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MDY Book Review

PROSPERITY FOR ALL: AN ASSESSMENT OF THE "FARMERIAN" REMEDIES TO PREVENT FINANCIAL CRISES AND REDUCE UNEMPLOYMENT

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In a recent book, Roger Farmer offers a quick but exhaustive rundown of the research agenda that he drove forward over the last 10 years with the aim to offer a novel microfoundation for Keynesian macroeconomics and—as a by-product—providing practical remedies to prevent financial crises, reduce unemployment, and ensure prosperity for all. In that work, the Farmerian arguments question the conventional visions underlying the Neo-Classical and New Keynesian paradigms and the addressed topics cover relevant theoretical, empirical, and policy issues that have been widely debated after the Great Recession of 2007–2009.

From a theoretical point of view, Farmer develops a macroeconomic model in which the supply side of the economy is jointly described by a productive setting and a search framework. In the latter—dubbed as the Keynesian search model—firms can allocate employed workers in two distinct activities: recruiting and output production. Corporate recruiters and unemployed workers searching for a job are the inputs of the search-and-matching technology, whereas workers allocated to production together with physical capital are the inputs of the production technology. In other words, in contrast with the Classical search model developed by Dale Mortensen, Peter Diamond, and Christopher Pissarides, Farmer assumes that job vacancies are posted by means of labor instead of firms' output.

The combination of those two binding technologies has the straightforward implication that there is an optimal proportion between the workers allocated in the recruiting and production departments managed by the active firms. Allocating workers in the production department is necessary to produce output. However, production activity takes away human resources from the recruiting activity that—together with unemployed workers— is necessary in order to hire firms' employees. Consequently, all else being equal, the maximization of produced output

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throughout the economy will require the allocation of a certain fraction of workers in the recruiting department of firms and the parallel persistence of a certain—involuntary—unemployment rate.

The rate of unemployment required to operate efficiently the supply side of the Farmerian model is the notional reference that would be chosen by an omniscient—and fictitious—social planner able to operate the production and the matching technologies simultaneously by exploiting the perfect knowledge of consumers and firms' preferences. According to Farmer, the resulting output-maximizing fraction of unemployed workers is the proper natural rate of unemployment and its existence—in contrast with the dictates of the New Keynesian economics—is completely unrelated to wage and price stickiness.

Remaining on the theoretical ground but shifting the focus of the analysis to the demand side, the Farmerian theory of aggregate expenditure hinges on household consumption by raising doubts on its dependence on earned income. Specifically, drawing on the theories of life-cycle consumption and permanent income developed by Franco Modigliani, Albert Ando, and Milton Friedman, Farmer argues that the main determinant of consumption expenditure and aggregate demand is the value of the wealth owned by households. The actual figure of that critical reference should be found in the outcome of self-fulfilling prophecies about the value of financial assets that can be modeled by a belief function. When households perceive to be richer because they expect to be able to sell the assets in their portfolio at a higher price, the value of their wealth actually increases by stimulating consumption and the higher level of aggregate demand will reduce unemployment. In contrast, when households feel poorer because they expect to sell their assets at a lower price, the value of their wealth collapses by reducing consumption and increasing unemployment.

Since the self-validating process that establishes the value of financial assets can take whatever value, the demand-constrained equilibrium of the Farmerian model is consistent with a continuum of steady-state unemployment rates in which the output-maximizing unemployment rate mentioned above—like in the textbook Keynesian cross diagram—is only one of the infinite equilibrium possibilities. Therefore, taking into account that beliefs of asset market participants have an independent influence on realized allocations, in the Farmerian theoretical setting, market confidence is elevated at the status of a fundamental of the model economy. More technically, Farmer assumes that the belief function resolves dynamic and steady-state indeterminacy by selecting the perfect-foresight path followed by the model economy with no regard for the efficiency—or the social desirability—of the final outcome [cf. Farmer (2016)]. Additionally, since the search mechanism describing the labor market does not provide any price signal for the allocation of the recruiting activities carried out by the employed workers, the implied demand-driven unemployment rate can potentially persist forever.

