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Evolutions and Contradictions in Mainstream Macroeconomics: The Case of Olivier Blanchard

Emiliano Brancaccio[a] and Francesco Saraceno [b,c]

[a]Università del Sannio, Benevento, Italy; [b]Sciences Po, OFCE, Paris, France; [c]LUISS-SEP, Roma, Italy

ABSTRACT

This article traces the complex intellectual path of Olivier Blanchard, a personification of the controversial evolution of macroeconomic research over the last three decades. After contributing to consolidation of the core of mainstream macroeconomics, Blanchard recently suggested 'rethinking' some of its key aspects to take stock of the lessons of the 2008 Great Recession, which he witnessed as the International Monetary Fund's Chief Economist. This welcome discussion, which according to Blanchard should open mainstream macroeconomics to heterodox thinking, has so far produced a certainly interesting albeit theoretically contradictory synthesis and limited policy consequences. The most paradigmatic aspect of this rethinking of macroeconomics is represented by the abandonment in teaching of aggregate supply and demand in favor of a revival of the IS–LM model complemented by the Phillips curve. While this change of perspective does allow for the instability of 'natural' equilibrium to be emphasized, a deeper reading may prove incompatible with the neoclassical foundations of the mainstream approach.

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1. Introduction

Although it did not lead to a revolution of ideas in economic theory, the 2008 Great Recession (International Monetary Fund (IMF) 2012) did generate an interesting debate among the representatives of the mainstream approach to macroeconomics (for a definition of 'mainstream', see Brancaccio 2011). Some economists, who for years have moved along the groove of the prevailing paradigm, today show a growing intolerance of its heuristic capabilities. An influential thesis, among them, is that standard macroeconomic models have failed according to all the most important tests of scientific theory: they did not predict that the financial crisis would happen, and then they understated its effects (Stiglitz 2011).

Other scholars, however, suggest that the mainstream approach to macroeconomics already addresses the typical failures of a market economy as the causes of instability and recession: economists should therefore be able to correct forecasting errors and suggest solutions to the crisis by drawing on existing studies in the dominant literature (Tabellini 2009). According to this view, it is not necessary to disrupt what Olivier

CONTACT Emiliano Brancaccio emiliano.brancaccio@unisannio.it Università del Sannio, Benevento, Italy
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Blanchard calls the 'core' of mainstream macroeconomic theory, and hence there is no need to rewrite the textbooks on which that core is based (Blanchard 2000; Blanchard, Amighini, and Giavazzi 2010).

The debate that has developed among the representatives of the mainstream approach has several areas of interest. The discussion, albeit often contradictory, ranges between attempts to dismantle some theoretical pillars of the prevailing paradigm, and strenuous defense of its supporting structure. One way to explore this debate is to examine critically the intellectual path of Olivier Blanchard, the mainstream economist who maybe more than any other colleague stood at the crossroads of the frontier of academic research, the teaching of macroeconomics and the implementation of macroeconomic policies. Recent twists in Blanchard's thought, as we shall see, highlight some limitations concerning the effective possibilities of the evolution of the dominant approach in macroeconomics, and the related opportunity to revitalize a fruitful debate with alternative schools of economic thought.

2. Building the 'core' of mainstream macroeconomics

'In 1968, like many students of my generation, I wanted to change the world … and I thought that, of the social sciences, economics was the discipline most likely to be directly useful' (Blanchard 2014). With these words, Blanchard recalled his decision to study economics at the University of Paris Dauphine. A few decades later, Blanchard is undoubtedly among the most cited and influential economists who actively participate in research, teaching and current debates. Whether his original objectives were achieved is more contestable. His prolific research activity has rarely passed the boundaries of the mainstream approach to economic theory: a view that has undoubtedly shaped economic policies and the evolution of our societies over the past four decades, but possibly in a direction different from that envisaged by Blanchard in his youth.

Born in 1948 in Amiens, France, Blanchard obtained his PhD at the Massachusetts Institute of Technology (MIT), Boston, United States after undergraduate studies in Paris. After a period of teaching at Harvard University, he returned to MIT in 1982. The more than 100 papers he has published in academic journals span various fields of contemporary economics, such as the instability of financial markets, the determinants of unemployment, the functioning of monetary and fiscal policies, and the transition of former socialist countries to market economies. Blanchard also wrote two textbooks that have been translated into several languages and adopted in hundreds of graduate and undergraduate curricula worldwide: *Lectures on Macroeconomics,* written with Stanley Fischer, an advanced textbook that has informed several generations of graduate students (Blanchard and Fischer 1989); and *Macroeconomics*, an intermediate manual whose European version has been written in collaboration with Alessia Amighini and Francesco Giavazzi (Blanchard 2000, 2017; Blanchard, Amighini, and Giavazzi 2010, 2018).

