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The Monetary Economics of the Austrian School and the Chicago School

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Abstract: To what extent is there complementarity or agreement between Austrian economics and the Chicago school on monetary issues? Both Austrians and Chicagoans would agree that monetary expansion has real effects in the short run, though they emphasize different variables. In the long run, Austrians argue that there is a lasting real effect of monetary expansion—money is not neutral—but Chicagoans too argue that economic activity is less efficient even if people correctly forecast the rate of inflation. Regarding the balance of payments, both the Austrian and Chicago school lead to the conclusion that there can be no balance-of-payments problem. Both are modern versions of the classical price specie flow theory. Perhaps the Austrian approach to monetary economics and the Chicago school approach are more compatible than is commonly thought.

INTRODUCTION

I am in favor of the Austrian approach to economic problems. However, I believe that it is a fundamental task of economists in our time to try to evaluate to what extent there is convergence between Austrian economics and other approaches, such as the

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Chicago school. In comparing the Austrian school and the Chicago school as regards monetary theory, we have to make some choices and to focus on some specific aspects of the monetary theories of both schools. Because monetary theory is fundamental to both approaches, this article will focus first on the problem of neutrality and stability of money and, second, on the balance of payments. Moreover, we are mainly concerned with the works of Ludwig von Mises as regards the Austrian school and those of Milton Friedman and Robert Mundell as regards the Chicago school.

THE NEUTRALITY AND STABILITY OF MONEY

According to Mises, "the notion of a neutral money is no less contradictory than that of a money of stable purchasing power" (1998, 415).[1] In reality, the very reasons why Mises does not accept concepts such as the neutrality of money or the stability of the purchasing power of money is that he considers the general level of prices a meaningless concept, so that one cannot even measure the so-called purchasing power of money. Moreover, he even considers the concept of the "quantity of money" useless.

These statements of Mises's are quite understandable. In fact, he considers that relative prices between goods are continuously changing because individuals are not repeating indefinitely the same actions but are continuously discovering new needs and changing their actions. And money itself contributes to these changes, as it makes indirect exchange, and therefore the discovery of new needs, of new specializations, possible. Individuals desire to hold cash balances because money is a potential purchasing power which can be exchanged against any other good over time. However, according to Mises, it is meaningless to measure the purchasing power of money in terms of a given basket of commodities, since an individual does not desire the same basket of goods at any time and different individuals do not desire the same basket at any given time is not the same. Therefore, it is completely arbitrary to define a basket of goods to measure change, and therefore stability, in the purchasing power of money.

[1] In the present article all quotations of Mises are from Mises (1998).

Mises—as well as other Austrian economists—also objects to the concept of the general price level precisely because the overissue of money against credits by central banks brings changes in relative prices—for instance, between raw materials or investment goods and consumer goods, or between present and future goods, as has been explained in the Austrian theory of business cycles. Because Mises considers these changes in relative prices more important than the general increase of all prices (inflation), he prefers not to define some arbitrary "level of prices," which would make it possible to measure the rate of inflation.

As regards the quantity of money, one may recall that what Mises calls "money" is the good that is considered as the most liquid asset by money users (for instance, gold in a system in which individuals hold and exchange gold). In a gold standard system in which central banks hold gold and issue currencies convertible into gold, money would be what is commonly called "base money"—i.e., the gold stock of central banks. Money has emerged in history when individuals have selected one specific good—for instance, gold—as the one that provides the best monetary services. This good becomes money, and other liquid assets convertible into money without limits become "money substitutes." Although money proper is a commodity, it is quite obvious that the use of gold (or silver or any other commodity) in real transactions is costly, in particular because such gold cannot be split into very small pieces at will. For this reason, people began to circulate property rights in gold (gold certificates) rather than gold itself. In a 100 percent reserve banking system under a gold standard, the quantity of such certificates is exactly the same as the quantity of gold which it represents. By contrast, in a fractional reserve system, what is called the quantity of money is, in fact, composed of two very different parts: money (gold) and money substitutes (gold certificates). Austrian economists rightly care about the composition of the so-called quantity of money much more than about the mere change in the total quantity of money. In fact, the definition of the "quantity of money" is arbitrary, since it sums up two components which have very different natures and which play very different economic roles. The effects of a (spontaneous) increase in the quantity of a money base consisting in gold are completely different from those of an increase in the quantity of money substitutes brought about by the discretionary decisions of money producers.

