

GARRISONIAN MACROECONOMICS

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I am grateful for the editor's invitation to comment on Roger Garrison's *Time and Money*, which makes a case for new directions in Austrian macroeconomics. I have very much benefited from reading the papers of the other commentators who have justly praised the virtues of the book. I therefore enjoy the luxury of focusing my comments on some of the more problematic aspects of Garrison's work.

I

Garrison has a vivid sense for the necessity of adequate pedagogy to communicate Austrian ideas about the working of the economy, and he is very conscious of the power of symbols. His book is a great pedagogical effort aimed at replacing the dominant graphical representation of main macroeconomic relationships—the ominous Keynesian Cross—with a new representation, more genuine to the Austrian viewpoint, which stresses the time element in the structure of production. This focus on pedagogical problems has been an old theme in Garrison's work¹ and now finds a consummation in *Time and Money*. At the book's center stage is an original three-quadrant diagram² that is used (a) to illustrate how a market economy works and grows, (b) to illustrate the causes and nature of business cycles, and (c) to discuss and criticize the Keynesian and monetarist paradigms.

Below, we will deal with the question of whether and to what extent Garrison's diagram is a suitable tool for scientific education. Here we need to point out that this pedagogical innovation is not matched by similar contributions in the area of pure theory. The book features many insightful discussions of policy problems, but its contribution is mainly pedagogic, not theoretic. A

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¹His first publication had exactly the same focus. See Garrison (1978).

²See Figure 3.7, p. 50, and *passim*.

sober look at it reveals that it contains few new theoretical ideas or discoveries of important, hitherto overlooked, macroeconomic facts or relationships. It even contains few discussions of fundamental theoretical problems—an exception being the discussion of the place and significance of expectations in economic theory—and thus remains, as far as theoretical development is concerned, by and large in the year 1931, when *Prices and Production* first appeared. Let us emphasize that this is not a deficiency per se; it is a sad truth that present-day mainstream economics in many ways has yet to make it to 1931, and *Time and Money* might help to change this. Garrison's book, however, is not a breakthrough on the front of theoretical macroeconomics, as were post-1931 works by Mises (1949), Rothbard (1963, 1993), and Huerta de Soto (1998).

II

Most important, unlike these latter works, *Time and Money* is based on the assumption that “money has no market of its own” (p. 51). This is in fact the fundamental assumption of the Wieserian line of Austrian monetary theorists (Hayek, Machlup, Strigl). In line with this assumption, Garrison asserts that his three-quadrant diagram

can be taken to depict, if not actually a barter system, a tight-jointed system. That is, money is assumed to allow market participants to avoid the inefficiencies of barter—without introducing any inefficiencies of its own. So interpreted, the interrelationships shown in Figure 3.7 belong to the realm of pure theory. (p. 52)

It would lead us too far astray to discuss the validity of this assumption and its far-reaching implications. Let us emphasize, however, that it is irreconcilable with the standpoint developed in the writings of Menger, Mises, Rothbard, and others. These authors stress that money is a commodity and therefore has a market of its own, and that it can never be “tight-jointed” or “neutral” in Hayek's sense, namely, in the sense that it could leave income distribution and factor allocation just as they would be in a barter economy. Strictly speaking, Garrison's macroeconomics is therefore macroeconomics without money.

III

In order to put *Time and Money* in a proper perspective, it is useful to stress certain facts of the history of economic thought.

Modern macroeconomics began with Böhm-Bawerk's seminal *Capital and Interest*. The epithet “modern” is shorthand for “post-Ricardian” and refers most notably to the application of methodological individualism in explanations of phenomena such as the production structure, capital, and money

interest. Böhm-Bawerk showed that and how these phenomena, which affect more or less all members of society (“the economy as a whole”), result from individual human action and interaction. Menger had pioneered this method. He had shown how prices on individual markets spring from the acting person’s evaluation of marginal quantities of economic goods. Böhm-Bawerk did nothing but extend the application of this method to explain how the various markets interrelate, what costs are, and how and why interest comes into existence. Later, Mises applied the very same method to explain the impact of money on the economy, and to analyze the business cycle. With Mises’s 1912 treatise on money, Austrian economics had come full circle, giving a coherent and encompassing explanation of all economic phenomena (see Mises 1980).

