Leon Walras' Theory of Money

By RENATO CIRILLO*

ABSTRACT. Leon *Walras'* theory of *money,* in spite of its serious flaws, provides important insights which should prove of interest to modern *monetarists.* He was one of the few *economists* in the *classical tradition* to detect major deficiencies in the *quantity theory of money.* He favored a strong public policy to regulate the *money supply* in order to ensure the preservation of *economic equilibrium.* Most of his arguments were motivated by his concern for the *wage earners* because he knew that they were the first to suffer in times of *economic crisis.*

I

Introduction

LEON WALRAS MADE two distinct contributions to the theory of money. The more important one was in the *Elements of Pure Economics* (1874, 1877) in which he demonstrated that a pure theory of money was consistent with his general equilibrium analysis. Indirectly Walras dismissed the idea that money was purely a 'veil' in the sense that an exchange system could work without it. On the contrary, Walras proved that a general equilibrium could be established only if commodities could be referred to a third commodity of invariable value which he termed the *numeraire.* With the exception of Wicksell and a few others no one seems to have appreciated Walras' important contribution.

Unfortunately his other contribution which was concerned with monetary reform rather than pure theory, never reached the high level of the first. His proposals for monetary reform are found mainly in *Études d'économie politique appliquée* (1898), and in three articles contributed to the *Journal des économistes* (Dec. 1876, May 1881 and Oct. 1882) entitled "Theorie mathematique de bimetallisme."

II

His Leading Idea

THIS IS HOW Walras described his leading idea:

> The leading idea developed in the Theory of Money is to stabilize price variations by regulating the supply of money.[1]

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There are, however, many weaknesses in Walras' analysis. It is neither original, nor inspiring. Even Walras' faithful followers did not find much merit in it though their comments were written at the height of Keynesianism, before monetarism became respectable. But the defects are obvious. For one thing, he accepted a pure Lockean version of the quantity theory of money in the sense that the level of prices is determined by the money stock alone. In Walras' theory there is no motive for holding cash balances and, thus, he has to accept that money's function is that of a medium of exchange only. With the exclusion of the function of money as a store of value, he neglected the interdependence between commodity and money markets. This is, of course, an acceptance of Say's Law. This is how he stated his position:

> I have been convinced scientifically that, other things remaining equal, as the quantity of money increases or diminishes, the money value of commodities rises or diminishes proportionally.[2]

Moreover, Walras was a bullionist who called himself "an intransigeant monometalist," a strong believer in gold as the only acceptable currency in international payments. "Gold must be established as the only money," he wrote. He was a forerunner of full reserve requirements in the sense that all currency, including bank notes, had to be backed 100 percent by gold.[3] Walras was convinced that the price level had to be controlled at all costs and, according to him, this could only be done by strictly controlling the money supply. This is how he explained his position:

> One should use gold in all international transactions, side by side with a limited amount of silver as token money (*billon regulateur*) to pay for domestic transactions. Therefore, whenever the quantity of gold increases or diminishes, the quantity of silver will be diminished or increased in such a way so as to avoid crises of high or low prices.[4]

Walras refused to accept paper money for "it increases the quantity of money in circulation, raises prices, encourages imports, discourages exports and pushes out of the country metallic money, for which, in ultimate analysis, it has been substituted."[5]

III

Why Was Walras' Theory Ignored?

ON RE-READING HIS THEORY now, one is struck by the insights Walras manifested throughout, even though the substance of the theory is basically weak. That even valid aspects of his analysis have been ignored by monetarists can be explained by their general lack of appreciation of general equilibrium theory. When Milton Friedman reviewed William Jaffé's translation of Walras' *Elements of Pure Economics* he recognized Walras' contribution in that he gave economists "a framework for organizing our ideas, a way of looking at the economic system," but he concluded nevertheless, that Walras did not present "substantive economic phenomena," and urged the readers to discover such contributions by "turning to other economists, notably, of course, to Alfred Marshall."[6] This is not surprising since the Cambridge cash-balances approach, a shift of emphasis from the transactions version of the quantity equation, is at the heart of his theory. Money is not just a medium of exchange, it is also a store of value, an asset. Keynes' version of the theory, the theory of demand for money, forms an integral part of monetarist theory. Such theory fits readily with the general Marshallian demand apparatus.[7]

IV

Departures from Orthodox Theory

For a long time Walras shared the classical beliefs in matters of money. It was only when he realized that traditional theory expected government to make changes in the money supply only in response to demand, that he decided to abandon a theory which he labelled "mechanistic." On page 71 of his treatise on applied theory he confessed that he had to change substantially his previous opinion as a result of his research in pure theory.

