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THE VICIOUS/VIRTUOUS CIRCLE DEBATE IN THE TWENTIES AND THE SEVENTIES

by

Marcello de Cecco

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It is easy, almost natural for an Italian, to be a supporter of Giovanbattista Vico's cyclical theory of history. To a people exposed to several thousand years of historical events, the temptation of seeing history as a series of "corsi e ricorsi" is too great to be always successfully resisted.

But an equally strong temptation exists for the economist to subscribe to an adaptation of Vico's method when he is confronted with some of the most recent developments in the field of international economics. I have fallen easy prey to the temptation and I will dedicate this essay to a particular instance of "history repeats itself--the vicious/virtuous circle debate".

After the monetary earthquake of August 1971, the Kippur War, and the two oil-price explosions, economists of all persuasions devoted themselves to the construction of a so-called "vicious-virtuous circle hypothesis", while other economists negated the plausibility of the same hypothesis.

The point of the present essay is that, in the course of this interesting debate, only one or two of the participants showed any knowledge of the fact that the same debate, using almost the same arguments, had been conducted in the early nineteen twenties, among economists who had observed the phenomenon of post-war inflation in Central Europe.

In the present essay I will, first of all, give a brief overview of the modern debate. I will then relate the main points of the old debate. The reader will be at the end able to see how the two overlap almost completely.

An overview of the modern debate[⊠]

1. The recent debate on the vicious/virtuous circle hypothesis started in the mid-seventies, primarily receiving attention from members of international organizations such as BIS, IMF, and OECD, as well as from members of various central banks and Finance Ministries. References to this debate at the policy-making level can be found in BILSON (1978), HABERLER (1977), and LEHMENT (1980). The following statements are often cited:

   a) B. CLAPPIER (1976, p. 9): "A fall in the exchange rate in the market is reflected, even before the slightest impact is felt on export volume, in an immediate rise in the cost of imports. Thus, in the first phase, the external depreciation of the currency aggravates the internal inflation rate. These two phenomena follow and reinforce each other, setting in motion a cumulative process at the end of which the currency's exchange value continues to fall."

   b) BIS (1976, p. 31): "According to one view, the

[⊠] I am indebted for the selection of quotations that appear in this part of the essay to Dr. Mathias Wolf, who was attached as Fellow to the Research Programme of the Economics Department of the European University Institute.

greater monetary autonomy which countries enjoy under a floating régime implies that exchange rate movements will passively reflect the inflation rates which countries "choose" to maintain relative to inflation in other countries. While there is considerable truth in this view, experience has shown that the interrelationships between inflation and floating rates are much more complex. The causal relations run in both directions and often tend to be self-reinforcing. This stems from the fact that movements in exchange rates may often be the result of changes in such factors as confidence, expectations and the monetary/fiscal policy mix. Hence they can, through their influence on import and export prices, exert an independent effect on the rate of domestic price and wage inflation. The influence is particularly strong in open economies with large trading sectors and in economies where wages respond promptly to changes in the consumer price level".

2. The occurrence of vicious and virtuous circles was attributed to clean floating and thus was used as a case against (purely) flexible exchange rates. At the political level, this position was used by several European central bankers. On the other hand, as WALLICH and GRAY (1979, p. 2) point out: "The position of the U.S. Treasury at the time was strongly in favor of cleaner floating." But: "This policy debate has lost some of its urgency as a result of the general trend toward more managed floating, that began, for the United States, in 1978."

3. The proponents of the vicious and virtuous circle hypothesis have developed a number of different explanations, which in turn have provoked various critical objections. To begin with, these explanations are presented below. This is followed by the presentation and discussion of the objections raised against these explanations.

4. The first explanation of the vicious and virtuous circle hypothesis to be considered here, has been emphasized by T.D. WILLETT (1977, p. 251f), although this author adopts in general a very critical approach towards this hypothesis:

"Some proponents of the vicious circle hypothesis would presumably grant that to the extent that exchange-rate depreciations were the direct result of domestic inflation, they could not legitimately be labeled a cause of additional inflationary pressures. But such proponents would go on to argue that exchange-rate depreciations frequently tend to be exaggerated because of destabilizing speculation or other shifts in capital flows and that it is these exaggerated depreciations that are the cause of additional inflationary pressures."

5. Thus, for whatever initial rate of inflation, this argument says that speculation may provoke a larger depreciation of the currency than would be required according to the purchasing power parity rule. This part of the argument runs counter to the belief, widespread among economists at the beginning of the seventies, that exchange rate changes would merely reflect adaptations to inflation rate differentials. Several authors, summarizing the experience of the recent floating period, have emphasized this change in opinion (see e.g. R. DORNBUSCH and

P. KRUGMAN, 1976, p. 537f; A.D. CROCKETT and M. GOLDSTEIN, 1976, p. 514).

6. The next step in this line of reasoning concerns the impact of a devaluation of the domestic currency on the domestic rate of inflation. R. DORNBUSCH and P. KRUGMAN (1976, p. 569) state: "Depreciation, particularly in medium-sized and small countries, has a strong, direct impact on inflation of wholesale and consumer prices. The main channels are (a) costs of importing materials, (b) wages, (c) import prices of finished goods, (d) aggregate demand, and (e) a direct spillover into prices of import-competing goods." Most authors acknowledge that this impact on inflation is the stronger, 1) the smaller the country, and 2) the more open the country. For an explanation see e.g. A. LAMFALUSSY (1979, p. 57): "'Small' countries are price takers; hence prices of internationally traded goods expressed in the national currency tend to increase, after a relatively short time lag, by the amount of the currency. This applies both to import and export prices."--"When a 'small' country is at the same time "open", there will be a high proportion of tradables or effectively traded goods in the domestic output. The price increase therefore directly affects a large proportion of the goods produced and consumed domestically."--Large countries, on the other hand, with a normally broader diversification of industry, can be expected to have more import-competing industries. Also, importers may be expected to be more inclined to accept temporary reductions of profit margins in large markets than in small markets in order to maintain their market share.--The more closed the economy, the fewer imports are used as inputs by domestic firms and the smaller the number of imported final

goods, which enter into the calculation of the price index, hence the smaller is their impact on this index.

7. The final element of the destabilizing speculation argument concerns the continuation of the process. To the extent that this point is not explicitly dealt with, as is the case for example in the BIS annual report, 1978, pp. 127f, the additional inflation fed into the system through the depreciation, may give rise to a further devaluation of the domestic currency. This process may be seen to be of considerable duration, if more and more residents start to "speculate against their currency".

8. T.D. WILLETT (1979, p. 247), however, presents another explanation for the continuation of the vicious circle: ".... if destabilizing speculation drove the exchange value of a currency below its equilibrium level, this would worsen the short-run inflation-output trade-off facing financial authorities and could induce additional monetary and fiscal expansion. In such an instance, overdepreciation of the exchange rate, operating on a government reaction function, could create higher rates of inflation, which might legitimately be termed a vicious circle." This argument is based on the assumption that the government's intention is to make use of the short-term trade-off between inflation and unemployment. In addition the government must be willing to accept a rate of inflation, higher than foreseen initially, in exchange for some reduction of the unemployment rate.

9. Furthermore, it must be noted that the destabilizing speculation argument can also be formulated to explain a virtuous circle. Speculation then induces a larger appreciation of the domestic currency than justified by

the reduction in money supply growth relative to foreign countries. This, in turn, results in a reduction of or lower increase of import prices, thereby reducing the increase in the domestic price index. Again, this process may be of considerable duration, if due to portfolio shifts, the fact of the appreciation itself increases the demand for this currency.