The Austrian approach to monetary problems is microeconomic and subjective. In a pure gold system (100 percent reserve), individuals choose the quantity of gold they want to hold at any time, given their forecasts about their own activity and the possible evolution of relative prices which are specifically relevant to them. From the interchange between individuals a given structure of relative prices and money prices emerges at any time. But neither the acting individual nor the potential observer need to know or have the possibility of knowing the "rate of inflation" or the general evolution of the "purchasing power of money." However, saying that individuals are making their own choices in a given monetary system, does not mean that the economist—as an external observer—has nothing to say about monetary systems and monetary management. As an example, there is a very important debate among Austrian economists between the supporters of a 100 percent reserve system and the supporters of a fractional reserve system.[2] But once a system is adopted (spontaneously or exogenously), individuals make their own choices and one does not have to care about the possible outcome of such a system as regards, for instance, the quality of the currency or the evolution of different prices or interest rates. In other words, Austrian economists care about the processes and not about the results.

On the contrary, mainstream economists—among them Chicago economists—care about the end results of the monetary systems they support, and these expected results are criteria for choosing a monetary system and a monetary policy. Thus, the "monetary rule" according to which a central bank decides in advance the rate of increase of the "quantity of money" or the targeted rate of inflation is concerned with the outcome of the monetary system. This approach is macroeconomic, and it considers aggregate variables—such as the quantity of money and the general level of prices—without giving too much attention to the structure of these variables (relative prices and components of the quantity of money). As far as, for them mainstream economists, the general level of prices and the quantity of money are meaningful concepts—although they are

[2] We personally believe that a fractional reserve system has been freely selected in the past because it is a simple way to pay for the services offered by the issuers of gold certificates.

pure constructions of the mind—they have no difficulty in defining the stability of money: money is stable if its purchasing power, defined through some price index, is constant over time—i.e., the change in the rate of inflation is equal to zero.

However, there is no reason to consider that such a situation of price stability is optimal, and Milton Friedman does avoid such an error. He rightly considers that individuals care about their real cash balances and not about their nominal cash balances. The less purchasing power a currency loses over time (the more purchasing power it gains over time), the more useful it is to money holders. Now, it is costless to produce additional real cash balances, or more precisely, to increase the ratio of real balances to income or wealth. Thus, if one assumes, for instance, that the demand for money of each individual remains stable, this just implies that the growth rate of the nominal quantity of money is lower than the growth rate of produced goods—i.e., there is deflation. And if every person's demand for money were increasing, the quantity of money being constant, the needs of money holders would be through a decrease in money prices due to the real cash balance effect. Theoretically, it would be "optimal" to obtain an infinite rate of deflation, since the real value of cash balances would increase at an infinite rate. Unhappily, this is impossible. More realistically, it is impossible to go beyond the point at which the deflation rate is equal to the real interest rate (assuming that it is correct to define a rate of deflation). Beyond that point, there would be no incentive to invest in any asset other than money, so the growth rate would become equal to zero. Thus, a deflation rate equal to the real interest rate is "optimal" only in that it is the best possible rate.

Austrian economists would disagree not only with the definition of a stable price level, but also with the very notion of an optimal quantity of money or an optimal growth rate in the quantity of money (and even more with the concept of an optimal inflation or deflation rate). They would point out that optimality refers to the behavior of an individual and is meaningless when used by an external observer to refer to the welfare of a group of individuals. If a monetary system—for instance, a pure gold standard with 100 percent reserves—has been selected spontaneously, the quantity of money held by individuals is optimal, since they have freely decided to buy this quantity at the expense of any other use of their resources. This statement holds regardless

of the system's end result,—for instance, whatever the rise or fall in the money prices of all goods or only some goods. Many Austrian economists refer to the gold standard not because they consider it the best possible monetary system according to some criterion which, in fact, cannot be determined, but because they consider it to have been freely chosen by money holders as the relative best possible monetary system. More generally, the most important characteristics of a monetary system for most Austrian economists are, first, that the monetary system has emerged spontaneously in the course of history instead of being designed by some authority, and second, that a specific monetary system being given, there is no possibility for any discretionary monetary policy (for instance because there is a 100 percent reserve system or, under a fractional reserve system, there are rules forbidding the over-issue of money substitutes). Currency competition ought to be an unavoidable element of any Austrian approach of monetary problems.