Over the years, Blanchard has contributed significantly to the building of a consensus around mainstream economic theory and policy, helping to outline and systematize what he called the 'core' of the prevailing paradigm in macroeconomics (2000, ch. 30). The key propositions of this core can be summarized in the following statements.

First, it is assumed that, in a market economy free of imperfections, rigidities and asymmetries, all macroeconomic variables are anchored to a Pareto-efficient, full employment equilibrium determined by the 'fundamentals' of the economy: tastes, technological development, the existing workforce and the available capital stock. It is also stated, however, that in the real world the 'natural' equilibrium is far from a Pareto-efficient full employment of resources as a result of asymmetries and imperfections due to several causes, including social institutions such as the market power of companies and labor unions.

Second, provoking a drop in demand, a crisis can cause temporary deviations of production, employment and real wages from their respective natural levels. Market forces will then spontaneously return the economy to its natural equilibrium: more specifically, unemployment beyond its natural rate will trigger a decline in nominal wages and prices so as to support aggregate demand, production and employment recovery. However, market forces alone may fail to return the economy to equilibrium sufficiently swiftly. In this case, policy has a role to play. While lags and biases linked to the political process make the use of fiscal policy problematic, the mainstream approach emphasizes the capacity of monetary policy to manage aggregate demand in order to speed up the convergence of production and employment to the natural equilibrium.

Third, the main role of economic policy is not the management of aggregate demand aimed at stabilizing the economy around its natural equilibrium. Rather, the most important role of economic policy is the elimination, through so-called 'structural reforms', of all obstacles and rigidities that may prevent the working of free market forces and keep the natural equilibrium from being Pareto-efficient full employment of labor and other productive resources.

It is important to note that the mainstream macroeconomics core to which Blanchard crucially contributed is closely related to neoclassical economic theory. Blanchard's natural equilibrium is a particular version of the typical neo-Walrasian intertemporal general equilibrium exclusively determined by the so-called 'fundamentals' of the economy: tastes, technological development and the initial endowments of resources such as the available workforce and capital stock. In an ideal market economy free of asymmetries and imperfections, when this neoclassical general equilibrium is attained there is no involuntary unemployment, labor and other factors of production are fully employed and prices represent indexes of the relative scarcity of goods and factors of production in relation to their demands.

It is true that within mainstream macroeconomic models an effective demand crisis may in fact reduce employment below its maximum level; but this is considered a temporary phenomenon bound to be reabsorbed once price and wage flexibility is allowed to fully work. It is also true that the natural equilibrium of mainstream macroeconomics itself, because of market imperfections, is assumed to be characterized by involuntary unemployment. In the labor market more specifically, asymmetries and rigidities may prevent wages from reaching the level that corresponds to a full employment neoclassical general equilibrium, thus measuring the relative scarcity of labor with respect to other factors of production. But that general equilibrium, for mainstream macroeconomics, remains the attractor towards which the economy should converge if imperfections and asymmetries were removed.

In this sense, Blanchard argued that the neoclassical general equilibrium models without imperfections and their macro versions, such as the Solow and Ramsey models, should not

necessarily be interpreted as direct representations of reality, but rather as 'normative' reference points towards which the economic system ideally should strive (Blanchard and Fischer 1989, ch. 10). In other circumstances Blanchard went further by using the typical logic of neoclassical growth models not only for normative purposes but also to suggest analysis, albeit approximate, of the long-term trends of real economies. An interesting example, in this sense, is Blanchard's interpretation of the Soviet political parable. Blanchard (2000) noted that over 70 years the USSR attained growth rates on average higher than those of capitalist economies. He added, however, that this result was achieved due to extremely high rates of investment, which in his opinion should have logically implied, following a Solowian logic, a contraction in consumption. This was in turn, according to Blanchard, a possible source of the crisis of political consensus within the Soviet bloc.

