The Vicious/Virtuous Circle Debate in the Twenties and the Seventies

After the monetary earthquake of August 1971, the Yom 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.

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. It is the aim of the present essay to revive that debate, so that it might lead the economists of today to reflect on the wisdom of concentrating only on what is written in the most recent issues of professional journals.

An Overview of the Modern Debate

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 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."

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." In the last two years, however, because of the ideological commitment of the Reagan Administration to minimum interference with the market mechanism, the subject has become fashionable again.

A belief that an appreciating currency would somewhat protect a country against inflation because of the working of some of the mechanisms mentioned before, and thus set in motion a "virtuous circle", was shown by the economic authorities of several European countries. By the same reasoning, they seemed to believe that exchange rate depreciations would trigger off "vicious circles". That this frame of reference was behind the policies of appreciation adopted by several small European countries is emphasized by the contributors to a recent volume on "International Economic Adjustment: Small Countries and the EMS 1983" (de Cecco, 1983).

In addition to the official sources quoted, the "vicious/virtuous circle" hypothesis has recently been analysed by many academic economists. A vicious circle, leading from exchange rate depreciation to inflation, to more depreciation, to more inflation, has been by these writers explained to be the result of a combination of destabilizing speculation, overshooting, and the presence of asymmetries in the wage-price relationship. Most writers have shown awareness that it is difficult to build a rigorous model which will generate vicious circles if precise assumptions are not made about a "validating" monetary policy. And although some writers on the subject have shown confidence that, if precise and peculiar assumptions are made about the behaviour of the velocity of circulation in advanced inflationary phases, vicious circles will be generated, even in this case a "passive" monetary policy will be needed. The issue has thus boiled down to whether it is fair to assume a "passive" monetary policy as theoretically sound or alternatively as determined at a higher level and then superimposed on the other economic variables.

As we shall see in the revival of the old debate, all the ingredients necessary to the concoction of vicious circles had been known to the economists and central bankers who dealt with the subject in the 1920s. These gentlemen had not formalised their analysis but their verbal treatment of the phenomenon was highly satisfactory.[1] Sufficiently so, at least, to enable us to consider the recent debate in no way analytically superior to that which took place in the 1920s.

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 earlier. 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 Ferdinando Galiani, who spent his life in Paris and Naples. Modena, the hometown of Montanari,[2] was a small state, surrounded by other relatively little ones. Small wonder, therefore, that

[1] For summaries on the recent debate the reader is referred to WILLET, T.D. (1979), BILSON, J.F.O. (1979) and BOND, M.E. (1980). The last of these authors is also one of the very few to explicitly acknowledge the existence of the 1920s debate.

[2] 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.

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,[3] who spent most of his life in large countries, like Naples and France, whose level of international interdependence was much lower, expressed greater enthusiasm for the 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 be brought 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

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

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 Bortkiewictz, and defended by J.H. Williams, [4] 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 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 protagonists 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

[4] 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.

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, and much greater, interest the vicious circle hypothesis received by J.H. Williams. A lifelong 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 attributed 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." [5]

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

[5] 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 Williams' 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.

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[6] 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." [7]
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> "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." [8]

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:

> "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

[6] All the quotations that follow are taken from K. HELFFERICH, *Money*, translated by L. Infield, reprint, New York, A. Kelley, 1969.
[7] *Money*, p. 598.
[8] *Money*, p. 601.

> 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)." [9]

As a second element in the causal chain, Helfferich indicated the oscillations in the prices of imported goods. Referring to a table of monthly data of the wholesale price index for the period from January 1920 until March 1923, Helfferich concluded:

> "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 gold 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." [10]

To this piece of statistical evidence Helfferich adds a clearer explanation of the mechanism by which the prices of domestically produced goods are led by those of imported goods: "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. For a more persuasive explanation, Helfferich introduced 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 on the processes of production by the War and its results. 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

[9] *Money*, p. 600.
[10] *Money*, p. 576.

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." [11]

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 race between wages and prices — he wrote — 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, made 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 was, 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.[12]

But why had the Reichsbank done nothing to put a stop to the wage-price spiral? Why had it "validated" it by a sufficient issue of new currency? To explain the Central Bank's policy Helfferich makes use of the famous "how could we" argument, which Havenstein was to repeat in his own account of the German inflation, and which other Governors of Central Banks have since used. To stop the printing press — so the argument runs — would have been possible, but

> "at the cost of uncontrollable crises and catastrophes; because if we were to follow the good advice given to us, and lay aside the noteprinting presses, whilst the factors which adversely affect the German currency continue to operate, we should be depriving German economic life of the media of

[11] *Money*, p. 597. Note, however, that K. Helfferich does *not* link this argument to the relationship between the prices of imported and domestic commodities.
[12] *Money*, p. 597-8.