It is therefore of little surprise that the early Austrian economists did not distinguish between microeconomics and macroeconomics. There was in their eyes only one type of economic analysis, which was based on certain invariable facts of human action—such as “only individual persons act,” “acting involves choosing,” “choice refers to marginal units of economic goods”—and which was able to give a satisfactory explanation of all economic phenomena. From this point of view, one might call certain phenomena “macroeconomic” because they are virtually immune from the choices of any given person, but result from the combined effect of the choices of great masses of people; and one might call other phenomena “microeconomic” because here the impact of individuals is perceptible and important. But this distinction is entirely nominal—it is an artificial convention without foundation in real differences. The fact is that all economic phenomena result from individual choices; hence, Menger’s method can be applied universally; and ultimately there can be only one unified economic science, just as there is only one real world that this science describes.

The backlash against the modern theory came from the British main island. English economists had been more reluctant than others to endorse the new marginal analysis of value and prices, and they were virtually immune from any innovations within the theory of money. Then Keynes’s *General Theory* in one stroke restored to its place of honor the old Ricardian conception of the economy as a machine. Production, employment and unemployment, interest, and prices no longer resulted from the ever-changing interplay of individual actions. They were now elements of the Economic Machine, caught up in relations fixed forever, and thus liable to be manipulated by social engineers who, like the captain of a great ocean liner, steered the economy along a desirable course. Also, given the basic assumption of the fixity of the relationships between various macroeconomic phenomena, there was no longer any use for the delicate tools of marginal analysis that had been developed in Vienna and elsewhere. Theories of aggregate demand, aggregate supply, and the price level thus supplanted the theory of value and the regression theorem.

This is by and large how things have stayed within the economic mainstream until the present day. Under the impact of government-financed higher education, the old Ricardian-style macroeconomics had driven modern macroeconomics out of the universities. Generations of students have learned, and learned to bear, the Keynesian Cross; its coordinates directed, and often also limited, their imagination. The result is the barren state of what we know today as neoclassical macroeconomics.

The significance of *Time and Money* is that it seeks to convey “Austrian messages”—most notably, that the time-structure of production is an important factor determining money’s impact on the economy—within a neoclassical framework. Garrison casts these messages in the terms of his three-quadrant model, which features (1) an aggregate market for loanable funds, (2) an aggregate production possibilities frontier, and (3) an aggregate Hayekian triangle.

The diagrammatical exposition of this model has much aesthetic appeal, and thus it might not be unreasonable to expect that Garrison-style macroeconomics will make Austrian converts among mainstream economists and their students. Yet there is also the possibility that Garrison not so much succeeds in Austrianizing the mainstream as that he will mainstream the Austrians. For the fact remains that Garrisonian macroeconomics is essentially neoclassical macroeconomics, which he enriches with an Austrian model. His main concern is not so much with economic analysis as with representing the results of a foregoing economic analysis; and the elements of the analysis and representation are not individual human actions, but quantities of things that are subject to human action. We will now have to inquire whether and to what extent his attempt has been successful.

IV

The Austrian business cycle theory (ABCT) is essentially a theory of the causes, manifestations, and implications of mass error; in short, it is a theory explaining clusters of errors within the market economy.

ABCT claims that injections of new quantities of money into the credit market can reduce the rate of interest below its equilibrium level; with the new money, entrepreneurs make additional investments in higher-order production stages, bidding laborers away from other branches of industry. This new course of action is entirely unsustainable, however, and must therefore sooner or later be corrected. Production takes time and can only be successfully completed if enough consumer goods and consumer-goods-producing capital goods are available during the entire production process. Any extension of the structure of production requires a foregoing increase of savings, or else the production would have to be halted and abandoned midway. Yet

the inflation-induced extension of the structure of production is precisely such an extension without a foregoing increase of savings. It cannot be sustained. Sooner or later the market participants will discover that the available resources do not suffice to complete all ongoing investment projects. The moment of this discovery of past errors is the “crisis”; it entails rising unemployment and other forms of reallocation of resources, jeopardizing previous plans, destroying communities and firms.

The above verbal statement of the theory leaves many questions open, but still gives the broad picture around the central theme—clusters of individual errors. To what extent, then, is this theme represented in Garrison’s three-quadrant diagram? I contend that the issue is hardly raised at all and that, insofar as it is raised, it is dealt with misleadingly.

