

Modigliani's comments on Sylos Labini's theory of unemployment (1956-1958)

ANTONELLA RANCAN*

1. Introduction

In his influential *Journal of Political Economy* review article “New Developments on the Oligopoly Front”, Franco Modigliani (1958) extensively discussed and developed along original lines Paolo Sylos Labini's microeconomic theory with passing reference to his macroeconomic analysis. Differing from it, in a long letter of comments on the provisional edition of *Oligopoly and Technical Progress* (Sylos Labini, [1956b] 1962) Modigliani examined the relation between market structures, involuntary unemployment and economic development (Modigliani, [1956] 2014).¹ This letter (published in the present issue of the *Review*) initiated a forty-year correspondence between the two economists, which testifies to their long-lasting friendship. They first met in Chicago in 1948. Modigliani had just moved from the Institute of World Affairs of the New School for Social Research to the University of Illinois, Sylos Labini arrived at Chicago with a Fulbright research scholarship. A few months later the latter went to Harvard to carry on his research on the economic effects of technical progress, under Joseph Schumpeter's supervision.²

* University of Molise, email: antonella.rancan@unimol.it. I wish to thank the referees for their useful comments on a previous version of this note. I am grateful to Sergio Modigliani for permission to publish Modigliani's letter. The letter is part of the Modigliani Papers (MP) preserved at the David M. Rubenstein Rare Book and Manuscript Library at Duke University.

¹ On Modigliani's interpretation of Sylos Labini's oligopoly model, see Roncaglia (2007), Sylos Labini (2005) and Rancan (2015).

² Both Modigliani and Sylos Labini graduated from the Faculty of Law at the University of Rome, in 1939 and 1942 respectively. Modigliani left Italy in 1938 soon after the Mussolini government passed the racial laws. He gained a PhD at the New School for Social Research in 1944 and in 1948 he joined the University of Illinois as Associate

From the outset Modigliani and Sylos Labini shared scientific and political interests.³ Both conceived economic research as a combination of theory and applied work. In their models the empirical foundations and political implications played an important role.⁴ Their investigations were mainly in the direction of original development of Keynes' theory, although following divergent paths. While Modigliani read Keynes through a neoclassical lens, Sylos Labini focused on classical political economy. He was interested in its dynamic approach and the possibility of explaining structural changes through the evolution of markets. From Smith he derived the idea that competition as conceived of by the classics, i.e. defined in terms of freedom of entry, is the only market form

Professor at the Bureau of Economics and Business Research, to supervise a large-scale project on *Expectations and Business Fluctuations*. Joseph Schumpeter recommended Modigliani to Howard Bowen (the Dean of the College of Commerce of the University of Illinois) as one of the "ablest younger theorists now in the country [...] His competence is not confined to economic theory" (Schumpeter to Bowen, October 28, 1948, in in Modigliani Papers, box CO3; see also Young *et al.*, 2004, p. 35). Schumpeter (along with Wassily Leontief, Gottfried Haberler and Oskar Lange) had already recommended Modigliani for a position at Harvard in 1946 (in Modigliani Papers, box CO24, see also Asso, 2007, p. 15; Barnett and Solow, 2000, p. 227). Sylos Labini, after the research period in the USA, went to Cambridge (UK) to study with Dennis Robertson. For biographical notes on Sylos Labini, see Sylos Labini (1984; 2005), Roncaglia (2007); on Modigliani, see Modigliani (2001), Parisi Acquaviva (2007).

³ In 1949 Modigliani and Sylos Labini tried to found a new journal with the aim of supporting economic and social reforms in Italy. They asked the historian Gaetano Salvemini (who was teaching at Harvard) to direct the journal (in Modigliani Papers, box CO23; see also Asso, 2007, p. 19). Moreover, from the 1960s onwards Modigliani and Sylos Labini were among the main supporters of income policy in Italy. Their last struggle was to address the high level of European unemployment over the 1990s. In 1998 Modigliani launched the "Manifesto on Unemployment in the European Union", published in the previous series of this *Review* (Modigliani *et al.*, 1998a; and in Italian: Modigliani *et al.*, 1998b) suggesting a set of policies to sustain effective demand, accompanied by structural reform of the labour market. The manifesto was the result of the combined work of Franco Modigliani, Jean-Paul Fitoussi, Beniamino Moro, Dennis Snower, Robert Solow, Alfred Steinherr and Paolo Sylos Labini.