The mere possibility of aggregate demand problems, therefore, is insufficient to differentiate current mainstream macroeconomics from the traditional neoclassical paradigm. Blanchard (2008) has in fact situated today's dominant approach within the so-called neoclassical synthesis, which reduces Keynesian effective demand deficiencies to a short-term case of the neoclassical equilibrium that is considered a simplified version of Hicks' (1939) temporary equilibrium models. The neoclassical synthesis also embeds the AS–AD model, a centerpiece, in Blanchard's view, of teaching macroeconomics.

3. Between critique and defense of mainstream macroeconomics

In light of the earlier discussion, Blanchard must be counted among the leading scholars involved in the development and consolidation of a 'consensus' around a view of macroeconomics anchored in neoclassical economic theory.

We do note, nevertheless, that his relationship with such an intellectual heritage has not been passive: indeed, Blanchard's contributions often challenged accepted tradition. A famous example in his early career is the elaboration of the concept of 'rational bubbles': even under the extreme hypothesis of rational expectations, it is possible to show that financial markets may be subject to bubbles; that is to say, booms and busts of asset prices that are completely independent of the so-called fundamentals of the economy (Blanchard and Watson 1982). At the time, this was considered a heretic conclusion and many tried to undermine its importance. But the idea of rational bubbles was, and still is today, logically inconsistent with the orthodox postulated correspondence between stock market prices and natural equilibrium capital returns.

In another widely cited contribution, Blanchard (1985) shows how the introduction of finite horizons in a model populated by otherwise rational and forward-looking agents was enough to yield non-neutrality of macroeconomic policy: fiscal policy and the time profile of taxation has an impact on natural equilibrium even without market frictions.

Blanchard later expressed skepticism towards other cornerstones of mainstream macroeconomics, such as the inverse relationship between interest rates and investment: a relationship often taken for granted, and yet not supported by robust empirical evidence. As Blanchard (1986, p. 153) wrote, to make interest rates – or user costs – 'appear at all in the investment equation, one has to display more than the usual amount of econometric ingenuity, resorting most of the time to choosing a specification that simply forces the effect to be there'.

These doubts led him to the brink of a general critique of the mainstream separation between cyclical fluctuations and long-term natural equilibrium. In a pioneering paper

written with Larry Summers, Blanchard contemplated the possibility that a demand shock could cause 'hysteresis', that is, a persistent effect on unemployment that could eventually lead to a permanent deviation from the natural equilibrium (Blanchard and Summers 1986). At the time, the possibility of hysteresis was linked to the action of unions, which could prevent the wage deflation necessary to restore equilibrium. Later on, Blanchard (2006) adopted a more nuanced view about such a mechanism. In the debates about the bargaining power of unions, labor contract rigidities and the performance of macroeconomic variables, reinforcing the dominant view that more flexible labor contracts correlate with decreases in unemployment, he clearly acknowledged that the two magnitudes in the empirical literature were broadly uncorrelated (*ibid.*).

Thus, in many instances Blanchard expressed his disenchantment, sometimes with a certain irony, with the robustness of the mainstream's theoretical foundations. These doubts, nevertheless, were never central to his academic work, and, more importantly, were never made explicit in his contributions to teaching: in his textbooks, Blanchard (2000) never questioned the elsewhere reviled relationship between the interest rate and investment.

Nor did his intellectual doubts lead him to challenge dominant policy conclusions – rather the contrary. Until recently, Blanchard's defense of mainstream policy positions was often 'radical'. A good case in point is represented by the long-lasting problem of the external imbalances of the Eurozone countries. Together with Giavazzi, Blanchard argued that these imbalances were the virtuous symptom of successful economic integration, they were beneficial to peripheral countries, and as such did not need to be corrected (Blanchard and Giavazzi 2002). Moreover, when he eventually acknowledged that capital flows had led to unsustainable external positions in the Eurozone, his policy prescription was consistent with mainstream recipes: wage and price deflation aimed at restoring competitiveness (Blanchard 2007). At the time, Blanchard did not seem concerned about debt deflation or other possible perverse effects of a price reduction. This position is all the more puzzling if one considers that it conflicts with some of his previous works, where he expressed strong skepticism about the ability of deflationary processes to absorb the imbalances between countries belonging to a monetary union (Blanchard and Katz 1992).