Thus, to summarize, Austrian economics is interested in the free choice of monetary systems, the absence of any monetary policy, and the free choice of their money balances by individuals, whereas Chicago economists (and most mainstream economists) focus on the workings of existing monetary systems and seek to identify the best monetary policy.[3]

Thus, the Austrian approach and the Chicago approach may differ more as regards what deserves to be emphasized than as regards their basic monetary theory (for instance, the analysis of the monetary behavior of individuals). From this point of view, it may be possible to consider the schools not as complete opposites but as more or less complementary approaches which can be more or less reconciled. However, these differences do not prevent Austrian economists from discussing the consequences of the workings of any monetary system; for instance, by evaluating the role of fractional reserves or the policy of a central bank.

Chicagoans could not only focus on the management of existing monetary systems but go beyond that and agree with Austrians

[3] Modern monetary systems are national, public, and hierarchical: a public central bank controls money creation within the frontiers of a nation-state or a group of nation-states. None of these characteristics is necessary for a "good" working of a monetary system—quite the contrary.

on the role of currency competition as a way to choose monetary systems. In fact, Milton Friedman, for example, had no hostility toward currency competition, but merely believed that it cannot play a very significant role. According to him, currency competition exists today, but one does not see any significant shift from one currency to the other, except in cases of hyperinflation.[4] In fact, an Austrian may not disagree strongly with this opinion. From what is known as the regression theorem of Mises, the use of a currency is the end result of a very long process by which people acquire knowledge about the information content of prices, which implies that they cannot shift rapidly from one currency to the other.[5]

Conversely, Austrian economists could accept some mainstream concepts such as the quantity of money or the general level of prices, at least as first steps in a chain of reasoning. In fact, there would be several justifications for using such concepts within the framework of an Austrian approach.

A scientific attitude consists in extracting some main features from reality at the expense of a comprehensive description of it. Thus, although Austrian economists are right in stressing that relative prices are continuously changing within an inflationary process, it is also true that all or most monetary prices increase. In order to simplify the analysis, it may be useful to assume (temporarily) that all money prices increase in the same proportion. Thus, any price index will give exactly the same measurement of inflation. In reality, each individual has an implicit price index composed of the goods which he may consider as potentially tradable. The purchasing power of his cash balances is evaluated via this implicit price index. Because all individuals are different and exchange different goods, each individual has a different price index. From this point of view, any price index built by an external observer is completely arbitrary. However, price indices give some idea of how money prices react to a change in the quantity of money.

[4] However, this apparently limited role for competition may be mainly the consequence of the fact there are legal restrictions to currency competition; for instance, because there are legal tender laws in most countries.

[5] We had an illustration of this phenomenon with the euro. Just after the creation of the euro, a significant number of people needed to convert euro prices into their former national currencies in order to understand prices.

A price index may provide useful information to individuals: whenever a producer observes that he can increase the money price of the good he is producing, he does not know to what extent this is caused by a change in relative prices or by a change in overall money prices. The price index gives him an idea of the "average" change in money prices. Similarly, thanks to the price index, a wage-earner can better evaluate the change in his real wage.[6]

For an Austrian economist, business cycles in the modern world are caused by monetary phenomena; namely, an excessive increase in the quantity of money substitutes. This increase creates changes in relative prices (for instance, between investment goods and consumer goods, or between present and future goods). But it also causes an increase in all money prices, which is precisely called inflation and is felt by people as an overall increase in money prices.

Using a price index makes it possible to express the change in real cash balances brought about by a change in the quantity of nominal cash balances ($m = M/P$, in which m is real balances, M is nominal balances, and P is the general level of prices).[7] Austrians certainly do not underestimate the importance of the loss of value of real cash balances brought about by inflation. By using a price index, we get a simple expression of this phenomenon. In a second step of reasoning we just have to stress that, in reality, money prices do not increase homothetically and that inflation does not have only a global effect on nominal prices, but also a more microeconomic effect on relative prices. As an example, the models proposed by Robert Mundell (1971)—referred to below—use instruments such as the price level

[6] According to Mises (1998, 419), inflation and deflation are not "praxeological concepts" but only pragmatic concepts if inflation is defined as an increase in nominal prices and not as an increase in the quantity of money. However, as already noted, each individual has his own implicit price index, which is an evaluation of the "personal" rate of inflation, and the individual's demand for money depends on his own expected rate of inflation. In that sense, inflation at the microeconomic level is a praxeological concept—if it is defined as the estimated change in the purchasing power of an individual's cash balances.