⁴ However, Modigliani and Sylos Labini had different attitudes towards the increasing formalisation of economics: while Modigliani was a mathematical economist, Sylos Labini always defined himself a "non-technician of economics" (see Savona, 2006, p. 3, our translation).

consistent with economic development, and from Ricardo and Marx their focus on the relation between income distribution and economic growth.⁵

When they met in Chicago, Modigliani had already gained an international reputation for his interpretation of Keynes' theory of unemployment equilibrium in terms of money wage rigidity, establishing the basis for construction of the 'neoclassical synthesis'.⁶ It was thanks to conversations with Modigliani that Sylos Labini initially deepened his knowledge of Keynes and American Keynesianism, on which he wrote a critical essay in 1949. In this essay Sylos Labini anticipated part of the issues developed in *Oligopoly and Technical Progress*. He criticised Keynes' static and subjective approach to unemployment because it disregarded the fact that technological changes are at the basis of "those disequilibria that he [Keynes] tries to explain by 'propensities'; 'multipliers', and other economic gadgets" (Sylos Labini, 1949, p. 2).⁷ The dynamisation of Keynes' theory and the search for objective foundations for micro- and macroeconomic theories will represent one of the most significant lines of enquiry of Sylos Labini's research.

2. Sylos Labini's unemployment theory

Sylos Labini's *Oligopoly and Technical Progress* was divided into three parts: the first shows that the long-run industry equilibrium price

⁵ Sylos Labini's interest in economic and institutional developments was mainly influenced by the Italian tradition of thought, Schumpeter's studies on the evolution of capitalism, and his research period at Cambridge, where he reinforced his critical attitude towards marginalist analysis (see Porta, 2007; Roncaglia, 2007; Sylos Labini, 1984; 2005).

⁶ See Modigliani (1944). On Modigliani's contribution to the neoclassical synthesis, see Blanchard (1987), De Vroey and Duarte (2013), Howitt (1987), Samuelson (1987), Samuelson and Barnett (2007) and Snowden and Vane (1999), among others.

⁷ Sylos Labini also rejected the hypothesis of exogenous money adopted by Keynes in the *General Theory* since it underestimated the role played by the banks in the production of means of payments. See Sylos Labini (1949). From this point of view Augusto Graziani considered Sylos Labini a precursor of the circuit approach, since "he has always maintained that the money stock is endogenously determined thanks to the creation of money by banks in response to the demand for credit from firms" (Graziani, 2003, p. 4).

and output depend on the conditions of entry and initial industrial structure. Here he also discusses the rational foundations of the full cost principle, pointing out its inconsistency with marginalist analysis. Parts two and three analyse the relationship between market form and economic development, combining the microeconomic model with a study of the effects of innovations on income distribution and the employment level.

From the methodological point of view, his oligopoly theory aimed to establish objective foundations for analysis of both price determination in an oligopolistic market, rejecting Cournot-type and Edgeworth-type solutions, and structural unemployment, to supplant Keynes' psychological explanation with one based on market structures:

“[t]he problem of the market form, which concerns individual firms, and the problem of effective demand, which concerns the economy as a whole, have always been discussed separately. The two questions have been treated by two different methods of analysis: microeconomic analysis in the neoclassical theory and macroeconomic analysis in Keynesian theory. The neoclassical theory of market forms has found severe critics in Sraffa and his successors [...] Yet integration of the two types of analysis seems feasible and desirable. In particular, it seems that the psychological assumptions, which are a weak point in Keynesian theory, may conveniently be replaced by objective assumptions. Such integration would surely be highly fruitful for the further progress of economic theory” (Sylos Labini, [1956b] 1962, p. 191).