To summarize: at least until the last economic crisis, the exercise of doubt was contained in the dark corners of the ivory tower of academia; it did not influence the crucial spheres of teaching and policy-making and did not lead Blanchard to venture beyond the borders of mainstream economic theory. We could say that Olivier Blanchard wore the clothes of a mainstream archbishop; a function he fulfilled with a critical sense, and with a certain aristocratic habit of cultivating doubt, but only for the purpose of strengthening the dominant paradigm. A good example is represented by his ill-timed remarks that, despite some undeniable theoretical and empirical weaknesses, there was 'substantial convergence' around the mainstream approach and the state of macroeconomics was ultimately 'good' (Blanchard 2009a, p. 210).

4. The turning point of the 'Great Recession'

The advent of the recent Great Recession, however, marks a real turning point in Blanchard's thought, and coincides with an important career change: in September 2008 the French-American economist puts on hold his academic career and replaces Simon

Johnson as the head of the IMF's Research Department. This happens at a crucial time, just a few days before the collapse of Lehman Brothers and the beginning of the international economic crisis.

The recession is harsh, and many commentators highlight similarities with the 1930s Great Depression. The crisis challenges the mainstream consensus precisely when Blanchard moves from an academic position to one in which the theoretical apparatus is continually tested through its policy applications. It is therefore in this position that Blanchard can more easily assess whether his work has succeeded in changing the world as he aimed to do in 1968.

In his new function as the IMF's Chief Economist, Blanchard immediately speaks with two voices: one which argues, albeit in passing, that 'fiscal policy has to play a central role here. At the time of this writing, most countries are developing fiscal packages, intended at increasing demand directly and decreasing the perceived risk of another Great Depression' (Blanchard 2009b, p. 19); and another in which he refers to the need for a 'temporary increase in public sector employment associated with some of the new programs and policies' (Spilimbergo et al. 2008, p. 5).

This is the beginning of a long series of public interventions, among which one can cite the well-known paper written with Daniel Leigh, where they argue that the underestimation of the crisis by the IMF and other forecasting institutions may have been caused by excessively low estimates of the Keynesian multiplier of autonomous expenditure (IMF 2012, p. 41; Blanchard and Leigh 2013). However, macroeconomic policy is not the only area in which Blanchard has suggested 'innovations'. His proposals have also influenced the issue of the institutions that regulate markets, such as those relating to the recovery of capital controls (Blanchard 2016c).

Olivier Blanchard seems to have also had a profound impact on the policies of the IMF. As soon as he arrives in Washington, and with the approval of the then-IMF head, Dominique Strauss-Kahn, Blanchard tries to raise the IMF's awareness of the severity of the crisis, and he encourages the staff to think beyond traditional policy responses. His task is, of course, made easier by the exceptional situation of the international economy. Even before his arrival, the October 2008 *World Economic Outlook* (*WEO*) contained a section devoted to discretionary fiscal policies that cautiously suggested these could be used to fight the downturn (IMF 2008a).

Blanchard further pushes in this direction, and the November *WEO* update (IMF 2008b) explicitly calls for expansionary fiscal and monetary policies, even if limited to countries having some – although not precisely defined – 'fiscal space'. The French economist is also credited with the publication of the already mentioned IMF's 'mea culpa' on the underestimation of fiscal multipliers. Even more importantly, under his lead the IMF widens its research scope to encompass a number of issues that, in the corridors of the institution, many still consider heretic. For example: the possibility that deficit-financed public investment results in long-run growth and eventually in a reduction of debt ratios (IMF 2014); or the recognition that, in some instances, the free movement of capital may do more harm than good (IMF 2013); or, again, recognizing that a link may exist between rising inequality and lower economic growth. This latter topic illustrates the impact of 'Blanchard's method' on the IMF's work. The IMF had already certified, before the arrival of the French economist, the overall increase in inequality (IMF 2007). It is only under the compulsion of Blanchard that the IMF walks the extra

mile and promotes more general thinking about the interaction between greater inequality and lower growth, which in turn leads to the somewhat unorthodox conclusion that income distribution may have an impact on efficiency and growth (IMF/ILO 2009; Ostry, Berg, and Tsangarides 2014).