10. The argument is easily extended in order to take explicitly into account expectations about the future behaviour of government and the central bank. See e.g. the BIS, annual report, 1976, pp. 31f: "To put the matter another way, forceful action to combat inflation may be expected to have not only direct effects on domestic prices and wages but also an indirect effect via the exchange rate. The policy actions themselves, together with the expectations they engender, tend to strengthen the rate by more than is warranted on immediate purchasing power parity grounds. In this way, by lowering import costs and holding down export profits, exchange appreciation reinforces the direct effects of anti-inflationary policies and helps to make them self-fulfilling. Whenever, on the other hand, domestic inflation leads to exchange depreciation, this will tend to feed inflation--and such a 'vicious circle' can then be broken only through drastic policy action." This argument provides an explanation for the destabilizing effect of speculation, which is interpreted here as reflecting the speculators' expectations of future government behaviour.

11. The above argument can be strengthened by another element. In the words of T.D. WILLETT (1979, pp. 254f): ". . . when a country has been suffering from serious inflationary pressures, the market reacts not just to past inflation but also to expected future inflation rates. But there are lags in the effects of macro economic policies on the economy. Thus even when a sound stabilizing policy is implemented, it will take a good while for its real effects to show up. In the meanwhile speculation will have caused an exaggerated depreciation of the exchange rate, forcing up import prices and causing further inflation and undermining the initial stabilization policy. In other words, in such a situation the stabilization policy is not given the time to take hold." This argument can itself explain the occurrence of a vicious circle, if it is assumed that the stabilization effort is given up in the end, e.g. because its negative effects in terms of an increase of the unemployment is felt immediately, while the impact on the inflation rate does not appear due to speculation governed by such expectations. If the government pursues its stabilization with enough effort, however, this argument is reduced to explaining temporary overshooting of the exchange rate.

12. Overshooting has also been mentioned as an explanation of vicious and virtuous circles. See for example the BIS annual report, 1977, p. 132: ". . . there is a danger of unmanaged floating leading to an exchange level which clears the market on the basis of asset preferences but which overshoots the mark from the

point of view of the basic balance of payments. . . . such overshooting, when it involves a large exchange rate movement, can itself be an independent source of current-account payments imbalances and of differences between countries' inflation rates since its price effects will typically be felt, via the changing cost of imports, more rapidly than its real effects on the basic balance of payments. In other words, overshooting can set in motion 'vicious' and 'virtuous' circles of exchange rate and price movements."--A similar statement is found in T.D. WILLETT (1979, p. 247), who refers to the theoretical discussion about overshooting: ". . . the impression is sometimes given that if one adopts a monetary or asset market approach to exchange-rate determination and assumes that asset markets adjust faster than goods markets, one is likely to have overshooting of exchange rates and the preconditions for a vicious circle as a frequent occurrence."

13. As the first part of the destabilizing speculation argument, overshooting only represents a precondition for the emergence of additional inflation compared with that level of inflation which would occur if the exchange rate followed the purchasing power parity path. But while it can be argued that destabilizing speculation may itself be self-reinforcing, as was done above, the adjustments of asset and goods markets will tend towards a new equilibrium. Thus, no cumulative process can be involved in the overshooting argument unless the aspect of expansionary gov-

ernment action due to the worsened short-run trade-off between inflation and unemployment is added.

14. This points to the basic difference between the destabilizing speculation argument and the overshooting argument. The latter is based on an equilibrium concept, while the former need not include such a concept. Thus, the overshooting argument considers the vicious or virtuous circle as a process which moves towards a near equilibrium, while the destabilizing speculation can be considered as driving prices and exchange rates always further away from an initial equilibrium.

15. So far, these explanations in the recent debate of vicious and virtuous circles, which are fundamentally based on the impact of asset markets on the determination of exchange rates, have been mentioned. As was already noted, the aspect of the worsening of the short-run trade-off between inflation and unemployment can but need not be linked with this line of reasoning. This argument was particularly developed by R. DORNBUSCH and P. KRUGMAN (1976, pp. 572f): "The argument for monetary policy is that the Phillips curve is flat, that wage pressure is slow to build up to an expansion in aggregate demand, and that, accordingly there is an advantageous trade-off between inflation and unemployment in the short run . . . . But an attempt to expand the economy through monetary policy in this manner will immediately cause the exchange rate to fall (or to fall faster), thus raising domestic prices of imports and hence causing consumer and wholesale

prices to rise at a higher rate." This implies a new and steeper Phillips curve which "embodies the inflation arising from domestic wage pressure and from the impact of depreciation on import prices. It thus represents inflation of market prices rather than value-added prices" (p. 573). Thus, whereas in a régime of fixed exchange rates the flatter value-added prices Phillips curve would be relevant, with flexible exchange rates it is the steeper market prices Phillips curve which matters. If, then, the government wishes to reduce unemployment by any given amount, a higher rate of inflation results in the case of flexible exchange rates. But normally, the choice by the government of a new "equilibrium trade-off" between inflation and unemployment for the new and steeper Phillips curve will be a point of higher inflation as well as higher unemployment.

16. Again, this argument of a steepening of the Phillips curve is not sufficient to explain the occurrence of a vicious circle. It might rather be interpreted as frustrating governments from using the short-run inflation-unemployment trade-off at all. A vicious circle is only produced if one assumes in addition that the government continually tries to make use of this trade-off. But then the vicious circle would also result in the case of the flatter curve. However, the process becomes more rapid with the steeper curve. Furthermore, if the curvature is properly affected, some target level of unemployment might be accompanied with a moderate level of inflation under fixed ex-

change rates and with nearly "infinite" inflation in the case of flexible exchange rates. Thus in order to use the argument of a steepening of the Phillips curve for the explanation of a vicious circle, one has either to assume continuous efforts of governments to make use of this trade-off, or a continuous steepening of the Phillips curve, while the government pursues an expansionary policy.--To be sure, if the Phillips curve has steepened once only and the government tries to make use of the trade-off between inflation and unemployment only once, the resulting monetary expansion causes also a further depreciation of the exchange rate, which again feeds in some additional inflation. In a limited sense, this may also be labeled a vicious circle. However, a new equilibrium will be reached. Therefore, no cumulative and continuously ongoing process is set in motion.

17. Furthermore, some explanations of vicious circles refer to a self-reinforcing inflationary spiral as a main element of the circle. For example, G. HABERLER (1977, p. 10) states: "It is true that every long drawn-out inflation develops vicious circle properties and is apt to 'set in motion a cumulative process' as the Governor of the Banque de France said in Manila. Inflation 'feeds on itself', because people will try to reduce their cash balances by spending money faster on commodities and foreign money. In other words, inflation tends to raise the velocity of circulation of money and it cannot be excluded that on some occasions the exchange rate in the market overshoots the long-

run equilibrium position." Of course, this argument implies that the inflationary spiral only continues to work as long as the velocity of circulation of money increases. Since this cannot go on forever, no truly cumulative process can occur. Instead, some equilibrium will be reached, once the velocity of circulation of money stabilizes. Before this is the case, however, some kind of vicious circle can be said to be at work.--Furthermore, the rôle which exchange rate movements play within this line of argument is not wholly clear. The initial inflationary push may be due to domestic sources and exchange rates may only passively adapt to the inflation differentials. Or the exchange rate movements, due e.g. to destabilizing speculation or overshooting, may themselves reinforce the inflationary spiral. However, this latter aspect is not a necessary ingredient for this explanation of a vicious circle.

18. The same holds true for the explanation of an inflationary spiral referred to by H. LEHMENT (1980, p. 97). Starting with an initial depreciation of the domestic currency, the resulting price increase may have the effect that expectations of future price increases are built. That is, the expected future rate of inflation is corrected in the upward direction. As a consequence, the demand for money may fall, resulting in a further depreciation of the domestic currency. If this depreciation exceeds in its amount the initial one, inflationary expectations rise again, followed by an additional reduction of the demand for money, an-

other depreciation, etc. Theoretical models, which formalize this scenario of an "explosion" of exchange rates and inflation rates, have been developed for example by D.A. PEEL (1978).--This explanation of the inflation spiral is very similar to the one presented by G. HABERLER. In both versions the assumption of a continuous increase in the velocity of circulation of money is made. The main difference between these versions is that H. LEHMENT and D.A. PEEL explicitly build on the rôle of expectations in this inflationary spiral.