[7] I have the feeling that Mises does not always clearly distinguish between real and nominal balances because he does not dare to use the usual concepts. However, he implicitly uses, for instance, the concept of real balances (which implies some notion of a price level). As an example, he mentions "the exchange ratio between money and the vendible goods," which is the general price level (or its reverse) (Mises 1998, 399).

or the real quantity of money. Because of this, the models highlight important aspects of the economic reality, and even if they are too global, they do not contradict the core of the Austrian analysis.

If Austrian economists accepted such concepts as a first step in the chain of reasoning, they would be in a position to contribute what is specific to their approach—for instance, the emphases on the composition of the money supply (money and money substitutes; the structure of production and the theory of capital; and the changes in relative prices and interest rates over the business cycle. Moreover, some consensus on the interpretation of the quantity theory of money and on the neutrality of money could also be reached.

As regards the quantity theory of money, Mises does stress that there is a nucleus of truth in it, in particular that it is a mere application of the general theory of supply and demand. But according to him, "its shortcoming was that it resorted to a holistic interpretation. It looked at the total supply of money in the Volkswirtschaft and not at the actions—of the individual men and firms" (Mises 1998, 402). And he adds:

> Modern monetary theory takes up the thread of the traditional quantity theory as far as it starts from the cognition that changes in the purchasing power of money must be dealt with according to the principles applied to all other market phenomena and that there exists a connection between the changes in the demand for and supply of money on the one hand and those of purchasing power on the other. In this sense one may call the modern theory of money an improved variety of the quantity theory. (Mises 1998, 402)

Thus, Mises does refer to the "purchasing power" of money, but he avoids giving too precise a definition of that concept.

Now, it can be said that Milton Friedman (1956), for instance, also presented an "improved variety of the quantity theory," in which he explained more explicitly individuals' motives for holding money. His analysis may thus be considered as mostly compatible with the Austrian approach.

As regards the concept of neutrality, several statements can be made which are largely accepted by both the Austrians and the Chicagoans. In the long run, monetary expansion (or devaluation) has no real effects (for instance, on production and employment).

This quasi neutrality of money in the long run might not be fully accepted by Mises, who insists that money makes indirect exchange possible and that therefore a money of lower quality makes human action less easy. However, this idea is not very different from one which is accepted by Chicagoans (in particular Robert Mundell); namely, that if people forecast the rate of inflation correctly, they demand lower real balances and their economic activity is less efficient. But it is also true that a main difference remains between the Austrians and the Chicagoans: according to the Austrians, an expansionary monetary policy induces overinvestment during the boom and, because capital goods are mainly specific, there is a lasting real effect. Although this overinvestment disappears little by little during the bust, it is nevertheless true that from this point of view, money creation has lasting real effects which are not considered by other approaches.

In the short run, both Austrians and Chicagoans would accept the idea that money expansion has real effects, but they would emphasize different variables, as is revealed by their respective business cycle theories.

Mises takes the example of producing additional money to finance a public deficit. The structure of demand for real goods changes, since the government demands different goods than citizens. Therefore, relative prices are not the same at the end of the process. Mises rightly points out that the result depends on the way money enters the economy. As it cannot be introduced in a "neutral" way, money creation necessarily has real distribution effects.

However, let us assume—as a simplifying temporary assumption in the first step of a chain of reasoning—that demand and supply for all goods are stable (the real determinants of demand and supply are not changing). If there is a once-and-for-all deficit and a once-and-for-all money creation, there is a return to what could be called full equilibrium, in which the final relative prices are identical to the initial relative prices. If this is the case, monetary shocks have no lasting real effects on relative prices. However, Mises does not accept such a conclusion, and he writes: "The final prices to the establishment of which the market tends after the effects of the increase in the quantity of money have been fully consummated are not equal to the previous final prices multiplied by the same

multiplier," which seems debatable (Mises 1998, 410). It seems more correct to admit that a once-and-for-all expansion of money returns to a final full equilibrium (according to the traditional quantity theory of money). But, if monetary expansion is repeated multiple times after, there will be steadily different "final" prices.

According to Mises, "All plans to render money neutral and stable are contradictory. Money is an element of action and consequently of change" (Mises 1998, 416). This means that money may only be defined in terms of some physical good (for instance, gold) and that any monetary prescription, such as the "monetary rule," is arbitrary. However, even accepting the idea that it is impossible to precisely define the neutrality and the stability of money, it is nevertheless possible to compare currencies which are more or less stable and neutral. Thus, the Austrian theory of the business cycle gives an example of a situation in which money is particularly "nonneutral."