Blanchard's influence on the IMF is not limited to the debate about economic policy. He actively works to open channels of communication between the world of public policy and the frontiers of academic research. This leads, in March 2011, to the first of a series of conferences titled 'Rethinking Macroeconomic Policy', with the participation of many of the leading exponents of contemporary mainstream economic analysis. The event is preceded by a document in which Blanchard and others list some limitations of mainstream pre-crisis thinking, including the excessive confidence in market-based regulation of the financial system, and a dangerous underestimation of the potential recessionary impact of deflationary policies (Blanchard, Dell'Ariccia, and Mauro 2010).

5. 'As a result of the crisis, a hundred intellectual flowers are blooming'

How far can Olivier Blanchard go in his 'rethinking' of mainstream economic policy? To answer this question, it is worthwhile examining an interview that he released in August 2015, just a few weeks before the end of his tenure as the IMF's Chief Economist. Paraphrasing the famous Maoist exhortation to competition among schools of thought, Blanchard declares that

> As a result of the crisis, a hundred intellectual flowers are blooming. Some are very old flowers: Hyman Minsky's financial instability hypothesis. Kaldorian models of growth and inequality. Some propositions that would have been considered anathema in the past are being proposed by 'serious' economists: For example, monetary financing of the fiscal deficit. Some fundamental assumptions are being challenged, for example the clean separation between cycles and trends: Hysteresis is making a comeback. Some of the econometric tools, based on a vision of the world as being stationary around a trend, are being challenged. (IMF 2015)

Beyond the allusion to the 'seriousness' of mainstream economists, this signals a significant change of direction. In his textbook accounts of the history of economic thought, Blanchard does not mention 'critical' thinkers (see, for example, Blanchard 2000, ch. 30). The fact that he cites now 'heretics' like Kaldor and Minsky as sources of inspiration for the further development of economic ideas represents a significant innovation, not only for research but also for teaching.

However, on closer inspection, this new attention to non-mainstream thinkers is not very surprising. Even when praising the emergence of a consensus around mainstream macroeconomics, Blanchard (2009a, p. 225) had already complained about the risk of 'too much convergence' among economists. His focus of attention on the recent revival of alternative approaches could thus be read as the wish for the economic crisis to initiate a fruitful Lakatosian dispute between paradigms. It should be clear, however, that if such a dispute were to really begin, it would be foolish to imagine a change of 'side' by Blanchard. From his intellectual trajectory it is hard to infer that this French economist is on the verge of a conversion to an alternative paradigm. Blanchard's critiques of the mainstream have

always carefully remained 'internal', avoiding radical departures from the intellectual framework to which he contributed.

A good example is the unprecedented IMF's mea culpa on the size of multipliers and the related economic forecasts. To those fearing for the institution's loss of credibility, Blanchard replied that the error stemmed from a correct processing of insufficient available data, and that the revision was not due to the acknowledgment of methodological or theoretical errors but rather to the availability of new evidence (IMF Survey 2015). This explanation is questionable, especially if we consider that for several years the IMF has widely used models that, for theoretical reasons and not the availability of data, denied the existence of the multiplier of autonomous expenditure or at least greatly downplayed its relevance (Bayoumi 2004).

Perhaps even more telling is Blanchard's interpretation of the Greek economic crisis. From 2009 to 2015, under the direction of the IMF, of the European Commission (EC) and of the European Central Bank (ECB) – the so-called Troika – Greece implemented an unprecedented deflationary policy, which led to a 15 percent fall in the average nominal wage and a 30 percent fall in nominal public spending.[1] Blanchard defended the adjustment program even beyond what would have been expected of the Chief Economist of one of the institutions promoting these policies. Somewhat at odds with the IMF's own research findings, he suggested on several occasions that such a program was fit to some extent for Greece and maybe even other peripheral Eurozone countries (Blanchard 2012, 2015). Once again, he overlooked a risk that had been highlighted by many leading scholars and even in his own work: prolonged deflation could plunge the economy into a state of permanent distress, thus endangering the very debt sustainability that austerity is meant to achieve (AA.VV 2013; Blanchard, Cerutti, and Summers 2015).