19. Several authors (e.g. E.-M. CLAASSEN, 1976, pp. 356ff; A.D. CROCKETT and M. GOLDSTEIN, 1976, pp. 523ff; P. LEWIS, 1976; and G. HABERLER, 1977, p. 9) refer to a so-called ratchet effect in order to explain higher rates of inflation under flexible exchange rates relative to the case of fixed exchange rates. T.D. WILLETT (1979, p. 253) presents this argument as an explanation for the occurrence of vicious circles: ". . . the so-called ratchet effect associated with asymmetrical upward and downward flexibility of wages and prices: when an exchange rate falls, prices and wages rise, but when an exchange rate rises, wages and prices do not fall or do not fall as much. Thus exchange rate movements are said to ratchet up wages and prices." Apparently, if exchange rates only adapt passively to inflation differentials, no vicious circle can occur according to this argument. Thus, the type of ratchet effect must be combined with destabi-

lizing speculation or overshooting. In this latter case a cumulative circle may appear: overshooting of the exchange rate has the effect of ratcheting up wages and prices above the equilibrium level (in terms of purchasing power parity). This induces an additional depreciation, again overshooting, etc.

20. A.D. CROCKETT and M. GOLDSTEIN (1976, pp. 524ff) present and discuss three different explanations of the ratchet effect: a) the line of reasoning attributed to LAFFER and MUNDELL, b) the argument of downward rigidities within national economies and c) the SCHULTZE ratchet effect generated by demand shifts. LAFFER and MUNDELL are said by these authors (p. 524) to "assume that it will be the price level in the devaluing country that bears the full burden of the adjustment, and that producers in devaluing countries will quickly raise their prices to the full extent of the devaluation". But since this argument excludes overshooting, no vicious circle can be explained by it. With regard to the second type of ratchet effect, A.D. CROCKETT and M. GOLDSTEIN (1976, p. 525) state: "One reason why changes in import prices might have an asymmetrical effect on final product changes is that there are costs to changing prices in imperfectly competitive markets, and that firms will change their prices only in response to those cost and demand changes that they view as permanent. To obtain the ratchet or asymmetry conclusion, it is then only necessary to assume that negative import price changes are viewed as more tem-

porary than are positive changes." Clearly, this line of reasoning may well be combined with the overshooting argument and, thus, serve as an explanation for the vicious circle hypothesis, as is argued by T.D. WILLETT.--The SCHULTZE demand shift explanation could also be used, because a depreciation induces a shift of demand towards domestically produced goods. However, as R. DORNBUSCH and P. KRUGMAN (1976, p. 570) point out, this effect may be expected to work with a considerable lag. Therefore, the direct impact of a devaluation on imported materials and import prices of finished goods will probably play the major rôle in ratcheting up prices and wages.

21. Furthermore, the vicious and virtuous circles hypothesis has been explained by reference to the working of a wage-price spiral (see A.D. CROCKETT and M. GOLDSTEIN, p. 529, footnote 29; J.R. ARTUS and J.H. YOUNG, 1979, p. 664 and p. 687f; and H. LEHMENT, 1980, p. 98). J.R. ARTUS and J.H. YOUNG (1979, p. 664) put the argument as follows: "Exchange rate changes may thus fail to have a lasting effect on the real wage rate, even if the initial impact is to move it back to its equilibrium level. Labour resistance, at least in the case of a depreciation, may gradually move it back to its initial disequilibrium position."--As H. LEHMENT points out, a cumulative process of depreciation/inflation can only occur if an expansionary monetary policy accommodates these wage claims. If this condition is not met, the resulting increase of aggregate demand due to wage increases may lead to higher

inflation and eventually further depreciation of the currency, but this process ends in a new equilibrium position. Thus, a vicious circle occurs only in a limited sense of the term.

22. Finally, it may be noted that several authors have combined several of the explanations of vicious and virtuous circles, spelled out above. For example, A. LAMFALUSSY (1979, p. 57) includes some elements of the wage-price spiral (wage indexation) and the overshooting argument in his "set of propositions that, put together, would tend to explain the self defeating nature of some currency depreciations". Similarly, R. DORNBUSCH and P. KRUGMAN use the sensitiveness of wages to exchange rate changes as an additional aspect for the steepening of the Phillips curve. Furthermore, A.D. CROCKETT and M. GOLDSTEIN (1976, p. 529, footnote 29) combine the ratchet effect argument and the wage-price spiral aspect. The same is true for J.A. ARTUS and J.H. YOUNG (1979, p. 686).

THE VICIOUS/VIRTUOUS CIRCLE DEBATE IN THE INTERWAR PERIOD

1. The relations between exchange rate dynamics and domestic inflation have been the object of great interest in times even much earlier than the interwar period. BRESCIANI-TURRONI noted that the discussions that took place in the twenties on this subject had an interesting similarity to those which had preceded the publication of the Bullion Report, a century ear-

lier. By setting the clock even farther back, we can review the treatment of this relationship by two Italian economists, GEMINIANO MONTANARI, who lived in the 17th century in Modena, and the ABBE' FERDINANDO GALIANI, who spent his life in Paris and Naples. Modena, the hometown of MONTANARI,[1] was a small state, surrounded by other relatively little ones. Small wonder, therefore, that MONTANARI thought a change in the exchange rate would immediately be reflected in the internal price level. The degree of interdependence of the Modenese economy with those of its neighbours was extremely high, and equally exposed to external influence was the Modenese monetary system. A change in the exchange rate, brought about by the debasing of the local currency by the Prince, would, according to MONTANARI, mean that import prices would rise and, because of the high level of imports to GNP, the general price level would immediately rise as a result. But equally clear in the mind of MONTANARI was another cause of devaluation, the speculative activities of merchants and financiers, who would take away money from the more productive trades to use it in speculation on the exchange markets. These flows of funds from one centre to another, from one currency to another, could, in MONTANARI's opinion, be the independent source of domestic inflation, in the manner examined above, so that from an initial overshooting of the exchange rate a vicious circle could ensue.

FERDINANDO GALIANI,[2] who spent most of his life in

large countries, like Naples and France, whose level of international interdependence was much lower, expressed much greater enthusiasm for an inflationary mechanism generated by a princely debasement. He was confident a very large part of the population would live under money illusion, and that the effect on the exchange rate of the debasement of one currency would be very quick (he called the exchange rate "the thermometer of States") but not very important on the internal price level, given the high level of self-sufficiency of the "Stati fruttiferi", and the non-essential nature of imports. Thus, the effect of a rise in import prices would take time to work itself through the system, and be of not much importance, anyway.

Inflation was, therefore, for GALIANI, an altogether fiscal phenomenon, which could come about not through an increase in import prices or a fall in the exchange rate determined by speculation, but only as the result of a debasement of the currency operated by the Prince.

2. We have noticed the modern debate to revolve around two main subjects: the inherent instability, alleged by some, of a floating exchange rate system, and the dangerous effects on international equilibrium of the transfer of resources determined by the oil price increases. A place in itself must be accorded to the vexata quaestio of the validating rôle of monetary policy, which contributes the fuel necessary for a vicious circle to work itself off. The motivations of the interwar debate are somewhat different: there is, for instance, no conscious defense of the merits of the

freely floating exchange rate system, nor, for that matter, a conscious indictment of the negative consequences of that system. The vicious circle hypothesis is introduced by HELFFERICH and BORTKIEWICZ, and defended by J.H. WILLIAMS,[3] in order to establish the causes of the great German inflation of the early twenties, and to prove that the unchaining of the vicious circle leading from devaluation to inflation to further devaluation, was to be ascribed to the dynamics of the foreign exchange market, rather than to the dynamics of the German money supply motivated by the fiscal deficit of the German State.