Thus, his microeconomic theory was closely related to his dynamic analysis carried out in the second and third parts of the book. His attempt to combine classical economics with Sraffa's critique of Marshall and with Keynes' theory of effective demand clearly placed his analysis outside mainstream economics. In particular, Sylos Labini's unemployment theory was conceived to show the different effects of technical progress on the employment level on the basis of different price behaviours, in competitive and non-competitive markets. His starting point was Ricardo's theory, according to which displaced workers could be reemployed only thanks to new capital formation. Through numerical examples Sylos Labini demonstrated that this outcome was possible only in competitive markets, where innovations result in a reduction in factors

and consumer goods prices for all firms and sectors, with expansionary effects on demand and employment. In other words, through classical competition, technical progress leads to long-run falling prices, constant money incomes (in the long-run profits and wages tend towards their natural level) and stable employment.

By contrast, in oligopolistic markets cost reductions have no effect on prices. By virtue of the hypothesis of technological discontinuities, innovations are not generally accessible, enabling only some large firms to gain structural extra-profits rather than lowering prices. Furthermore, trade union pressure or government interventions may cause cost reductions to result in higher money wages. Thus, alongside technical impediment, price rigidity (factor prices do not fall) also limits the diffusion of the fruits of innovations, and the formation of additional capital is not sufficient to completely reabsorb displaced workers. Innovations eventually lead to higher nominal incomes in the innovative sector, rather than lower prices, and the forces tending to create unemployment (technical progress) are stronger than those tending to re-employment, such as a widespread increase in investment and consumption following a reduction in factors and consumer goods prices.

Sylos Labini's theory of technological unemployment was built within the classical framework, according to which in competitive markets investment and employment levels depend on capital accumulation only. Flexible prices guarantee expansionary effects on both demand and output, and additional savings are therefore always invested.⁸ In contrast, under oligopolistic conditions Say's law no longer applies and Keynes' problem of effective demand arises. According to

⁸ Sylos Labini's focus on price rather than wage flexibility as the mechanism that guarantees full employment appears still more evident in his rejection of Wicksell's critique of Ricardo's theory. According to Sylos Labini the process of absorption of labour does not require wage flexibility since it is "set in motion by the formation of additional capital, which in turns depends on the price decrease" ([1956b] 1962, p. 129). Wicksell's inverse relation between wages and the employment level was also rejected because, under a process of continuous mechanisation, wages should necessarily tend to zero with progressive demand contractions. In his comments Modigliani refuted this argument since it did not take into account the fact that technical progress increases labour productivity and thus real wages.

Sylos Labini, innovations create three kinds of incentives to investment: a fall in factor prices (lacking under oligopolistic conditions), a fall in the interest rate, and an increase in effective demand. Since under concentrated oligopoly firms are largely financed by internal funds, they are relatively insensitive to changes in the interest rate.⁹ Therefore, it is only effective demand that plays a crucial role: in the presence of technical progress, employment may remain stable (or may rise) only if production increases at the same rate as productivity. This is only possible if demand expands too.

Sylos Labini discussed Keynes' theory of effective demand in the last part of the book, in connection with Hansen's theory of stagnation, to conclude that the problem of excess saving does not arise from psychological motives but from objective conditions such as price rigidity due to technological and economic barriers. Such barriers prevent those expansionary effects necessary to re-employ displaced workers. This calls for a substantial and continuous public expenditure policy.

3. Monetary versus real causes of unemployment

Modigliani's ([1956] 2014) private comments on Sylos Labini's macroeconomics revolved around his "confusion" between monetary and real phenomena. In particular he criticised Sylos Labini's monetary definition of investment in terms of a firm's total expenditure to acquire factors of production. To Modigliani this appeared as ambiguous with respect to the 'usual' notion of capital as the stock of real goods owned by society. He read Sylos Labini's classical definition as being very close to the value of transactions of the quantity theory of money, and thus with no significance in terms of real variables. According to Modigliani, under the hypothesis of constant monetary investments (i.e. value of transactions), fixed money and rigid prices, as in Sylos Labini's model,

⁹ According to Sylos Labini a fall in the interest rate may influence investment only indirectly, through a fall in prices and a rise in effective demand.

real output only depends on (or is limited by) the quantity of money. In other words, involuntary unemployment has a monetary explanation in Sylos Labini, because it originates from the lack of adjustment of the quantity of money to rises in productivity. Modigliani considered the parallel Sylos Labini drew between technical innovations and involuntary unemployment trivial and tautological:

“[w]hat you should have established is that technical progress, or the introduction of machines, in the hypothesis of the kind of market forms you discuss, necessarily or probably leads to unemployment, for real reasons, independently of the monetary policy that could be followed, and thus, without resting on the premise that the transaction value has to be constant.” (Modigliani [1956] 2014, p. 304).¹⁰

In contrast with Sylos Labini's conclusion, that changes in income distribution affect (through price rigidity) the employment level, Modigliani argued that monopoly and oligopoly only affect profits, unless: 1) there are purely monetary problems which, however, can be easily solved, or 2) real, not money, wages are rigid. That is to say, a causal relation between technical progress and unemployment is only possible under the hypothesis of real wage rigidity, in which case monetary (and fiscal) policy is no longer effective.

Modigliani's critique of Sylos Labini's theory is close to the distinction between monetary and real causes of unemployment that he had already discussed in his famous 1944 *Econometrica* article. In “Liquidity Preference and the Theory of Interest and Money”, Modigliani demonstrated that under the hypothesis of downward money wage rigidity the classical dichotomy breaks down and therefore all real variables, including output and employment, depend on the quantity of money (1944, p. 65). In particular, he ascribed to a disequilibrium in the money market, due to an excess demand for money, the cause of the typical Keynesian process: a reduction in real incomes and employment, which clears the money market. In other words, for Modigliani

¹⁰ Modigliani also criticised Sylos Labini's reference to monetary prices because their flexibility only depends on monetary policy.

unemployment had a monetary origin and could be remedied with an expansionary monetary policy.

Modigliani's letter also shows his shifts of attention from money to real wage rigidity. In that period he was working on "The Theory of Money and Interest in the Framework of General Equilibrium Analysis", (1955, in MP)¹¹ in which he analysed, using the income-expenditure model, the relation between effective demand and unemployment equilibria, on the basis of different wage and price behaviours.¹² Besides the cases of price and wage flexibility (the neoclassical case) and flexible prices with money wage rigidity (already analysed in 1944), Modigliani introduced the hypotheses of rigid prices and flexible wages, flexible prices and real wage rigidity, and nominal price and wage rigidity. According to Modigliani, with rigid prices and flexible wages, workers insist on being fully employed and will permit wages to fall as long as an excess supply of labour exists. Consequently, unemployment and an equilibrating fall in the level of real income will not emerge.¹³ In other words, regardless of what happens to prices, if at any feasible level of interest the demand in real terms is insufficient, the labour market cannot be cleared and the system remains without a solution (1955, p. 111).

Under the hypothesis of a fixed minimum real wage – which exceeds the marginal product of labour – neither monetary nor fiscal policy could succeed in reducing the unemployment level. The increase in money will simply lead to an offsetting rise in nominal wages without affecting any of the real variables of the system (1955, p. 104). Modigliani refers here to the case of Italy, where post-war expansion was accompanied by a

¹¹ Modigliani's notes on monetary theory should have been the departure point for a monograph that Modigliani eventually abandoned, publishing instead a long article on the subject (see Modigliani, 1963, and the letter below).

¹² Modigliani defined as rigid those prices that do not fall below an inferior level even though there exists excess supply (1955, p. 68). Note that this definition was different from that introduced in the 1944 *Econometrica* article in which he associated wage rigidity with perfectly elastic labour supply (on this point see Rubin, 2004; Rancan, 2012).

¹³ Under the hypothesis of nominal wage rigidity, firms must adjust to the deficiency in demand by cutting back output and employment rather than following a (hyper) deflationary process of wages and prices, and a less-than-full-employment position eventually results (1955, p. 110).

rapid rise in money and real wages, well above marginal labour productivity.¹⁴

Finally, regarding the case of prices that never fall below some fixed mark-up over wages, as in Sylos Labini's case, the equilibrium level of real income will be lower than it would be in the absence of rigid prices. However, an "expansionary monetary policy would be capable of offsetting the harmful effects of this non-competitive price policy" (1955, pp. 112-113).

As emerged from Modigliani's letter to Sylos Labini and from his notes on the theory of money, they approached the same problem – unemployment – from different perspectives. Sylos Labini was investigating the structural causes (technological progress accompanied by lack of competition) that lead to long-run unemployment, bearing in mind the classical framework. Modigliani, on the other hand, was interested in the relation between the quantity of money and unemployment equilibria on the basis of different wage and price behaviours, in competitive and non-competitive markets. His theory was essentially static and set out within the neoclassical framework.