In order to better appreciate why Walras rebelled against the classical stand in money matters, one has to recall that Walras was never afraid of government interference in economic life whenever it really mattered. Though one of the staunchest supporters of a free competitive system, he even expected such intervention in the market in order to guarantee the efficient working of the system. Only in this way, according to him, monopolies could be prevented from prejudicing the freedom of the market. As a social reformer he presented theories of land ownership and land reform in general characterized by his advocacy for State intervention in the economy.[7] For the same reason he was particularly critical of French political economists, because of their insistence on limiting the role of the State to a minimum. "I do not share such animosity in regard to State interference," he remarked tersely.[9] So he was not at all willing to limit the State's role in money matters subject to changes in the demand for money. Thus in matters of policy he showed consistency.

V

Erratic Changes in the Money Supply and Economic Crises

Walras' condemnation of the "mechanistic" theory of money was because he was convinced that changes in the price level could have damaging consequences—sometimes on the entrepreneurs, sometimes on the workers. Higher prices were always harmful to workers who are forced to take industrial action just to maintain their standard of living. In his own words:

> In effect as the quantity of money increases . . . producers gain, while workers and other consumers lose. On the other hand, when the supply of money diminishes, entrepreneurs suffer, while landowners, workers and capitalists gain. In either case economic equilibrium is destroyed. The crisis will last until a new equilibrium is established.[10]

Moreover, erratic changes in the money supply could harm other social groups as well. Depending on the direction price changes take either creditors or debtors would suffer as well. In all such discussions one can perceive that it is his perspective of an economy in general equilibrium that adds a new dimension to his arguments. It is within such a system that, according to Walras, one can truly appreciate the repercussions which could be felt in the various sectors of the economy as a result of an irrational monetary policy.

His recommendations for a healthy monetary policy were, within limits, significant. The only measures he considered to be sane were those meant to stabilize prices at those levels which were warranted by the performance of the economy. It is here that the money stock had a crucial role to play.

In prescribing concrete measures for an adequate control of the money supply, Walras suggested policies which do not sound strange to contemporary monetary reformers. He opted for a strong monetary policy, but he was unwilling to make the central bank the agency entrusted with the implementation of such measures. He feared that it could never act independently of the ruling political party.

So he recommended that the State confer the right to issue currency to a consortium of major banks. To this Walras added a more far-reaching proposal. Monetary policy, he argued, should not be undertaken by countries independently of other countries with which they trade. Since a major crisis in one country could have repercussions in other countries, the efforts of countries acting in isolation might not be adequate to avert crises of global proportions.

In the course of these discussions Walras realized that similar changes in policy were perhaps too radical and required time and much thought before coming to fruition. He was convinced, however, that one day controls of the money supply would be universally adopted. In one instance he writes with a sort of prophetic inspiration that goes beyond Bretton Woods and the International Monetary Fund:

> It will happen one day, and we hope that this will be in the second half of the twentieth century, when measures will be taken to prevent such dislocations in the social and economic mechanism.[11]

Soon after this statement he advanced an argument in favor of the nationalization of gold and silver mines. Coming from one of the most prominent crusaders for the socialization of land ownership, such a proposal could not arouse much surprise. However, this time Walras justified his recommendation not on ethical grounds, but because only the State could regulate the production of the precious metals in the interests of society and the needs of the economy. He maintained that it was too much to expect private interests, motivated as they are by the profit motive, to act in a responsible manner in the interests of society. Nevertheless, he did not feel too optimistic that his proposals would be accepted because, as he remarked, "As of now, at the end of the 19th century, such ideas smack of State socialism, and as a remedy to the over-abundance of money, we shall probably have bimetallism, in other words an even greater over-abundance (of money)."

VI

Conclusion

In general, Walras' theory of money reform, though weak and confusing in parts, contains elements of interest to the monetary specialist. Though his concern was mainly with the supply side of money in matters of monetary reform, in his theory of general equilibrium he gave a special role to money. Admittedly he did not show how an integration between the two can take place; it was left to others to show the way.[12] But he perceived that equilibrium could not be guaranteed in the absence of responsible control of the money stock. One should not minimize the fact that a major factor which prompted him to reconsider classical theory and suggest departures from it was his concern for the individual, and in particular for the worker.

Two of his fundamental beliefs are echoed in the writings of two great monetarists, Irving Fisher and Milton Friedman. We have seen that Walras was a forerunner of full reserve or 100 percent money measures. In his work, *The Purchasing Power of Money* (1911), Fisher advanced the idea of the "compensated dollar." Instead of a constant quantity of gold, he wanted to see the dollar, as the monetary unit, represent a constant amount of purchasing power. This could be achieved, according to him, by allowing the Treasury to vary the gold content of the dollar with variations of the official price index. In this sense both Walras and Fisher were in agreement, with the former suggesting a *billon regulateur* (or silver tokens) in place of a price index.