It is not difficult, if one wants to be cynical about the motivations of intellectual effort, to demonstrate a certain connection between the denial of the equitableness or even only efficiency of German reparations and the vicious circle theory; and a link between the needs of the main European creditor, Britain, and the theory according to which the origins of the German inflation were to be found in the fiscal irresponsibility of the German Republic.

As will be shown in the remainder of this paper, however, the protagonists of the debate were too refined to present their views as crudely as I have done above. Their explanatory models had many more complications and qualifications, they gave a much more balanced image of the phenomenon of German inflation. Granted all this, however, I would still maintain my crude stereotypes.

3. The vicious circle debate cannot count among its protag-

onists the best internationally known economist and polemicist of that time, J.M. KEYNES. In dealing with post-war problems of international monetary and real equilibrium, he seems to have little or no time for either backing or disproving the vicious circle hypothesis. His indictment of reparations was based, as is well known, on a magnification out of all proportions of the transfer problem. As often was the case with the man, he tried to settle an important political dispute by resorting to economic analysis, and had to force some of his assumptions.

But, consistently with his view on reparations, he was of the opinion that the great German inflation was caused by the fiscal irresponsibility of the German government; indeed he dedicated many elegant pages of "A Tract on Monetary Reform" to the analysis of inflation as an instrument of taxation.

Equally firm he seemed, in the same book, in his advocacy of floating exchange rates; he did not advert to possible asymmetries in adjustment which could give rise to vicious circles. On the contrary, the quickness of the mechanism leading from exchange rates movements to internal price changes, and vice-versa, seemed to him a remedy to the alleged viscosity of prices in a fixed exchange rate system. Internal price management, which he seemed to see as first priority, could be disrupted by events occurring in the foreign exchange market, but KEYNES advanced in the same volume the suggestion that central banks could exercise a stabilizing influence on them by intervention on the forward market.

4. A very different, a much greater, interest the vicious circle hypothesis received by J.H. WILLIAMS. A life-long critic of established and orthodox theories, WILLIAMS noticed in 1922, in an article published in the Q.J.E., that the fall in the external value of the German currency, in 1921, far from stimulating exports and depressing imports, had been associated with the opposite phenomenon. He ascribed the excess of imports over exports to the high import content of German exports, which prevented the falling Mark from boosting exports, as it boosted the costs of producing German exports; to export controls, to the depressed Russian market. But how had Germany managed to finance its import surplus? WILLIAMS thought that she had managed to do so partly by the sale of German currency to speculation-minded foreigners, who were thoroughly disappointed in their expectations about the future of the Mark. In part she had paid by German capital exports, in part by inward foreign investment in German industry, in part by barter. The German experience, noted WILLIAMS, threw interesting light on the theory of foreign exchange under inconvertible paper. It bore out the view--he wrote--"that in a period of depreciating exchange, export and import prices rise first and in close sympathy with the exchange, whereas the rise in internal prices follows more slowly, the gap between the two providing a stimulus to exports and a burden upon imports." It indicated unmistakably--he added--"also that the price changes follow the changes in the exchange rate". "It is equally clear"--he wrote--"that in this instance the increase

in note issue has followed the decline in exchange and the consequent rise of prices." "So far as the German case is concerned, it is evident"--he concluded--"that to demand restriction of inconvertible paper as the fundamental cure for depreciating exchange is to beg the question; the Reichsbank has not inflated for its own amusement. The same may be said of the view that the fundamental cure must be to 'balance the budget'; that budgetary deficits necessitate further note issue to cover the deficit, and that the increased issue causes further increase of prices and hence depreciation of exchange."

To his mind, in 1921, the sequence of events in Germany was as follows: "The reparation payments by greatly increasing the pressure of demand for foreign bills wherewith to make remittance, and also by impairing confidence, drove down the value of the Mark in exchange. Import and export prices rose in sympathy with the exchange, and domestic prices followed upward more slowly. With prices rising, the state and private demands for credit were increased. To meet customers' demands for bank notes, bankers, holding their liquid assets mainly in Treasury Bills and only a minimum of the non-interest-bearing Reichsbank notes, would present Treasury bills for encashment in bank notes, increasing the Reichsbank's holdings of Treasury bills and forcing increased issues of bank notes in payment. At the same time, since the revenue of the Government is relatively fixed in the budget, whereas expenditures increase continuously with the rise in prices, the resulting deficit

compels further issue of bank notes and Treasury bills." "If this analysis is correct,"--he concluded--"relief for Germany's financial and monetary difficulties must be sought in the reparations question and the foreign trade, rather than in some point further down the chain of consequences."[4)]

5. We come now to the real heart of the debate, the indirect exchange that took place between K. HELFFERICH and C. BRESCIANI-TURRONI.

As far as the actual sequence of events is concerned, it was BRESCIANI-TURRONI who subjected the work of K. HELFFERICH to penetrating criticism. But it had been HELFFERICH to propound the anti-monetarist view of the German inflation and to lend his great academic authority to the vicious circle hypothesis. In trying to disprove the hypothesis, BRESCIANI-TURRONI, though advancing his arguments in his usual balanced and careful manner, was avowedly placing himself on the side of what he himself called the "Inter-Ally view".

We shall quote extensively first from HELFFERICH and then from BRESCIANI-TURRONI, so that their respective views may emerge in full relief.

The following two quotations[5)] summarize the views of K. HELFFERICH with regard to the relationship between the devaluation of the German Mark and the increase in the circulation of paper money:

"In considering the monetary conditions in Germany, the view widely held, especially abroad, is based on the

pure quantity theory, and accordingly regards the increase in the circulation of paper currency in Germany as the cause of the rise in the level of German prices and of the depreciation of the currency. On closer examination, however, we find that cause and effect are here interchanged, and that the increase in the amount of paper money circulating in Germany is not in fact the cause but the result of the fall of the German exchanges and of the consequential rise in wages and prices."[6)]

"The chain of causes and effects is, therefore: First came the depreciation of the German currency by the overburdening of Germany with international liabilities and by the French policy of violence. Thence followed a rise in the prices of all imported commodities. This led to a general rise in prices and wages, which in turn led to a greater demand for currency by the public and by the financial authorities of the Reich; and finally, the greater calls upon the Reichsbank from the public and the financial administration of the Reich led to an increase in the note issue. In contrast, therefore, to the widely held view, it is not 'inflation' but the depreciation of the currency which is the first link in this chain of cause and effect. Inflation is not the cause of the rise in prices and of the depreciated currency, but the latter is the cause of the higher prices and of the greater volume in the issue of paper money."[7)]

6. We can proceed now by looking at each of the elements

in the chain of causes and effects exposed by HELFFERICH. He was convinced that the extreme devaluation of the German money was due to the "Reparation" obligations imposed on Germany in the Treaty of Versailles:

"In the above case, however, in which it has just been shown that the increase in paper remained far behind the currency depreciation, the causes of the collapse in the foreign exchanges, which are independent of the development of the paper circulation, are quite clear. We are dealing with a country whose international indebtedness, quite apart from payments and deliveries due under the Treaty of Versailles, was passive to the extent of about 3 milliard gold marks, and the London Ultimatum added to the country's indebtedness an annual payment of "reparations" estimated at about 3.3 milliard gold marks. To this were added the payments imposed upon Germany for the 'clearing' of pre-war debts and gold payments to the occupying Powers. The annual passive balance of the German balance of international indebtedness was thereby increased to more than 7 milliard gold marks. Anyone, then, who took the trouble to form a true estimate of the position could not doubt that the attempt to fulfil these impossible obligations would necessarily result in a complete collapse of the German currency. On the occasion of the negotiations concerning the acceptance or rejection of the London Ultimatum, the author predicted, in agreement with the President of the Reichsbank, that the acceptance of the