THE BALANCE OF PAYMENTS

According to Mises, "All that cash-induced changes in purchasing power bring about are shifts in the disposition of wealth among different individuals" (Mises 1998, 417). It is unquestionable that distribution effects are important consequences of any monetary change. And, in some sense, the Austrian theory of the business cycle is a theory of how distribution changes—and therefore how relative prices change—over time. However, there is also an overall effect which we have already stressed; namely, the decrease (increase) in real cash balances when there is monetary expansion (restriction). Incidentally, all economists—in particular Austrians and Chicagoans—ought to admit the following:

a. The demand for money is a demand for real balances (since money is desired as purchasing power).

b. The nominal quantity of money is always sufficient, since the real cash balance effect makes it possible for individuals to obtain the real balances they desire, whatever the stock of nominal balances in the economy. As Mises puts it: "There can never be an excess or a deficiency of money" (Mises 1998, 418). From that it follows that the best way to produce the desired quantity of money (real balances) is not to produce money (nominal balances).

Even if they fully agree with these statements, it seems that Austrian economists do not give them too much attention and prefer to focus on other problems, maybe because they do not feel completely at ease with global concepts. But the relation between changes in the quantity of money and the amount of real balances plays a central role in Mundell's theories. From this point of view, Austrian theory and Mundell's theory are more complementary than opposite.

Robert Mundell considers real cash balances as a sort of factor of production. Therefore, the higher the rate of growth of the quantity of money, the higher is the rate of inflation and the lower are the real cash balances, which implies that the marginal productivity of capital is also lower (capital is associated with a lower level of real balances). This important effect is directly readable on the diagrams commonly used by Mundell.

Contrary to the dominant view of the balance of payments—particularly the approaches inspired by some sort of Keynesian economics—Mises and Mundell rightly consider the money balance not as a consequence of what happens in the trade balance and the capital account, but as something which is desired by individuals and explained by their behavior concerning money. Assuming a two-country model, the money balance in the balance of payments is determined by the relative supply of and demand for money against commodities and assets in both countries. Mises correctly defines the balance of payments at the microeconomic level, stating that "the confrontation of the money equivalent of all incomings and outgoings of an individual or a group of individuals during any particular period of time is called the balance of payments," and he adds, "The balance is always in balance," which means that, contrary to the usual ideas and economic policies, *there can never be any balance-of-payments problem* (Mises 1998, 447). This is a necessary and correct consequence both of Mises's and Mundell's approaches. Both are modern versions of the classical price specie flow theory with slight differences. They are, in fact, specific applications of the general theory of prices and, as such, are not questionable. In fact, the relation between the changes in the relative prices of two goods, on the one hand, and the changes in the supply and demand for both of these goods, on the other hand, when applied to the case of two currencies, implies the following:

a. Under a system of fixed exchange rates (fixed prices) currencies' demand and supply adjust to the exchange rate.

b. Under a system of flexible rates, it is the exchange rate (the price) which adjusts to the changes in currency quantities.[8]

Now consider the case of a fixed exchange rate system with fractional reserves and assume that there is an expansionary monetary policy (creation of money substitutes not related to the gold base, according to Mises's definition). Mises seems to adopt an adjustment process close to the one which had been analyzed by David Hume: the excess nominal cash balances in one country changes the relative prices of national and foreign goods and, therefore, changes demand and supply for those goods, which creates an additional trade deficit: money pours out of the country with an excessively expansionary monetary policy until cash balances have been redistributed according to the wishes of all individuals.[9] In the process, there is price inflation and an increase in all nominal cash balances.

The process described by the monetary approach of the balance of payments as developed by Robert Mundell does not focus on the changes in prices—except possible changes in the relative prices between tradable goods and nontradable goods—but on the cash flows between countries. If there is an excessive creation of money in one country (country A), people try to get rid of their excess cash balances, but, by assumption, they cannot globally succeed. The only possibility is to sell these excess balances to individuals in country B and to buy goods and assets from them (causing trade and capital deficits). Changes in relative prices can be a secondary effect, since there are changes in production and consumption. Meanwhile, there is an increase in nominal prices, and the process goes on until all individuals in both countries have obtained the real cash balances they desire. As money producers in country A lose reserves, they cannot continue their excessively expansionary monetary policy for ever. The normal reaction consists in adjusting the quantity of money to the (fixed) exchange rate. To that end,

[8] Mises did not give too much attention to flexible rates. He focused on the working of a gold standard, considered as the "normal" monetary system.