Let us first take a look at the market for loanable funds. Here the market participants believe that there are more loanable funds available than really exist. How is this dissociation between what people believe and what really is the case depicted in the diagram? It is not depicted at all. Garrison shows mechanical relations between interest on the one hand, and the demand and supply of loanable funds on the other hand. He asserts (p. 69): “An increased supply of loanable funds causes the interest rate to fall.” But this is not necessarily the case. If the market participants realize that the new funds come in the form of inflation, then they can correctly anticipate the ensuing fall in the purchasing power of money. In other words, given correct anticipations, the demand curve for loanable funds would shift to the right, and the interest rate might remain unaffected.

Professor Garrison is certainly familiar with these considerations. My point is that the analysis of expectations and other features of human action is the true core of ABCT, because this analysis delivers an “economic grammar” to explain the variable relations between observable things such as interest and the business cycle. By contrast, the author of *Time and Money* seems to follow the orthodox neoclassical approach in that his main concern is with the relations between observable data; he tends to treat the actual analysis of human action as a secondary issue, one that essentially serves to make a plausible case for the “story” underpinning the relations that are the true object of his curiosity.

Yet how can one make sense of the very important notion of unsustainable production structure without referring to some physical impossibility? And what does it mean to say that human beings do unsustainable things? Clearly, they must have acted according to wrong ideas about the physical world. But to depict in a diagram the harmony of, or contradiction between, (a) human ideas about the world and (b) the world as it really is, it will not do to have just one demand and one supply curve. Rather—and this is aside from all other considerations that could be brought up against the use of demand and

supply diagrams in general—it will be necessary to use *two curves*: one that shows demand and supply as it would be if based on correct beliefs about the real world, and another depicting demand and supply under the assumed actual (wrong) beliefs.

The same point can be made in regard to Garrison's production possibilities frontier (PPF) diagram. The use of PPF diagrams can in fact be extremely valuable in illustrating business cycle theory. The usual meaning of the PPF is that of a physical boundary that can not be transgressed. Increase of technological knowledge might shift the PPF, but this does not affect the underlying fundamental truth, namely, that the finite nature of the physical world entails certain strict limitations on human action. How can the Austrian theme of inflation-induced clusters of error be represented in such a conventional PPF diagram? Again, this can be done by contrasting two curves: one that represents the "real PPF," that is, the PPF as it really is, independent of human choice; and another curve that represents the "imaginary PPF," which is the PPF that people believe exists and which underlies their decision making. As a consequence of an inflation-induced distortion of the interest rate, the imaginary PPF expands and comes to be dissociated (or, more precisely, more dissociated than it otherwise would be) from the real PPF. Entrepreneurs then make malinvestments, which shrink the real PPF, thus further increasing the dissociation between the real production possibilities and what people believe the production possibilities to be.

Which use does Garrison make of the PPF to represent the Austrian theme of clusters of entrepreneurial error leading to malinvestment? The first thing to notice is that Garrison (pp. 44 and 70) employs a rather idiosyncratic definition of the PPF. In his eyes, the "PPF represents sustainable combinations of consumption and investment." Thus the PPF is not a choice-independent physical limitation of human action, but a permeable frontier, which in economic booms can be transgressed at least for short periods, albeit at the price of necessary busts at some later point of time.

This unusual use of language is likely to spur misunderstandings and misinterpretations (I can attest to the fact that it has led to misunderstandings and misinterpretations at professional meetings), but one might still say that, as a definition, it is unobjectionable. The real problem is that it makes Garrison's diagrammatical account of the business cycle empty. It is one thing to draw a curve and say that it represents a limit for sustainable combinations of alternative production processes. It is another thing to explain why combinations are sustainable or unsustainable. The answer to the latter question cannot be provided without reference to the physical limitations imposed on us by the real world. How can one make sense of the *necessity* of the eventual bust without recurring to some notion of physical impossibility? It is indeed out of the question to avoid any such reference.

Second, and even more important, in his PPF representation of the business cycle, Garrison depicts the inflation-induced boom as an unsustainable economic expansion. The economy moves briefly beyond the PPF into the unsustainable area, from which it eventually will be smashed back in the ensuing bust.

The problem with this representation of things is that it implies that, at least for some time, the inflation can create real economic growth (see Figure 4.4, p. 69). The inflation-induced increase of “output” is only a particular increase of “output” in general—namely, an unsustainable one. And the “boom” that follows credit expansion is, in a way, just as much a “boom” as any other instance of economic growth; the difference is merely that it is unsustainable.³ This is of course not true. Inflation never ever increases overall production; it merely brings about a redistribution of resources in favor of the first recipients of the new money tickets, and at the expense of the later recipients.