In this way, according to Farmer, it becomes possible to provide a sound theoretical rationale for the explanation of finance-induced recessions—like the Great Depression of 1930s and the Great Recession of 2007–2009—which is perfectly

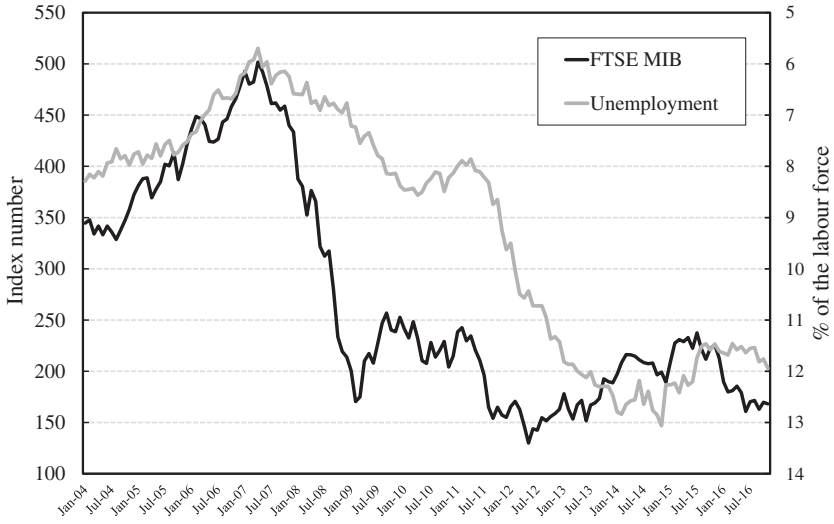

FIGURE 1. Stock market prices and unemployment in Italy (January 2004–November 2016).

consistent with the two biggest intuitions that John Maynard Keynes encapsulated in his *General Theory*. First, the economy has a continuum of steady-state unemployment rates. Moreover, the unemployment rate actually attained by the economy is determined by market sentiments.

On the empirical ground, the Farmerian finding is a persistent link among stock market prices—estimated by means of the S&P 500 index measured in wage units—and US unemployment that seems to corroborate the theory of aggregate demand described above. In details, Farmer finds out that the equation that links changes in the unemployment rate and changes in the stock market values to their own past values in a negative way has remained stable throughout the entire postwar period. Moreover, he goes further by showing that the direction of causality goes from the stock market toward the labor market. In other words, the stock market crash of 2008—during which the paper value of assets fell of about 50% for the self-validating pessimistic beliefs of market participants—caused an increase of 6-percentage points in the unemployment rate.

Interestingly, a similar pattern is also observed by examining recent Italian data. In the diagram of Figure 1, I plotted a deflated measure of the Italian stock market index (left scale)—the Financial Times Stock Exchange Milano Indice di Borsa (FTSE MIB) divided by the harmonized consumer price index—and the corresponding unemployment rate (right scale) both taken as monthly references.

Visually, the negative correlation between the two variables plotted in Figure 1 is impressive. Moreover, despite the thinness of the Italian stock market in which banking companies dominate, it is also possible to use the plotted data in order to retrieve inferential evidence according to which stock market fluctuations cause fluctuations in the unemployment rate but not the other way round (technical

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details are available from the author upon request). Based on these facts, Farmer's empirical findings deserve to be tested beyond the US borders with very promising auspices.

Finally, from the point of view of policy, Farmer is very skeptical about the effectiveness and desirability of traditional demand management interventions. On the one hand, since short-term interest rates are at the zero lower bound, the range and the effectiveness of monetary policies appear to be very limited in stimulating consumption and investment [cf. Beyer and Farmer (2008)]. On the other hand, considering fiscal interventions, it is quite likely that—despite the troubles of the economy—many people would vote against an increase in public spending to boost aggregate demand because they would prefer to choose directly how to spend their money rather than leaving that choice to the government. At this liberal statement, Farmer also adds that the empirical evidence on fiscal multipliers is decidedly inconclusive [cf. Farmer and Plotnikov (2012)].

Within this scenario and consistently with the theory and the empirical findings outlined above, the Farmerian policy proposal is grounded on a new institutional design aimed at influencing confidence in financial markets. Specifically, Farmer suggests an extension of the central bank tasks beyond the control of money supply—or the creation of an ad-hoc sovereign wealth fund managed by the Treasury Department backed by the present value of future tax revenues—with the objective of stabilizing stock market prices. Such a challenging task could be easily accomplished by allowing the central bank to sell and buy financial shares of an index fund—like an Exchange-Traded Fund—whose composition should ideally include all publicly traded stocks weighted by their market capitalization. In other words, the central bank should buy shares and other financial instruments in the private companies and hold them as assets. Furthermore, it should create offsetting liabilities in the form of index funds and sell them on the market.

Once the central bank has been granted to intervene credibly on financial markets, asset trading might actually become unnecessary. The mere statement that the central bank stands ready to buy and sell at a fixed price should be enough to stabilize the market by preventing the self-fulfilling swings of confidence that in the finance-induced recession of 2007–2009 were pointed out as the main determinants of realized economic outcomes.

In conjunction with a demand theory driven by self-fulfilling prophecies about stock market values, Farmer identifies the further theoretical underpinning for that kind of interventions in the inherent inefficiency of financial markets driven by incomplete participation. In other words, people cannot trade in the markets for financial instruments that open before they are born. Consequently, there should be another infinitely lived agent—say a public institution—whose trading activity is aimed at eliminating undesired swings of welfare across different generations caused by sudden drops in the national wealth's value.