4. Final considerations

Modigliani's critique of Sylos Labini's unemployment theory concentrated on his confusion between monetary and real analysis on the basis of Sylos Labini's monetary notion of investment and his use of nominal rather than real wage rigidity. However, regarding the former point, Sylos Labini's definition was conceived to aggregate in terms of value a set of heterogeneous investment goods rather than reasoning in terms of physical commodities as Modigliani did. He was not interested in constructing a monetary theory of unemployment; in fact, in

¹⁴ Modigliani's discussion of the effects of minimum wage legislation on the employment level (and price stability) was part of a debate initiated in the 1940s on the inflationary pressure of wages, which anticipated the standard interpretation of the Phillips curve (see Boianovsky and Trautwein, 1996).

commenting on this critique he pointed out that in his model money was neutral (see below, footnote 25 to his letter, Modigliani, [1956] 2014, p. 300).

Furthermore, with regard to wage rigidity Sylos Labini, following Ricardo, also referred tacitly to the hypothesis of real wage rigidity, in both competitive and non-competitive markets.¹⁵ However, he did not emphasise its role because he refuted the idea of a direct relation between wages and unemployment. In line with the classical theory, he argued that the employment level is determined by capital accumulation. His aim was to analyse the dynamic forces, rather than the static reasons (wage rigidity), that lead to involuntary unemployment. On this ground he criticised Keynes' static analysis, and in particular the hypothesis of a proportional relation between investment and employment, whose validity was limited to the case of constant technical coefficients. He also explicitly rejected Modigliani's 1944 interpretation of Keynes' unemployment equilibrium in terms of money wage rigidity, since it meant a return to the neoclassical static approach. On the other hand Modigliani, in applying his monetary explanation of unemployment to Sylos Labini's structural unemployment, departs from the neoclassical synthesis distinction between short-run wage rigidity, and long-run flexibility, with which his name is associated.¹⁶

In subsequent editions of *Oligopoly and Technical Progress* (1957, 1962) Sylos Labini only dropped the hypothesis of the constancy of investment, without changing its definition in terms of firms' expenditure to acquire factors of production, or his numerical examples and his main conclusion on the relation between technological progress, market forms

¹⁵ Sylos Labini adhered to Ricardo's wage fund theory (see for example his critique of Wicksell); he also insisted on the central role played by trade unions in non-competitive markets.

¹⁶ See Howitt: "Modigliani (1944) had shown how Keynesian results could be derived from an otherwise classical model if the money wage rate were fixed. Since it was widely believed that in the short run, it seemed natural to see Keynesian theory as applying to short-run fluctuations and general equilibrium as applying to long-run questions in which adjustment problems could safely be ignored. This view came to be known as the 'neoclassical synthesis'" (1987, p. 274).

and structural unemployment. He considered this revision sufficient to meet Modigliani's major criticisms on the confusion between monetary and real phenomena (see below).¹⁷

In the *Journal of Political Economy* review of Sylos Labini's book, Modigliani did not return to the above confusion or the role played by real wage rigidity in accounting for involuntary unemployment. He only continued to criticise Sylos Labini's relation between technical unemployment and effective demand, arguing that labour-saving innovations represent a problem only for countries poor in capital (such as Italy) and not for developed economies in which the unemployment threat derives from a lack of effective demand. For these latter cases, "innovations are, as it were, a blessing, since they increase the required stock of capital and thus make possible the absorption of full employment saving" (1958, p. 229).

In October 1957, Modigliani sent the mimeograph of his review to Sylos Labini for circulation in Italy. In commenting on the review, Sylos Labini pointed out that it represented an original development of his microeconomic theory. He also regretted Modigliani's "intellectual dislike" for the remaining parts of the book (Sylos Labini to Modigliani, 18 October 1957, in MP). In particular, he observed that Modigliani's brief reference to his macroeconomic analysis gave the impression that his oligopolistic model was something separate from his theory of effective demand, while it was instead intended to be linked with the structural changes of modern economies (*ibid.*).

