroeconomic Model and the Evolution of Macroeconomics.” In *HES Annual Conference*. University of Loyola, Chicago.
- Renault, Matthieu. 2016. “Edmond Malinvaud, Entre Science et Action. Chronique d’une Macroéconomie En Transition.” Ph.D. Dissertation, Paris 1 University Panthéon-Sorbonne.
- Sergi, Francesco. 2015. “Robert Lucas and the Twist of Modeling Methodology. On Some Econometric Methods and Problems in New Classical Macroeconomics.” 2015.88. CES Working Papers.
- . 2017. “The Standard Narrative on History of Macroeconomics: Central Banks and DSGE Models.” In *HES Annual Conference*. Toronto.
- Solow, Robert. 1978. “Summary and Evaluation.” In *After the Phillips Curve: Persistence of High Inflation and High Unemployment*, 203–9. Federal Reserve of Boston Conference Series. Boston: Federal Reserve of Boston.
- . 1983. “Cowles and the Tradition of Macroeconomics.” In *The Cowles Fiftieth Anniversary Celebration*.
- . 1984. “Interview with Robert Solow.” In *Conversations with Economists*, by Arjo Klamer. Totowa, NJ: Rowman & Allenheld.
- . 1985. “Reflections on Macroeconomic Modelling; Confessions of a DRI Addict.” *Eastern Economic Journal* 11 (1): 79–83.
- Tobin, James. 1972. “Inflation and Unemployment.” *American Economic Review* 62 (1): 1–18.
- . 1977. “How Dead Is Keynes?” *Economic Inquiry* 15 (4): 459–68.
- . 1980a. “Are New Classical Models Plausible Enough to Guide Policy?” *Journal of Money, Credit and Banking* 12 (4): 788–99.
- . 1980b. *Asset Accumulation and Economic Activity: Reflections on Contemporary*

- Macroeconomic Theory*. Chicago: Chicago: University of Chicago Press.
- . 1984. “Interview with James Tobin.” In *Conversations with Economists*, by Arjo Klamer. Totowa, NJ: Rowman & Allenheld.
- . 1992. “An Old Keynesian Counterattacks.” *Eastern Economic Journal* 18 (4): 387–400.
- . 1993. “Price Flexibility and Output Stability: An Old Keynesian View.” *The Journal of Economic Perspectives* 7 (1): 45–65.
- . 1995. “The Natural Rate as New Classical Macroeconomics.” In *The Natural Rate of Unemployment: Reflections on 25 Years of the Hypothesis*, edited by Rod Cross, 32–42. Cambridge: Cambridge University Press.
- Woodford, Michael. 1999. “Revolution and Evolution in Twentieth-Century Macroeconomics.” In *Frontiers of the Mind in the Twenty-First Century*. Washington, D.C.: U.S. library of congress.