Overall, the Farmerian arguments are definitely well crafted and convincing. The idea that public interventions on the stock market aimed at restoring confidence that would be able to manage aggregate demand in the direction of full employment

is certainly fascinating. However, I do think that some important issues could be further developed.

In the first place, as I stated above, the demand theory put forward by Farmer is mainly focused on household consumption, but it is almost silent on corporate investment. Of course, the latter component of aggregate demand is not quantitatively important as consumption. Nonetheless, it is well known that in the *General Theory* the part of private expenditure mainly driven by market psychology instead of economy's fundamentals is not consumption but private investment; in fact, Keynes coined the term "animal spirits" just to describe the nonfundamental-based behavior of entrepreneurs regarding investment spending. Furthermore, according to Keynes, private investment—via the multiplier effect—was the main driver of business cycles.

Taking US data, the importance of investment in explaining macroeconomic fluctuations is still hard to neglect. For instance, retrieving data from the last 50 years, we see that the correlation of investment with GDP and unemployment—took in absolute value—is slightly higher than the one of consumption. Moreover, among the components of private aggregate demand, investment appears as the more volatile variable, so, at least in principle, more prone to mirror sudden switches in market confidence [cf. Gelain and Guerrazzi (2015), Guerrazzi (2015)]. Furthermore, focusing on the wave of pessimism triggered by the finance-induced recession of 2006–2009, we observed a strong negative impact on consumption and investment. However, while the former recovered its precrisis level at the end of 2010, the latter has remained below its 2007 magnitude until 2013.

Farmer himself remarkably recognizes that the stock market crash of 1929 was followed by a large reduction of corporate investment. Nevertheless, he does not put the same emphasis on the path of corporate investment observed during the Great Recession, despite its likely connection with stock market value fluctuations [e.g., Barro (1990), Fama (1981)]. In this regard, I would not be surprised if the link between stock market values and unemployment found by Ulrich Fritsche and Christian Pierdzioch within the German economy—and cited by Farmer as an encouraging econometric corroboration of his theory—has passed through corporate investment rather than consumption expenditure. Moreover, I suspect that similar arguments may hold for the Italian case documented above, where troubles in banking companies may influence in a negative manner the inducement to invest of firms and their ability to compete in foreign markets for commodities.

Completing the picture with a convincing theory of investment may be crucial not only for the demand side of the economy; indeed, a theory on how the firms decide to increase their productive capacity would also allow us to taking into consideration the issue of capital accumulation. Given that productive capital is an essential production factor and corporate investment boosts capital accumulation, the decision to produce investment rather than production goods seems crucial in the determination process of the output-maximizing unemployment rate that conveys the first-best allocation of the Farmerian supply apparatus.

In conclusion, taking into account financial market interventions, the actual possibility to implement the Farmerian qualitative-easing policies that should avoid recessions requires to resolving a couple of nontrivial problems. On the one hand, especially outside the US context, I fear the emergence of some complications in the way in which sovereign States should coordinate themselves. For example, think of the European Monetary Union (EMU). Coordination failures observed in current fiscal policies as well as the difficulties of EMU members to cope with a unified monetary policy could adumbrate coordination failures even in the advocated financial interventions. Is Germany going to vote in favor of the creation of a European sovereign wealth fund that should actively trade in the stock markets of all the other EMU countries? Similarly, is Germany going to agree on the hypothetical decision of the European Central Bank to buy Italian or Greek shares? Prosperity for all the European citizens may be very hard to achieve in practice.

On the other hand, active trading on stock markets implies to address the issue raised by the fact that the central bank—or the already mentioned sovereign wealth fund—would be in the position to control the value and sometimes the ownership of private assets [cf. Guerrazzi (2012)]. In other words, such an intervention on financial markets may raise the same criticisms that Farmer raises against traditional fiscal policies. Who and how will decide what are the shares to buy or sell? What are the companies—or the sectors—that have to be saved and those to be condemned when they are experiencing a long-run decline? How leading managers and influential traders will react to the financial interventions implemented by the central bank? Those questions appear to go well beyond the discussion of countercyclical or nondeflationary economic policies.

As regards the latter shortcoming, I guess that interventions directly carried out by the institutions charged to manage financial asset trading might have similar effects. For instance, stock exchange administrators usually have the power to intervene directly by curbing the trading of financial assets that display excessive bullishness and/or bearishness. Therefore, reducing the bandwidth of allowed oscillations could contribute to stabilize the price of assets even without any external trading intervention from the central bank. More in general, whenever aggregate demand is sensitive to stock market value oscillations, a stricter price regulation in financial market deserves to be taken in serious consideration.

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