> 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 stand still." [13]

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 exports 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." [14]

Against the explanation described above Helfferich advances two empirical arguments. For the period from May 1921 until January 1923, he 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 12½ times, the note issue of the Reichsbank 23 times, the wholesale index number for home products 226 times, that for imports 353 times, and the dollar rate 346 times." [15]
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> "... 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." [16]

As to the period from the end of January 1923 until March/April 1923, he maintained that "a depreciation of the currency, measured by

[13] *Money*, p. 603-4.
[14] *Money*, p. 599.
[15] *Money*, p. 598-9.
[16] *Money*, p. 599.

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" had occurred. The fact "that the note issue went on increasing even during the fall of the dollar rate and its stabilisation", was "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 the foreign exchanges had not been completed."[17]

6. "Opposed to the German theories were those which can be called the 'English' (because vigorously upheld by the representatives f 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 depreciated 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."[20]

[17] *Money*, p. 602-3.
[18] C. BRESCIANI-TURRONI, *Inflation*, 1968, p. 46f.
[19] *Inflation*, p. 47.
[20] *Inflation*, p. 50f.

In the summer of 1922, however, Bresciani-Turroni recognised that "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" — he was quick to add — "expenditure was maintained at a high level." But he acknowledged that in this phase "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]

According to Helfferich, the deficit of the balance of payments, considerably aggravated by the reparations payments, was the reason for the depreciation of the mark.

> "But was it not really the case" Bresciani-Turroni objected, that "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" — he added — "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."[22]

This objection only refers to the trade balance. 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 the mark ceasing to be wanted as a "store of value".[23] Concerning this abnormal demand, Bresciani-Turroni raised 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:

[21] *Inflation*, p. 62.
[22] *Inflation*, p. 84.
[23] *Inflation*, p. 88f.

> "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 certain 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." [24]

"And the continuation of the 'validating' monetary policy" — he added — would also "cause distrust to spread continually"[25] thus reinforcing the fall of the exchange rate.

On the delicate issue of the Reparations Payments as a source of devaluation and inflation, Bresciani-Turroni voiced doubts. He recognized that "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 reparation payments."[26] He thought however that 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.[27] He was willing to "admit that the Treaty of Versailles created psychological influences unfavourable to the mark.[28] But why — he asked — were those consequences so serious? They were, in his opinion, because "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." On the other hand, had the quantity of paper money 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

[24] *Inflation*, p. 90.
[25] *Inflation*, p. 92.
[26] *Inflation*, p. 98.
[27] See e.g. *Inflation*, p. 96.
[28] *Inflation*, p. 98.

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."[29]

As to the role of speculation on the depreciation of the German mark, Bresciani-Turroni was of the opinion that it was reasonable "to state that at a certain stage of the depreciation of that currency, speculation played an important role." ..."For some time" — he admitted — "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."[30] Speculation — Bresciani-Turroni stated firmly — was destabilizing:

> "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 businessmen. 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." [31]

After this admission of market failure, however, he was quick to add: "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."[32]

[29] *Inflation*, p. 98.
[30] *Inflation*, p. 101.
[31] *Inflation*, p. 102.
[32] *Inflation*, p. 103.

Bresciani-Turroni was no blind neo-classic. His eyes were keenly intent in following how the real world moved. On the effects of depreciation on the political economy of Germany he said:

"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." [33] "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." [34]

Were we to decipher the theoretical message he wanted to convey in his analysis of the German inflation we would conclude that Bresciani-Turroni, not unlike Keynes in the same period, used the Cambridge version of the quantity theory as his principal analytical tool. As he was interested in the real world, he had to divide the process of German inflation into three phases, so that his facts would better fit his theory.

"In an early phase" — he wrote — "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... Later the system of internal prices was disorganized... 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

[33] *Inflation*, p. 104.
[34] *Inflation*, p. 104f.

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." [35]

He thus saved the Quantity Theory by admitting that there had been phenomena, like destabilizing speculation and price rigidity, which had for short periods interfered with the normal transmission mechanism; he went even as far as to admit that this may have caused some peculiar feedbacks. But without a "validating" monetary policy, "vicious circles" could not have existed:

"...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 production 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." [36]

Firenze

MARCELLO DE CECCO

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[35] *Inflation*, p. 143-4.
[36] *Inflation*, p. 145.