Ultimatum and an attempt to observe its terms would lead to an abysmal fall of the German currency (Sturz ins Bodenslose)."[8]

7. On page 575, HELFFERICH gives monthly data of the wholesale price index, differentiated between imported goods and home products, for the period from January 1920 until March 1923. HELFFERICH concludes from this table:

"The most variable element in these columns is that of the price of imported goods. Even when the rate for the dollar is not shown side by side with the prices of these, it is clear that they reflect the fluctuations of the German currency in terms of the money of the world market, modified by movements in the gold prices of the world market. The prices of the domestic wholesale commodities follow haltingly and hesitatingly. When the dollar rate rises sharply, these prices remain at first strikingly behind the level of prices of imported commodities, yet, when the dollar rate and the prices of imports begin to fall, they continue the process of approximation by continuing to rise."[9)]

8. The above quotation does not explain the precise effect of the increase in the prices of imported goods on the prices of domestic commodities. Of course, since Germany imported raw materials, their increase affected directly the cost of production of finished and semi-finished domestic commodities. Furthermore, the price increases of imported goods affected considerably the cost of living. However, other arguments are needed in order

to explain the continuous process of adaptation of the prices of domestic goods to the world market level even in periods of a falling dollar rate and reductions in the prices of imported goods, mentioned in the above quotation. K. HELFFERICH offers, very interestingly, the following explanation, which uses the concept of a wage-price spiral:

"The maintenance of the standard of living at nearly the level reached before the War presupposed a substantial increase in the productivity of labour, having regard to the damage wrought to the processes of production by the War and its result. But claims were put forward and effectively pressed to raise the standard of comfort and at the same time reduce the intensity of labour. This could have but one result--a race between wages and prices such as we have witnessed in the last few years. The social and political position of labour was sufficiently strong to enforce higher wages notwithstanding the fact that less work was done. As the profits of capital had shrunk to a minimum, the higher wages could be paid only if higher prices could be obtained for the products. But higher prices raised the cost of living and brought about fresh demands for higher wages, which in turn led to a further rise in prices."[10)]

9. Finally, the effect of this wage-price spiral on the demand for money of the German economy had to be shown, as well as the rôle of the Reichsbank, when it was confronted with this demand. The following two quotations

may serve this purpose, the first of which continues the above quotation:

"And what was the part played by money in this vicious circle? The race between wages and prices gave rise to a corresponding increase in the demand for money, both on the part of the people and on that of the financial administration of the State. A monetary organisation which offered resistance to such an expansion of the monetary demand would thereby have put a stop to the race between prices and wages. The acute shortage of money would have brought about a collapse of wages and prices, probably accompanied by crises and catastrophes. The German monetary system, however, makes possible in practice an unlimited expansion of the circulation, and it offered no such resistance. The monetary machine and its working, therefore, aided in the development pursued by wages and prices, but only in a secondary and passive manner. The increase in the issue of paper money is, within this complex of phenomena, not the cause but the consequence of rising prices and wages. At the same time, the fact that it was possible for paper money to be issued in unlimited quantities provided the necessary conditions for unlimited increases in prices and wages."[11)]

10. The second quotation indicates the reason why the Reichsbank was not willing to stop the continued movement of the wage-price spiral:

"But independently of any such possibility it may be

said that a monetary organisation which offered serious resistance to the unlimited expansion of the circulation would necessarily have exercised certain reactions on the course of the level of prices and wages, and also on the course of the foreign exchanges, which, owing to the relative ease with which the circulation of German currency adjusts itself to the increased monetary demand caused by currency depreciation and by the rise in the level of prices and wages, have not occurred. But such reactions would have taken place, if at all, at the cost of uncontrollable crises and catastrophes; because if we were to follow the good advice given to us, and lay aside the note-printing presses, whilst the factors which adversely affect the German currency continue to operate, we should be depriving German economic life of the media of circulation necessary and indispensable for trade, for salary and wage payments, etc., so that in a very short time the local authorities and the State itself would be unable to pay their creditors, officials and workmen. Then, in a few weeks, not only the printing presses, but also the mines and factories, the railways and post-offices, and the State and communal administration, in short, the entire communal and economic life, would be at a standstill. The collapse of economic life, of the State, and of society would, however, do away with the insensate idea that the German nation is capable of meeting such tremendous reparation claims, and would thus destroy the root of all evil."[12)]

11. As we noted earlier, HELFFERICH's belief in the vicious circle hypothesis stemmed from his complete rejection of the Quantity Theory. It is useful to analyze this rejection in some detail.

According to HELFFERICH, the quantity theory establishes the following chain of causes and effects:

"If 'inflation' had been the cause, and the depreciation of the German exchanges the effect, then, in accordance with the theory of the classical English economists, events would have developed on the following lines: an increase in the paper circulation causes a corresponding rise in the level of prices at home. These higher prices encourage imports and make export more difficult. They tend, therefore, to make the trade balance, and with it the balance of international indebtedness, unfavourable. When the latter balance is passive, the demand for foreign currency increases and the rates of foreign exchange are forced up."[13)]

K. HELFFERICH advances two empirical and one theoretical argument against the explanation described above. The following quotations present first the empirical arguments.

For the period from May 1921 until January 1923, HELFFERICH presents data from which he draws the following conclusions: "Thus in the twenty months which followed the acceptance of the London Ultimatum the floating debt of Germany was multiplied $12\frac{1}{2}$ times, the note issue of the Reichsbank 23 times, the wholesale index number for home products 226 times, that for im-

ports 353 times, and the dollar rate 346 times."[14)]

". . . in fact, it is immediately obvious that in the case of Germany the increase in the note circulation did not precede the rise in prices, and also that the depreciation of the currency followed it but slowly and at some distance in time. The twenty-three-fold increase of the note circulation cannot possibly be the cause of the 10 times greater rise in prices at home and of the 15 times greater rise in prices of imports and of the dollar rate. A conception of the general and comprehensive outline of the interplay of causes in these developments can, in fact, be obtained only if foreign exchange is made the starting point."[15)]

The second empirical argument refers to the period from the end of January 1923 until March/April 1923.

"Even today, therefore, we have, as compared with the position in May 1921, a depreciation of the currency, measured by the standard of the dollar rate, and a diminution in the purchasing power of money at home, measured by wholesale prices, roughly five times the increase in the note circulation. That the note issue went on increasing even during the fall of the dollar rate and its stabilisation, is due to the fact that the process of adjustment of the currency in circulation to the level of prices as conditioned by the position of foreign exchanges had not been completed."[16)]

The following final quotation presents HELFFERICH's

theoretical argument against the quantity theory:

"For the following, if for no other reason, the collapse of the German exchanges will be seen to be in no way related to the increase of the note circulation. At a dollar rate of 21,546, the rate quoted on the 25th January 1923, a gold mark was worth about 5000 paper marks. The note circulation of the Reichsbank, which at that time amounted to 1654 milliard paper marks, thus represented a value of only 330 million gold marks. This is not much more than $\frac{1}{20}$th of the gold value of the German currency circulating before the outbreak of war. It is, of course, true that the War and the Peace conditions restricted the economic activity of Germany, and thereby also the money turnover, and, further, that the rise in home prices was considerably less than the rise in the rates of the gold exchanges at the end of January 1923; nevertheless, there can be no doubt that the economic requirements of Germany could not possibly have been met by a circulation of $\frac{1}{20}$th of its pre-war gold value, and that, therefore, the increase in the circulation could not have kept step, even approximately, with the depreciation of German money. This also explains why the catastrophic collapse of the mark, which began towards the middle of 1922, was, notwithstanding the avalanche of notes, accompanied by an acute shortage of money, which led to unprecedented rises in the rates of interest charged by the Reichsbank, and the still greater rises in the rates charged in private transactions."[17)]

12. "Opposed to the German theories were those which can be called the 'English' (because vigorously upheld by the representatives of Great Britain in the Reparations Commission and in the Guarantees Committee) according to which the fundamental cause of the depreciation of the mark was the Budget deficit, which provoked continued issues of paper money. I hold this second theory to be essentially correct, although it is necessary to recognize that in the last stages of the depreciation of the mark the relations between the Budget deficit, the quantity of paper money, prices and the exchange became more complicated . . . ."[18] Thus BRESCIANI-TURRONI, as we advanced earlier, stated his choice of camp. He then proceeded to a detailed rebuttal of HELFFERICH's views.