In their subsequent correspondence, Modigliani and Sylos Labini continued to discuss the different results of their research, especially with reference to the relation between wages, prices and profits in non-competitive markets. Despite their different approaches to economic

¹⁷ Soon after the publication of the definitive edition of the book (1957), Sylos Labini sent a copy of it to the *American Economic Review*, *Econometrica* and the *Journal of Political Economy*. He also sent the revised version to Modigliani and Alfred Kahn (who had already read the previous edition) asking them to review his work to reinforce his application for full professorship in Italy (Sylos Labini to Modigliani, 18 July 1957, see also Alfred Kahn to Modigliani, 25 July 1957, in Rancan, 2015). Modigliani wrote his review on the basis of the comments he had already written in the letter.

theory their exchange attests to the intellectual honesty and civic passion that inspired their study and their personal relationships.

REFERENCES

- ASSO P.F. (2007), "Franco Modigliani e l'Italia", in asso P.F. (ed.), *L'impegno civile di un'economista. Scritti editi e inediti sull'economia e la società italiana*, Siena: Protagon.
- BARNETT W.A. and SOLOW R. (2000), "An Interview with Franco Modigliani", *Macroeconomic Dynamics*, vol. 4 n. 2, pp. 222-256.
- BLANCHARD O.J. (1987), "Neoclassical Synthesis", in Eatwell J., Milgate M. and Newman P. (eds.), *The New Palgrave: A Dictionary of Economics*, London: Macmillan, pp. 634-637.
- BOIANOVSKY M. and TRAUTWEIN H.-M. (2006), "Price Expectations, Capital Accumulation and Employment: Lindahl's Macroeconomics from the 1920s to the 1950s", *Cambridge Journal of Economics*, vol. 30 n. 6, pp. 881-900.
- DE VROEY M. (2000), "IS-LM à la Hicks versus IS-LM à la Modigliani", *History of Political Economy*, vol. 32 n. 2, pp. 293-316.
- DE VROEY M. and DUARTE P.G. (2013), "In Search of Lost Time: The Neoclassical Synthesis", *The B.E. Journal of Macroeconomics*, vol. 13 n. 1, pp. 965-995.
- GRAZIANI A. (2003), *The Monetary Theory of Production*, Cambridge: Cambridge University Press.
- HENDERSON A. (1954), "The Theory of Duopoly", *The Quarterly Journal of Economics*, vol. 68 n. 4, pp. 565-584.
- HOWITT P. (1987), "Macroeconomics: Relations with Microeconomics", in Eatwell J., Milgate M. and Newman P. (eds.), *The New Palgrave: A Dictionary of Economics*, London: Macmillan, pp. 273-275.
- MODIGLIANI F. (1944), "Liquidity Preference and the Theory of Interest and Money", *Econometrica*, vol. 12 n. 1, pp. 45-88.
- (1955), "Preliminary Notes on the Theory of Money and Interest in the Framework of General Equilibrium Analysis", Carnegie Institute of Technology, *mimeo*.
- (1958), "New Developments on the Oligopoly Front", *Journal of Political Economy*, vol. 66 n. 3, pp. 215-232.
- (1963), "The Monetary Mechanism and its Interaction with Real Phenomena", *The Review of Economics and Statistics*, vol. 45 n. 1, supplement, pp. 79-107.
- (2007), *Crisi del sistema economico, prezzi politici e autarchia: cinque articoli giovanili (Roma 1937-1938)*, Milan: Vita e Pensiero.
- ([1956] 2014), "A Letter to Sylos Labini", *PSL Quarterly Review*, vol. 67 n. 270, pp. 283-307
- MODIGLIANI F., FITOUSSI J.P., MORO B., SNOWER D., SOLOW R., STEINHERR A. and SYLOS LABINI P. (1998a), "An Economists' Manifesto on Unemployment in the European Union", *Banca Nazionale del Lavoro Quarterly Review*, vol. 51 n. 206, pp. 327-361.