[9] See Mises (1998, 456): "Credit expansion in A makes prices rise, and short term interest rates drop in A, while prices and interest rates in B remain unchanged."

the loss of reserves plays the role of a signal. Contrary to common opinions, it is meaningless to say, for instance, that reserves are insufficient or that a central bank suffers from a loss of reserves: under a fixed rate system, the quantity of money has to be adjusted to the balance of payments—i.e., to the flow of reserves. Both Mises and Mundell would agree on that.

According to Mundell's models, an excessive creation of money in country A has the following consequences:

a. a flow of money from A to B (which is not a balance of payments deficit, because the counterpart of the cash outflow is necessarily a deficit in the trade balance and/or the capital balance)

b. an inflation in the whole monetary zone of fixed rates

c. a decrease in all real cash balances

d. an increase in the nominal rate of interest, a decrease in the marginal productivity of capital and, therefore, a decrease in the real rate of interest.

This last aspect is particularly important. Austrian economists do not consider it, but they could incorporate it into the processes they describe—for instance, the Austrian theory of the business cycle—without problems. According to Austrian economists, interest rates decrease at the beginning of a business cycle, when there is an excessive expansion of money substitutes. But this change is not the same as the one considered by Mundell, which is permanent as long as inflation persists. But both kinds of change in interest rates are compatible. Once more, both approaches are more complementary than conflicting.

This analysis of the working of a flexible rate system is a mere application of the general theory of prices: the exchange rate (the price) adjusts to the evolution of supply and demand for the currencies concerned. Contrary to the usual prejudice, the change in the exchange rate is not linked to the changes in the trade balance. Here again, the Mises and the Mundell approaches could be reconciled.

CONCLUDING REMARKS

As mentioned at the beginning of this article, it would be beyond the scope of this article to compare all the aspects of the

Austrian and the Chicago approaches to monetary problems and we preferred to focus on some fundamentals of these approaches. However, let us just add some remarks about two topics we have more or less neglected.

The first one is the choice of a monetary system. As already stressed, modern monetary systems are national, public, and hierarchical. Austrians object to all of these characteristics and make a plea for different systems. Currency competition, in their opinion, would allow people to select the best systems, and these would, most probably, be different from existing systems. Obviously, they would neither be national nor public, since by definition, there would not be any interference from national governments. As regards the hierarchical characteristic, it is more difficult to imagine the possible outcome and only experience can bring the necessary information. However, considering both historical experiences and economic theory, there are reasons to believe that nonhierarchical systems would emerge. In fact, in a nonhierarchical system, money is produced by a cartel of producers who are each responsible for maintaining the quality of their currency. If they overissue money, they risk bankruptcy, so there is a powerful adjustment process built into the monetary system.

Chicagoans are not much interested in such problems, and they prefer to focus on existing monetary systems and on the best policies to adopt. Thus, they are concerned with defining the best monetary rules and, from this point of view, the borders between Chicagoans and other mainstream economists tend to blur. Or they care about the choice of fixed versus flexible exchange rates between monetary systems which are national, public, and hierarchical. The theory of optimal currency areas, initiated by Robert Mundell and further developed by many Chicago and non-Chicago economists, is part of this research.

Now, if Chicagoans were asked to imagine monetary systems different from the existing ones, would their answers not be close to Austrians'? And, similarly, if Austrians were asked to define the best possible monetary policy to be adopted in the context of existing monetary systems, would their answers not be close to Chicagoans'? In spite of Austrians' hostility to fiat money, they would probably prefer a monetary rule to discretionary monetary management by the governor of a central bank.

The second important topic which ought to be considered more fully is the business cycle. As already mentioned and as is well known, the Austrian theory is a theory of capital and a theory of the structure of production, whereas the monetarist theory is more strictly a monetary theory. However, these theories may be reconciled to some extent. Both are monetary theories of the business cycle (and not real theories), are concerned with the problem of excessive production of money, and can be interpreted as theories which explain how relative prices are distorted by the information errors brought about by monetary mismanagement. For Austrians, the main distortions concern the interest rate and the production structure. For Chicagoans, the main distortions concern wages, consumer prices, as well as interest rates. But all these distortions may exist in the business cycle, and they may be more or less present in actual events.

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