HELFFERICH had maintained, as is shown above, that the depreciation of the Mark increased the demand for money in a two-fold manner: a) it aggravated, by disturbing the national finances, the Budget deficit of the Reich, and b) it raised the transactions demand for money due to its effects on prices and wages. With regard to the first issue, BRESCIANI-TURRONI uses an empirical approach: "Let us examine, in the light of the facts, the theory according to which the budget deficit was not the fundamental cause but the effect of the depreciation of the mark."[19] "During the war, the depreciation of the mark was the consequence of the policy of financing the expenditure of the Reich by having recourse on a very large scale to the central note-issuing authority. However, the mark depre-

ciated on the whole slowly during the war years. During the whole of that period monetary and financial phenomena developed according to the classical scheme. Budget deficit, increase of issues, increase of internal prices, i.e. diminution of the purchasing power of the paper money: a diminution which necessarily exercised a depressing influence on the exchange. I have already noted in Chapter I that from 1914 to October 1918, internal prices increased less than the quantity of money existing in Germany."[20)]

"In the summer of 1922 there appeared for the first time a distinct reaction of the depreciation of the mark on the Reich Budget, in the sense that the deficit was aggravated. While in the preceding months the German Government had succeeded in making some progress towards the balancing of expenditure and income, after July 1922, the depreciation of the mark again profoundly disturbed the state of the national finances. The real yield of the receipts lessened rapidly . . . . On the other hand, expenditure was maintained at a high level. The depreciation of the mark, which originally had been the consequence of the dislocation of the national finances, now contributed very much to the aggravation of the disorder and progressive disintegration."[21)]

"In the December issue of Wirtschaft und Statistik, 1923, some interesting calculations were published of the amount in gold of the yield from taxes and of the other receipts of the State, derived from loans and by

the discount of Treasury bills. For the period from 1914 to October 1923, the total results are as follows: taxes, 21.2 milliards; loans, 52.6 milliards; Treasury bills, 59.1 milliards. These statistics clearly display the financial policy followed by the German Government for ten years, which resulted in scarcely 15 per cent of the expenses being covered by means of taxes."[22)]

13. Depreciation and the balance of payments

According to K. HELFFERICH, the deficit of the balance of payments, considerably aggravated by the reparations payments, is the reason for the depreciation of the Mark. To this C. BRESCIANI-TURRONI objects:

"The principal point on which one must insist is this: In a great country like Germany, endowed with vast resources and with a great variety of imports and exports --on which variety was based, even during the war, a considerable elasticity of foreign demand for German products, and of German demand for foreign goods--a depreciation of the exchanges, when it is provoked only by an increase in the demand for foreign goods, cannot go beyond a certain limit (let us say, 15, 20 or 30 per cent of parity) because compensatory forces which the depreciation raises, prevent it from passing beyond this limit. Although the increase in the demand for foreign goods may be the cause of an initial depreciation of the market exchange, it cannot explain the continual depreciation. To explain the continual depreciation in this fashion, it would be necessary to assume

that the real demand curve for foreign goods was moved continually towards the right (. . .). But this is scarcely possible; besides, the reactions which would arrest the depreciation of the exchange would quickly appear."[23)]

This objection refers to the trade balance, only. However, BRESCIANI-TURRONI takes also into account an "abnormal demand" for foreign exchange, due to the habit of German industrialists of leaving abroad a part of the profits from exports, due to a "flight of capital", due to the Mark ceasing to be wanted as a "store of value", etc.[24)] "Hence, under conditions of the depreciation of the circulating medium, the foreign exchange market presented an altogether extraordinary appearance. When the currency is stable the demand for foreign exchange is determined by the necessity of making payments abroad. But in Germany, to this normal demand was added an entirely abnormal demand, which was principally provoked by the desire to invest savings securely in foreign exchange."[25)]

However, concerning this abnormal demand, C. BRESCIANI-TURRONI raises the same objection against its use as an explanation for the continual depreciation of the Mark as in the case of the deficit of the trade balance: "There is no doubt that the abnormal demand for foreign exchange on the part of the German public who determined to take part in the flight of capital must cause a depreciation of the exchange. This depreciation, however, could not go beyond cer-

tain limits if the quantity of marks had not been increased. In fact, the increase in the prices of foreign currencies had immediate effect on the prices of imported goods, and that--had the money income of consumers remained stable--would have meant that prices which passed a certain limit would quickly become prohibitive. It was only due to the rise in money incomes, which was the consequence of the increase in the circulation, that it was possible that imported goods, which were sold at rising prices because of the depreciation of the exchange, could find buyers."[26)]

"Hence, in order that the abnormal demand for foreign exchange for hoarding should exercise a detrimental influence for a long time on the national paper money (as happened in Germany), it is necessary that this demand should be fed, continually, by new issues of paper money, which also cause distrust to spread continually."[27)]

BRESCIANI-TURRONI continues his analysis by considering the effects of the Reparation payments on the devaluation of the Mark. He recognizes: "It was not possible for exports to develop so rapidly as to exceed imports by several milliards and to create the source from which the German Government normally had to draw the foreign exchange necessary for reparative payments."[28)]

Although, according to BRESCIANI-TURRONI, the sums actually paid under the Treaty of Versailles and the Ultimatum of London remained at too low a level to

be significantly responsible for the continual depreciation of the Mark,[29] this author recognizes a psychological influence of these events: "I willingly admit that the Treaty of Versailles created psychological influences unfavourable to the mark. But, in his study of the consequences of the payments made in 1921, Elster neglected the fundamental question: why were those consequences so serious? The answer is as follows: the German Government bought foreign exchange with paper money which was not purchasing power collected from German citizens by taxes, but new purchasing power created by the discounting of Treasury bills at the Reichsbank, that is, by the increase of note-issues. If, on the other hand, the quantity of paper money had not been increased, the depreciation of the mark, caused by the payment of reparations, would not have gone beyond a certain limit, which it is reasonable to suppose would have been quickly reached--given the reactions which would have shown themselves in an elastic demand for foreign exchange and in the exports of goods and services, and, moreover, in the sale to foreigners of houses, shares, and other parts of the national wealth of Germany. Hence, a more energetic financial policy would at least have lessened the effects of reparation payments on the German exchange."[30]

BRESCIANI-TURRONI considers furthermore the effect of speculation on the depreciation of the German Mark and also the interest of German industrialists in the continuation of this depreciation:

"But although the origin of the depreciation of the German mark cannot certainly be traced to the manoeuvres of speculation, it appears possible to state that at a certain stage of the depreciation of that currency, speculation played an important role. . . . For some time, it was foreign speculation (foreigners possessed large sums of marks) which provoked the great fluctuations of the exchange. In February 1920, the mark had fallen to 4 per cent of its gold parity; in May of the same year it rose again to 12 per cent; and that was mainly due to foreign speculation. Later the speculation of Germans assumed greater importance."[31)]