- (1998b), “Manifesto contro la disoccupazione nell’Unione Europea”, *Moneta e Credito*, vol. 51 n. 203, pp. 375-412.
- MODIGLIANI PAPERS (MP) (1948), *Schumpeter to Bowen*, 28 October, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box CO3.
- (1955), *Preliminary Notes on the Theory of Money and Interest in the Framework of General Equilibrium Analysis*, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box T8.
- (1956), *A Letter to Sylos Labini*, September 16, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box CO24.
- (1957a), *Sylos Labini's letter to Modigliani*, 18 July, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box CO24.
- (1957b), *Sylos Labini's letter to Modigliani*, 18 October, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box CO24.
- (1957c), *Alfred Kahn's letter to Modigliani*, 25 July, David M. Rubenstein Rare Book & Manuscript Library, Duke University, box CO24.
- NEISSER H. and MODIGLIANI F. (1953), *National Incomes and International Trade: A Quantitative Analysis*, Urbana: University of Illinois Press.
- NELSON S., KEIM W.G. and MASON E.S. (1940), *Price Behavior and Business Policy*, Washington (DC): Government Printing Office.
- PORTA P.L. (2007), “Paolo Sylos Labini as a historian of economics”, *Revue d'économie industrielle*, n. 118, pp. 29-36.
- RANCAN A. (2012), “Modigliani's 1944 Wage Rigidity Assumption and the Construction of the Neoclassical Synthesis”, *Economics & Statistics Discussion Papers*, n. 069/12, University of Molise, Campobasso.
- (2015), “The Origin of the Sylos Postulate: Modigliani's and Sylos Labini's Contributions to Oligopoly Theory”, *Journal of the History of Economic Thought*, forthcoming.
- RONCAGLIA A. (2000), *Piero Sraffa: His Life, Thought and Cultural Heritage*, London: Routledge.
- (2006), “Paolo Sylos Labini, 1920-2005”, *Moneta e Credito*, vol. 59 n. 233, pp. 3-21.
- (2007), “Il pensiero economico di Paolo Sylos Labini”, *Economia & Lavoro*, n. 3, pp. 23-30.
- RUBIN G. (2004), “Patinkin on IS-LM: An Alternative to Modigliani”, *History of Political Economy*, vol. 36, supplement, pp. 190-216.
- SAMUELSON P.A. (1987), “The 1985 Nobel Prize in Economics”, in Dornbusch R., Fisher S. and Bossons J. (eds.), *Macroeconomics and Finance: Essays in Honor of Franco Modigliani*, Cambridge (MA): MIT Press, pp. 29-35.
- SAMUELSON P.A. and BARNETT W.A. (eds.) (2007), *Inside the Economist's Mind: Conversations with Eminent Economists*, Oxford: Blackwell.
- SAVONA P. (2006), “Sulla concorrenza e sull'uso della matematica in Paolo Sylos Labini”, *Paolo Sylos Labini economista e cittadino*, 16 October 2006, Sapienza University of Rome, Rome, available at <http://dspace.unitus.it/bitstream/2067/626/1/intervento-savona.pdf>.
- SNOWDON B. and VANE R.H. (1999), *Conversations with Leading Economists: Interpreting Modern Macroeconomics*, Cheltenham: Edward Elgar.

- STIGLER G.J. (1947), "The Kinky Oligopoly Demand Curve and Rigid Prices", *Journal of Political Economy*, vol. 55 n. 5, pp. 432-449.
- SYLOS LABINI P. (1949), "The Keynesians (A Letter from America to a Friend)", *Banca Nazionale del Lavoro Quarterly Review*, vol. 2 n. 11, pp. 238-244.
- (1954), "Monopoli, ristagno economico e politica keynesiana", *Economia Internazionale*, vol. 7 n. 4, pp. 758-778.
- (1956a), "Investimento", in Napoleoni C. (ed.), *Dizionario di economia politica*, Milan: Edizioni di Comunità, pp. 765-788.
- ([1956b] 1957), *Oligopolio e progresso tecnico*, Milan: Giuffrè.
- (1962), *Oligopoly and Technical Progress*, Cambridge (MA): Harvard University Press.
- (1984), *Le forze dello sviluppo e del declino*, Rome: Laterza.
- (2005), "Franco Modigliani and Oligopoly", *Banca Nazionale del Lavoro Quarterly Review*, vol. 58 nn. 233-234, pp. 41-48.
- YOUNG W., LEESON R. and DARTY W.A. (2004), *Economics, Economists, and Expectations: Microfoundations to Macroapplications*, London: Routledge.