But there is also a political implication to the view that inflation can create real economic growth. For if this view were accurate, what could fundamentally be objectionable about a policy of continuous and even accelerating inflation? Is the only objection that in the long run this policy is “unsustainable”? This would not be a very powerful deterrent if in the short and medium run we could live like kings by printing paper money.

Ironically, Garrison’s diagrammatical presentation of ABCT makes the latter some variant of the “hangover theory” of the business cycle, a fallacious doctrine that Garrison has himself vigorously criticized on other occasions. According to the hangover theory, the bust is the deplorable consequence of a previous boom economy. Just as the party animal has a hangover after a binge, so the economy has a hangover after a period of excessive growth. But this analogy is faulty. The truth is that the party animal *really* had a great time. He knew how he would feel the next morning and nevertheless partied because this was the price to be paid. By contrast, the people in the booming economy *erroneously* believe they are living through a period of growth whereas in reality they are in the process of wasting resources—a process that is somewhat camouflaged by the fact that some members of society are ripping off their fellows through the printing press.

V

There is a final problem of a rather technical nature that should not go unmentioned. It concerns the way Garrison relates his three diagrams to one another. He claims (p. 49f.) that

³Garrison frequently says things such as “the boom is unsustainable” (p. 72) or speaks of an “unsustainable high level of output” (p. 73). This means of course that a boom can also be sustainable and that an unsustainable high level of output is still a high level of output.

the basic interconnections among these elements follows [sic] almost without discussion. . . . The loanable-funds market and the PPF are explicitly connected by their common axes measuring investment. The PPF and the structure of production are explicitly connected by their common axes measuring consumption.

However, the vertical axis of the Hayekian triangle “measures the *value* of the consumable output of the production process” (p. 46; emphasis added), whereas the PPF’s vertical axis is in real terms. Garrison does not clarify the relationship between these two distinct dimensions; to do so would indeed require him to give a far more sophisticated account of money’s role within the structure of production than he has given in the pages of *Time and Money*. Rothbard’s (1933, chap. 7) analysis is still unsurpassed in this respect. Austrian macroeconomists are well advised to make ample use of Rothbard’s ideas.

Similarly, the funds dealt with on the loanable-funds market do presently exist, whereas the horizontal axis of the PPF shows capital goods produced with the help of these funds in the course of a “year.” One might plausibly argue that there is a strict proportionality between funds invested and capital goods produced. Still, accuracy requires pointing out (a) that the axes are not located at the same point of time; therefore they cannot strictly speaking, be “common axes” and would at least have to have different indexes, for example, I_t and I_{t+1} ; and (b) that the axes do not have the same dimension; I_{t+1} denotes some capital goods whereas I_t denotes money. Of course this raises the question of what exactly happens in between I_t and I_{t+1} and how precisely they are linked to one another. Garrison’s model is not complete here either.

VI

We have pointed out two major shortcomings of *Time and Money*. First, Roger Garrison endeavors to pursue the analysis of macroeconomic phenomena without taking account of the fact that money is a commodity. Second, he chooses the typical focus of neoclassical economists, dealing mainly with the relations between things at the expense of the typical Austrian focus, which is on the analysis of human action proper. As we have seen, these shortcomings reduce the effectiveness of Garrison’s attempt to give diagrammatical expression to Austrian ideas, in particular to the Austrian theory of economic booms and busts.

Nobody will doubt the usefulness of diagrams and other graphic means to convey scientific ideas, and teachers of economics will thus be grateful for the stimulus provided through *Time and Money* to give more thought to the adequate representation of Austrian theories. There is in these matters ample room for many more innovations. Let us therefore hope that one day Roger

Garrison's work will be seen as the starting point of a renaissance of the teaching of Austrian economics.

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THE LIMITS OF MACROECONOMICS Roger W. Garrison
The first section argues that capital-free treatments of time in mainstream macroeconomics can be seen as indirect and inadequate ways of coping with the thorny issues of capital theory. The fourth section identifies the limits of macroeconomics in terms of entrepreneurial expectations in the context of a complex capital structure. Finally, the conclusion discusses the implications of these findings for the future of macroeconomics.