Milton Friedman has always acknowledged the debt monetarists owe to Irving Fisher. In a 1970 lecture on "The Counter-Revolution in Monetary Theory," delivered at the University of London, he credited Fisher with analyzing the relationship between money, prices and other magnitudes "in far greater detail than had ever been done earlier." He also applauded Fisher for linking fluctuations in economic activity primarily with changes in the quantity of money. Here the same tribute could have been paid to Walras who equally saw clearly, as we have seen, the same cause-effect relationship. Where Friedman and other monetarists come closer to Walras is in the measures they propose to control the money supply.

In the concluding paragraphs of the same lecture[13] he presented a proposal which he has reiterated on many other occasions:

> On the average there is a close relationship between changes in the quantity of money and the subsequent course of the national income.

Later he concludes:

> I have long favored for the U.S.A. a quasi-automatic monetary policy under which the quantity of money would grow at a steady rate of 4 or 5 percent per year, month-in, month-out. (The desirable rate of growth will differ from country to country depending on the trends in output and money-holding propensities.)

These statements by the leading monetarist reveal similarities with Walras' position. The latter also opted for a steady money supply though he linked it only to changes in transactions. What is even more interesting, Friedman's 4 or 5 percent rule takes the decision to change the money supply out of the hands of the central bank toward whose policies he is certainly unfriendly. Was not Walras sharing the same thoughts when he suggested that such decisions be transferred from the central bank to a consortium of major banks? And in view of the known influence of the major banks in the U.S.A. on the board of its central bank—the Board of Governors of the Federal Reserve System—would it not enrich monetary theory to know to what extent Walras' proposal now prevails, and to what extent presidential or congressional influence overrides the major banks' consensus?

Notes

1. *Theorie d'économie politique appliquée*, p. 153.
2. *Ibid.*, p. 162.
3. In the U.S., Fisher, Simons and Friedman are identified with the idea. See below.
4. *Ibid.*, p. 163.
5. *Ibid.*, p. 179.
6. "Leon Walras and His Economic System," *American Economic Review* (December, 1955), pp. 900–09.
7. Milton Friedman, *A Theoretical Framework for Monetary Analysis*, NBER Occasional Paper 112 (New York: Columbia Univ. Press, 1971), p. 10.
8. Cf. R. Cirillo, "Leon Walras and Social Justice," *American Journal of Economics and Sociology*, Vol. 43, No. 1 (January, 1984), pp. 53–60.

9. *Économie Appliquée*, p. 11.
10. *Ibid.*, p. 163.
11. *Ibid.*, p. 177.
12. E. Fossati proved that it is not impossible to integrate the theory of money with the theory of general equilibrium. According to him the natural inconsistency between the *static* theory of equilibrium and the *dynamic* theory of money "should disappear as soon as we consider dynamics." The object of his study was precisely to develop a dynamic theory with statics as its limiting case. (See *Essays in Dynamics and Econometrics*, (Chapel Hill: Univ. of North Carolina Press, 1955.)
13. This lecture was published by the Institute of Economic Affairs as Occasional Paper 33, London, 1970. (Friedman borrowed the idea of 100 percent money from Fisher. See H. W. Spiegel, *Current Economic Problems* (Homewood, IL: Irwin, 1961, p. 165.)

Were Carroll and Orwell Economists? Of Course!

STRAIGHT OUT of Lewis Carroll's *Alice in Wonderland* or George Orwell's *1984* is the thinking of some people involved in current debates over tax problems. Take the controversy over the deductibility of state and local direct taxes from the federal income tax. Obviously when a state or local government compels a person to pay its tax exactions, it reduces that person's income, whether the states and the local governments recognize that bit of common sense or not. So when the federal government comes around to exact a tax from that person according to his or her net income, its levy should apply to the reduced income. Right?

But not according to federal tax policy makers who want to weasel out of campaign promises by raising more federal revenue without increasing federal tax rates. Recognizing what makes common sense, they claim, is a federal subsidy to state and local governments for the provision of public goods they supply like public education.

By adopting Mad Hatter economics, the federal policy makers say, the Federal Treasury could collect $39 billion a year by 1990. This would offset the waste and fraud which, because of political pressures, help to produce the whopping federal deficit that increases year by year. The way the tax collectors' minds work, federal deductibility "reduces" the "cost" of state and local taxes, so the "tax price" of a state tax for schools, for example, is the nominal state tax less the amount the taxpayer would have had to pay in federal income tax if federal deductibility were abolished. Double taxation? Sure, but the federal authorities were only concerned about double taxation for the affluent and the very rich. If the argument were valid, it would apply to all the deductions that business and the affluent take, but efforts by the administration to do that generated little congressional support.