"The theorists also maintain that speculation cannot exercise an influence which manifests itself constantly in the same direction . . . . Without doubt this argument is valid for an early phase of the depreciation of the paper mark, when there was no intimate connection between the exchange rate and domestic prices. But in a later phase, when the depreciation of the exchange had immediate effect on prices, the consequences of the operations of speculators were more serious and lasting. In fact, the rise in prices, as we have seen above, was a potent stimulus to the increase of the inflation, as the Government and the Central Bank had not sufficient strength to oppose the demands of business men. Hence, the new level of the exchange, provoked by speculators, tended to be justified by internal developments. Subsequent dealings of speculators, who offered on the

market foreign exchange earlier acquired by them, could not depress the exchange rate to its former level, because the foreign exchange was bought with the aid of the new issues of paper money, and a new equilibrium of the exchange was established corresponding to the new level of internal prices."[32)]

"But it is certain that a financial and banking policy which did not regard the increase of note-issues as an inevitable consequence of the rise in internal prices, would have been able to arrest the effects of speculation on the fall of the mark."[33)]

With regard to the interest of German industrialists in the depreciation of the mark, BRESCIANI-TURRONI states: "The example of all countries with a depreciated currency shows us that the depreciation of money creates a vast net of interests vested in the maintenance and continuation of the depreciation itself, interests which are disturbed by the possibility of a stabilization of the exchange and which, therefore, are assiduously opposed to the return of normal monetary conditions."[34)]

"While sale prices rapidly approached world prices the industrialists paid wages which, for a long time, increased only at a great distance behind the rise in sale prices; other elements in the cost of production, such as transport expenses, declined in importance. The fiscal burden was continually lightened, and in addition the payment of certain taxes, which industry had to pay into the exchequer, collecting them from others,

became for the entrepreneur a source of conspicuous excess-profits. Mortgage debts were rapidly cancelled, bank credits, cleverly used, made possible the acquisition of foreign exchange, freehold property, etc.; and the difference between internal and external prices was a source of considerable gains for exporters."[35)]

14. Depreciation and domestic prices

BRESCIANI-TURRONI distinguishes three phases of the German inflation with a different relationship between the external and the internal value of the mark:

"On the whole, it may be said that during the war period, save for temporary fluctuations, there was not much difference between the exchange rate of the mark and the 'price parities'; whilst in the following years, . . . the divergence was much greater. In the years 1914-18, the value of the gold mark in paper marks increased less than the level of German prices (. . .). A plausible explanation of this is the fact that, in that period, prices in terms of gold rose in foreign markets."[36)]

After the Armistice, a new phase in the evolution of the mark began. The external value of the German currency fell well below its internal value and remained lower until September 1923.[37)]

"Every depreciation of the exchange tended to lessen the external value and to increase the divergence between this and the internal value . . . . But every

time the increase in the disparity between the two values provoked a reaction. The reaction consisted, not in an improvement of the exchange, and hence in an approach of the external to the internal value of the mark, but, because of the continual note issues, in a rise in the internal price-level, that is, in a fall of the internal value of German money. These facts lead to the conclusion that in the period under discussion the new incessant issues of paper money acted first on the exchanges and afterwards on internal prices, whether as a result of speculation or because some of the new money was employed directly by the German Government to purchase foreign exchange. Later the money came into the internal circulation, provoking a rise in the prices of goods; but at the same time new issues of paper money, which went directly into the foreign exchange market, caused a new depreciation of the exchange."[38)]

"Later, the adaptation of home prices to the exchange rate tended to become automatic, that is the paper prices were the result of two factors: the base prices and the 'multiplier', the 'index' which varied in more or less strict relation to exchange rates . . . . But though the equalization of the internal and external values of the mark was not reached before the summer of 1923, the tendency to adaptation was always present, and was a force which, for four years, kept in a continual state of agitation prices of goods, security prices, wages, salaries, railways rates, and the rates of taxes . . . ."[39)]

"As a result of the return to peace-time, gold prices as the basic price and of the adaptation of present prices to the future exchange rate, in a more advanced stage of the monetary depreciation, the rise of internal prices was more rapid than the rise of foreign exchange rates. 'The principal characteristic of the last phase of the monetary depreciation in Germany,' writes Kuczynski, 'was the rise of internal prices, which from 60 per cent, round about the world level, as they were at the end of 1922, rose at least to 110 per cent of the world level towards the autumn of 1923.'"[40)]

"Let us formulate our conclusion. In an early phase, the external value of the mark was dominated mainly, in its general movement, by the fall of the purchasing power of the mark in the home market. In a later phase, the movements of the internal value and of the external purchasing power of the German mark appeared determined mainly by the exchange rate of the dollar expressed in paper marks. The exchange rate of the dollar varied primarily under the action of causes which directly influenced it; these variations provoked corresponding movements in the internal purchasing power, but the reaction was not, generally, immediate, hence the external value remained lower than the internal.

In an early phase of the depreciation, there existed a 'system' of internal prices, the rigidity of which presented a great contrast to the very sharp variations of the exchange rate and tended to lead the lat-

ter back towards equilibrium, despite the influence of causes directly affecting the exchange rate in causing a movement from equilibrium. Later this system of internal prices was disorganized. On the one hand, was the lack of control first imposed by public authority; on the other, the influence of psychological causes, which curbed the rise of prices, was continually weakened. Prices became more and more sensitive to the variations of the exchange. Movements in the exchange rate caused an immediate movement in certain prices, the disturbance spreading slowly to other prices; but this process of diffusion became more rapid as the situation developed. A 'system' of internal prices, which represented a kind of centre of gravity of the oscillations of the exchange and which determined the 'equilibrium price' of the latter (the current market price representing only an ephemeral movement), no longer existed. Internal prices became unstable and, together with wages and salaries, they became subject to every breath in the exchange market."[41)]

However, at the theoretical level, BRESCIANI-TURRONI maintains: ". . . if money incomes had not increased owing to an increase in the quantity of money in circulation, to the rise in the demand for foreign exchange provoked by an intenser need for foreign goods, or by making foreign payments resulting from 'non-merchandise transactions', there must correspond a lesser demand for home-produced goods. Those who produced these goods, suffering losses, restrict produc-

tion and dismiss workmen; hence, the fall in the demand for goods tends to be accentuated. On the other hand, exporters invest their profits in extending the production of goods for export, and their demand for labour increases. In the last analysis, the prices of goods for internal consumption tend to be maintained at the former level, and the depreciation of the exchange rate only has a permanent influence on prices of imported goods, and a temporary influence on those of exported goods. Therefore, internal prices can only be displaced under the pressure of the depreciation of the exchange in so far as there is a continual issue of paper money."[42)]

15. Refutation of HELFFERICH's "gold value argument"

As the quotations given above demonstrate, BRESCIANI-TURRONI attempted to show that, contrary to the theory expounded by HELFFERICH, it was the increase of note-issuing and not the depreciation of the Mark, which caused the continuation of the German inflation. However, he agreed with HELFFERICH to the extent that a change in the monetary policy would result in a stabilization crisis, to which BRESCIANI-TURRONI devoted a whole chapter of his book (chapter 10), although he considered such a crisis to be less severe than HELFFERICH. Thus, it remains to quote the position of BRESCIANI-TURRONI with respect to the "gold value argument", represented in section 1.2., paragraph 10.