In fact, the crisis led a number of scholars, who, like Blanchard, have contributed to the consolidation of the mainstream consensus, to question a major building block of mainstream macroeconomics: the separation between short-term cycles, mostly demand-driven, and a long-term natural equilibrium. This separation is inherited from the Walrasian tradition; it was central in the monetarist view, and eventually percolated in the DSGE (dynamic stochastic general equilibrium) literature. Interestingly enough, it was also *de facto* accepted by the Keynesian theory of the 1950s (and by its modern champions; for example, see Krugman 2011) whose IS–LM (investment-savings–liquidity-money) apparatus was typically framed within a short-term horizon. DeLong and Summers (2012) and Fatas and Summers (2015), among others, have developed theoretical and empirical arguments against the separation between cycle and long-term natural equilibrium. Hysteresis and (human as well as physical) capital destruction are the reasons that economic depressions have a permanent impact on potential output. These results have been somewhat neglected by Blanchard, who recently (2016b) reassessed his faith in DSGE models as being flexible enough to accommodate the new insights gained from the Great Recession. This neglect is all the more puzzling in that, first, establishing a link between the short and long run has important consequences for the conduct of macroeconomic policies, which can have a (positive or negative) impact on the long-term position of the economy; and, second, within this 'anomalous' mainstream research stream a

[1]European Commission AMECO database (https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/macro-economic-database-ameco_en).

paramount role is played by hysteresis, which, as we saw above, was first introduced in a macroeconomic framework by Blanchard himself (Blanchard and Summers 1986).

The fact that so often Blanchard seems to contradict himself, especially on the real effects of monetary wage and price deflation, is in some ways emblematic. The difficulty of analyzing the link between deflation and crisis seems to be typical of the approach of mainstream economics. An immediate explanation of this may be traced to the fact that denying price adjustments are able to solve a crisis leads to questioning of the uniqueness, stability and even existence of the natural equilibrium in standard macroeconomic models. On second thoughts, however, the problem may go beyond the borders of macroeconomics. The deflation of money prices in the presence of high unemployment is in fact one of the typical mechanisms of a market economy. Questioning its effectiveness may lead to a more general skepticism regarding the overall ability of so-called spontaneous market forces to govern the economic system. Doubts about deflation, in other words, could be seen as a Trojan horse for a general critique of the capacity of a market economy to determine prices that guarantee optimal allocation of existing resources both in static and dynamic scenarios. For this reason, too, they could elicit further dilemmas and inconsistencies within mainstream economic debate.

6. The repudiation of the AS–AD model: A point of no return?

The tortuous, non-linear and sometimes contradictory evolution of Olivier Blanchard's thoughts maybe meets its precipitation point in the crucial context of teaching, where different paradigms fight a battle for hegemony.

We have already noted that the AS–AD (aggregate demand–aggregate supply) model can be considered an upgraded version of the so-called neoclassical synthesis: in this sense, while admitting temporary deviations of aggregate demand from the natural equilibrium, the model must still be placed in the neoclassical research tradition. However, unlike other versions of the same model (Mankiw 2010; Abel, Bernanke, and Croushore 2014), Blanchard's AS–AD scheme has a very important peculiarity: it is based on the hypothesis that the mark-up and related distribution between wages and profits are exogenous and not related to employment levels (Blanchard 2000; Blanchard, Amighini, and Giavazzi 2010). This assumption seems in contradiction to neoclassical theory: in a sense, it could be considered an implicit openness to heterodox theories of income distribution that drop the determination of the real wage and the rate of profit from the respective marginal productivities of labor and capital; that is, from the neoclassical fundamentals of the scarcity of resources and the preferences of economic agents. Also in the field of teaching, Blanchard seems to want to be on the borderline between the mainstream approach and the competing paradigms.

There are, in fact, several ways in which Blanchard's assumption of a mark-up unrelated to employment can be made consistent with the foundations of neoclassical economic theory (Blanchard and Fischer 1989). For example, in a context of monopolistic competition, it is possible to assume a constant demand elasticity to prices; in this case, changes in the level of economic activity, employment and related wage claims have no effect on mark-up and income distribution. In such a context, it is the constant mark-up, together with the function of the real wage set as a result of bargaining between firms and workers, which contribute to the determination of the natural level of

employment; namely, the level that does not generate an instability of wages and prices. This solution, however, must be considered a special case. When the specific hypotheses on the market regime and constant elasticity are removed, the economic system will return to a neoclassical competitive general equilibrium where prices, income distribution and then the mark-up move according to the relative scarcity of the factors of productions with respect to their demands. The neoclassical equilibrium, once again, has to be considered as the center of gravity for Blanchard's AS–AD analysis.