"Whilst in Germany itself economists and financiers thought they had found in the fall of the total value

of the circulating money the proof of the non-existence of the 'so-called inflation', outside Germany the scientific explanation of the phenomenon was given. I refer to a famous article by Keynes in which he shows that in an advanced phase of monetary inflation new note-issues are accompanied by an increase in the velocity of the circulation of the currency, and that the influence exercised by the velocity of circulation on prices and the exchange can be greater than that of successive issues of paper money."[43)]

"During the war and also after the Armistice, paper money was extensively hoarded especially in the country. Calculations, of whose accuracy it is difficult to be certain, conclude that the nominal value of notes withdrawn from circulation at the end of 1920 had risen to 10 milliard paper marks, that is to about one-seventh of the total issues. In addition, a considerable quantity of marks had found their way abroad . . . . Later, when the continual depreciation of the German currency undermined the confidence of even the most obstinate speculators for a rise in the mark, the hidden marks flowed into the market, both from the interior of Germany and from abroad, intensifying the rise of prices . . . . In the summer of 1923, when the mark was losing value day by day--even between morning and afternoon--everyone tried to get rid of marks as soon as they were received. This increase in the velocity of the circulation was the expression of the fact that the population lived from day to day, without keeping any cash reserves."[44)]

"Examining the monetary events which occurred in Germany, we may, I believe, come to these conclusions: a) in an early stage, which was the longest, monetary depreciation was mainly in proportion to the quantity of paper money; b) in the next period, that is from the summer of 1921 to the summer of 1922, the influence of the new note-issues was intensified by the increase of the velocity of circulation, by the return of marks sold abroad and by the efflux of marks from hoards; c) after the summer of 1922, a new influence was added to provoke a fall in the value of the monetary unit more than proportional to the increase in the quantity of paper money, for the place of the paper mark was taken by foreign exchange and by other means of payment . . . . Hence, in monetary conditions characterized by a great distrust in the national money the principle of Gresham is reversed, and <u>good money drives out the bad</u>, and the value of the latter continually depreciates."[45)]

"A rise in the velocity of the circulation of money capital tends--when it is not due simply to an increase in the intermediary stages of production--to provoke a rise in wholesale prices, which tends to react on retail prices. The real income of the working classes then falls; and the workers demand a rise in money wages which either provokes new issues of paper money, or, if the quantity of paper money remains constant, can only be obtained by means of a rise in the income velocity of money, that is by shortening the interval between the successive payments of wages."[46)]

"It is inaccurate to say that prices increase more rap-

idly than the quantity of money because the velocity of the circulation increases. Instead, the relation existing between the phenomena in question is as follows (as explained by Marshall): the fraction of their incomes or wealth which individuals are, on the whole, disposed to hold in the form of 'available money', diminishes, therefore the quantity $\frac{r}{a}M$ increases; prices rise, and money circulates more rapidly."[47)]

16. BRESCIANI-TURRONI on BORTKIEWICZ

According to BORTKIEWICZ, whose analysis may be considered a refinement of the HELFFERICH theory, the increase in the velocity of the circulation of money is a reaction to the scarcity of the circulating medium. Thus, "the increase in the velocity of circulation is not the cause which accelerates the monetary depreciation but the expression of an adjustment to the new necessities created by the rise in prices, which, in its turn, is the consequence of the continual depreciation of the exchanges."[48)]

"Numerous other authors, besides BORTKIEWICZ, contend that the depreciation of the exchange provoked an increase in the prices of goods, and that from that followed a rise in the velocity of circulation of money, which was sufficient to support the new high level of prices. With the aid of this argument writers have sought to show that the internal value of a paper currency is independent of monetary and banking policy and is, on the contrary, dominated by the state of the balance of payments."[49)]

"In my opinion, it is necessary to distinguish between the indirect and the direct effects of a depreciation of the exchange. Indirectly, the depreciation of the exchange, by creating the expectation of future rises in prices, and therefore inducing consumers and merchants to hasten purchases, helps to provoke a rise in the velocity of the circulation of money. But, as was said above, these effects are purely temporary if the exchange does not continue to depreciate. As for the direct effects of the rise of prices, provoked by the depreciation of the exchange, on the velocity of the circulation of the money, it may be observed that until the public has lost confidence in the money, the depreciation of the exchange, due to a disturbance in the balance of payments, only influences prices of imported and exported goods. If the quantity of money does not vary, the profits of some classes of merchants correspond to the losses of other classes. In every way, even if new incomes are created they are only a very small matter compared with the mass of existing monetary incomes; and the influence on the income velocity of the money and on general prices could only be very slight. The situation is different when, in an advanced phase of the inflation, a depreciation of the exchange reacts immediately, mainly for psychological reasons, also on the prices of goods of purely domestic character, and the rise of prices becomes general. Then the income velocity of money tends to increase as a direct consequence of the depreciation of the exchange, either because obvious profits are

created to the advantage of producers--profits which they invest in the purchase of goods--or because the working classes and salary-earners whose real incomes are lessened obtain the payment of wages and salaries at shorter intervals."[50)]

Concluding Remarks

In this paper I have tried to show how dangerous the present trend in economics can be, which consists of considering only what was written in the latest issues of the professional journals as relevant to the current theoretical debate, and everything else as pertaining to the history of the discipline.

I have presented the reader with a series of quotations, some from the contemporary, some from the interwar, debate on the vicious circle hypothesis. Can the honest reader really detect any improvement in the analytical content of the modern debate? Arguments and counterarguments in the first debate overlap those of the modern debate to an almost complete and embarrassing degree. I therefore think I can conclude with an exhortation to the members of my profession to lengthen their historical memory a bit more, and to be less certain the "scientific" method they have borrowed from other disciplines warrants their ignorance of the work of the great economists of yesterday.

NOTES

1. On Geminiano Montanari the best available work is a dissertation written by Giovanni Ferri at the University of Siena; Mr. Ferri will shortly publish a journal article on the subject.

2. Ferdinando Galiani's "Della Moneta" has been translated into English by Peter Toscano as "On Money", now available in University Microfilms, Ann Arbor, 1977. On the Abbè's work, the best reference is still, in English, J. Schumpeter's "History of Economic Analysis".

3. The date of his article "German Foreign Trade and the Reparations Payments", Q.J.E., 1922, would probably place Williams as the earliest academic writer to have advanced the full "vicious circle hypothesis". However, this hypothesis, in less logically consistent forms, had been present in the German academic debate in the course of the First World War. On the subject, see J.W. Angell, The Theory of International Prices, Harvard, 1926.

4. F.D. Graham, in his book on the German hyperinflation (Graham, 1930), also seems to subscribe to this view; however, he does not seem to be aware of the arguments of J.H. Williams, K. Helfferich and J. Angell; he quotes William's article and Helfferich's book, but, in the text of his book, where he deals with the "vicious circle hypothesis" he does not refer to them.

5. All the quotations that follow are taken from K. Helfferich, Money, translated by L. Infield, reprint, New York, A. Kelley, 1969.

6. Money, p. 598.

7. Money, p. 601.

8. Money, p. 600.

9. Money, p. 576.

10. Money, p. 597. Note, however, that K. Helfferich does not link this argument to the relationship between the prices of imported and domestic commodities.

11. Money, p. 597-598.

12. Money, p. 603-604.

13. Money, p. 599.

14. Money, p. 598-599.

15. Money, p. 599.

16. Money, p. 602-603.

17. Money, p. 599.

18. C. Bresciani-Turroni, Inflation, 1968, p. 46f.

19. Inflation, p. 47.

20. Inflation, p. 50f.

21. Inflation, p. 62.

22. Inflation, p. 74.

23. Inflation, p. 84.

24. Inflation, p. 88f.

25. Inflation, p. 90.

26. Inflation, p. 90.

27. Inflation, p. 92.

28. Inflation, p. 98.

29. See e.g. Inflation, p. 96.

30. Inflation, p. 98.

31. Inflation, p. 101.

32. Inflation, p. 102.

33. Inflation, p. 103.

34. Inflation, p. 104.

35. Inflation, p. 104f.

36. Inflation, p. 130.

37. Inflation, p. 131.

38. Inflation, p. 132.

39. Inflation, p. 136.

40. Inflation, p. 143.

41. Inflation, p. 143-4.

42. Inflation, p. 145.

43. Inflation, p. 159.

44. Inflation, p. 166.

45. Inflation, p. 174.

46. Inflation, p. 170.

47. Inflation, p. 181.

48. Inflation, p. 176.

49. Inflation, p. 181.

50. Inflation, p. 182.

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