It is important to note, however, that more recently the judgment of Blanchard on the AS–AD model has changed radically. According to Blanchard, the main point of this scheme

> is to show how output naturally returns to potential with no change in policy, through a mechanism that appears marginally relevant in practice: lower output leads to a lower price level, which leads, for a given money stock, to a higher real money stock, which leads to a lower interest rate, which leads to higher demand and higher output. This is a long, convoluted chain of events with doubtful realism. Central to the adjustment is the assumption of constancy of the nominal money supply, which again is not the way central banks do business. And the notion that economies naturally return to normal has not held up well over the last seven years. (Blanchard 2016a)

As a result, Blanchard (2016a) argues that, 'the aggregate demand–aggregate supply model should be eliminated'. This change in perspective led to a series of innovations in the latest edition of Blanchard's macroeconomics textbook (2017). The IMF's former Chief Economist writes that, 'the traditional model of demand and aggregate supply was cumbersome and gave too optimistic a view of the return of output to potential' (*ibid*., p. xiii). For this reason, Blanchard replaces the traditional AS–AD model with an analysis called 'IS–LM–PC', which combines two well-known analytical tools of the last century: the macroeconomic model of Hicks and the Phillips curve. In this scheme the movements of the wage and price levels do not help to restore the equilibrium, but, on the contrary, may even create instability problems. It is then up to the central bank to fix the interest rate to determine a volume of investment and aggregate demand in line with the natural equilibrium levels of production and employment.

In Blanchard's 'new' view, this different analytical framework 'gives a simpler and more accurate description of the role of monetary policy and of output and inflation dynamics' (*ibid*.; see also Blanchard, Amighini, and Giavazzi 2018). While attempting to save DSGE models as a useful reference framework for policy analysis (2016b), Blanchard chooses to go back, at least in the sphere of teaching, to a framework dating back to before the intellectual 'counter-revolution' of Friedman and Lucas (2016a). This is a conclusion that should be welcomed by Krugman (2016), who seemed to refer precisely to IS–LM-type frameworks when arguing that the continuing reference to DSGE models comes at the cost of crowding-out more useful tools for policy analysis.

Thus, after many 'hesitations' on the effects of deflation, it seems the die is cast: in the crucial context of teaching, the Blanchard of today denies that the reduction of wages and prices will contribute to the achievement of natural equilibrium and he implicitly rejects the idea of a negative elasticity of aggregate demand with respect to the price level. In his view, however, this change should not affect the natural equilibrium itself: lack of confidence in the re-balancing capabilities of the spontaneous deflation mechanism should only concern the stability of the equilibrium and not its existence.

On closer inspection, however, Blanchard's new view on deflation has broader implications for the structure of his model and even undermines the neoclassical foundations of its natural equilibrium. In fact, as stated above, Blanchard's peculiar hypothesis of a mark-up that is exogenous and independent of employment levels can be made consistent with neoclassical economic theory by assuming monopolistic competition and a constant demand elasticity for prices. It is clear, however, that this solution, in turn, can occur only in the case of a negative elasticity of aggregate demand to the price level: an elasticity equal to or higher than zero increases profit as quantity increases and hence does not allow the determination of a monopolistic competition equilibrium and a related mark-up (Brancaccio 2017). But in Blanchard's AS–AD model, this means of determining the mark-up, as noted, is necessary for the same determination of the natural equilibrium. The removal of the assumption of negative demand elasticity, therefore, will raise a problem not only of stability but also the existence of natural equilibrium, and, in a sense, will open a series of questions about the same definition that Blanchard wants to give to the concept of equilibrium.

In essence, abandoning the idea that deflation can expand demand, Blanchard implicitly risks losing the possibility of interpreting in neoclassical terms his idea of an exogenous mark-up and the related natural equilibrium of his model. The collapse of that neoclassical basis, then, opens the way to the development of alternative versions of his model, sometimes provocatively defined *Anti-Blanchard*: according to these, for example, income distribution can be logically separated from the income level and may be determined by the political-institutional context and ultimately by the balance of power between social classes (see Amighini et al. 2012; see also Brancaccio 2017; Brancaccio and Suppa 2017).

It is striking to note in this regard, that, while following other pathways, Blanchard's analysis arrives at results not too dissimilar from the macroeconomic implications of the Cambridge critique of the neoclassical theory of capital and its further developments (Garegnani 1978, 1979; Kurz and Salvadori 1995; Pasinetti 2000; Petri 2004). Well beyond the author's intentions, Blanchard's (2016a) last critique of the AS–AD model may thus represent an unprecedented climb over the border between paradigms and perhaps even a point of no return with respect to the accepted tradition.

7. Conclusion

Olivier Blanchard's intellectual path, exploring different avenues – sometimes non-linear, sometimes even contradictory – can be considered as the personification of the controversial evolution of mainstream macroeconomic research during the last three decades. Especially since the Great Recession of 2008, this French economist has engaged in a debate with his own intellectual roots that has been troubled and filled with doubt. Blanchard's evolution of thought, in this respect, is radically different from the zealous re-proposition of doctrinal dogma that, especially in Europe, still rages in academia and even more so in policy circles.

Assessing this complex intellectual path, nevertheless, also helps to understand why Blanchard's analyses are ultimately limited by the mainstream framework, and by the role he decided to play in its defense. The primary limitation of the mainstream analysis, in our view, concerns the neoclassical reliance on price movements as leading the

economy towards an optimal use of the available amount of labor and other productive resources. This reliance is also apparent in the old IS–LM diagram, advocated by Krugman and other members of the mainstream and that Blanchard readmits at least in the educational field.

In newer versions of the IS–LM model, the hypothesis of an inverse relationship between interest rate and investment remains crucial to ensure that the economic system can return to its natural equilibrium thanks to monetary or relative price movements. Of course, according to Blanchard, the movement towards the equilibrium of that particular price which is the interest rate cannot happen spontaneously, and so it must be favored by appropriate monetary policy. But this seems to be in the end a detail, caused by a mere problem of adjustment in price expectations.

This is a typical feature of almost all of the latest evolutions in Blanchard's thought and more generally in current mainstream analysis: they fall within the branch of neoclassical doctrine that several years ago was sharply defined, and cricitized, as imperfectionist (Eatwell and Milgate 1982). According to this line of research, while in the best of all possible worlds the spontaneous movement of market prices would bring the economy towards a neoclassical competitive general equilibrium, actual markets are inhibited from fulfilling this task by the presence of 'frictions', 'rigidities', 'asymmetric information' or 'incorrect expectations' concerning future movements of prices. In fact, the critique of the neoclassical theory of capital has shown that even if all 'market imperfections' were removed, there would be no guarantee of achieving a full employment equilibrium simply through spontaneous price movements. In the case of the IS–LM model, for example, the problem concerns not only adjustments in price expectations but also the impossibility of proving the existence of an inverse relationship between the interest rate and investment. The non-existence of this relation, among other things, also causes a sense of perplexity concerning the confidence that Blanchard and other mainstream scholars continue to place in the ability of monetary policy to ensure convergence towards full employment.

The mainstream internal critique will not be enough to address the ambitious task of 'rethinking economics'. His recent interest in the revival of alternative approaches (IMF Survey 2015) could be interpreted as the hope of a renewed debate between different schools of economic thought. There are reasons to believe that the revival of this debate will help to better delineate the features of some internal aporias to mainstream macroeconomics and also to make it clear that the most serious among them are due to its neoclassical base.

We should acknowledge, however, that the difficulties, limitations and contradictions within mainstream macroeconomics, exemplified by the evolution of Blanchard's thoughts, are not sufficient grounds for initiating a Lakatosian dispute between paradigms. Despite commendable efforts to identify epistemological and theoretical common denominators (see, among others, Lavoie 2011), the alternative research lines still appear frayed, split and characterized by insufficient levels of communication with respect to those developed between the scholars of the dominant economic paradigm. Above all, the economic crisis of recent years has highlighted that, in the field of political economy more than elsewhere, the relationship between mainstream and alternative paradigms raises important issues regarding the sociology of knowledge (Lawson 2009; Dobusch and Kapeller 2012; Rochon and Docherty 2012), which seem

to reflect not only the internal power structures of academic institutions but also the prevailing view in the political arena. In other words, in the field of political economy, the choice between alternative paradigms also occurs in the light of their correspondence to politically prevalent interests, and not only on the basis of their theoretical and empirical robustness. Young Blanchard wanted to change the world with his own intellectual engagement, but the ideas of economists and political philosophers, both when they are right and when they are wrong, seem to be less powerful in relation to and more dependent on the social context than is commonly understood.

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ORCID

Francesco Saraceno http://orcid.org/0000-0003-0121-4329

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