
The German Inflation after the First World War

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The inflation which occurred in Germany after the First World War provides an example of hyper-inflation, and as such has attracted the attention not only of economic historians but also of economic and monetary theorists. Three theories have been employed to explain the causes and effects of this German inflation: the theory of the balance of payments, the theory of inflation and the theory of purchasing power parity. The champions of the balance of payments theory (Karl Helfferich, Moritz Julius Bonn) claimed that the main cause of inflation lay in the balance of payments, which had been in deficit for Germany since the war ended with a consequential decline in the foreign exchange value of the mark with the result that the increased price of imports drove up the general level of prices within Germany itself. They argued that the balance of payments deficit originated in the reparations payments, the flight of capital from the country, the difficulties facing German exports and the loss of cargo revenue from the German merchant fleet which had in 1919 been handed over to the Allies. The soundest factor in this argument was that the fall in the exchange rate of the mark was until August 1923 generally more rapid and pronounced than the rise in prices on the domestic market. The supporters of the "balance of payments" theory are mainly German and have had to counter the claim that their arguments are based on a desire to demonstrate that the reparation payments were intolerable rather than on scientific criteria. Only more recently, at the hands of Karl Hardach,¹ has the "balance of payments" theory been subject to more balanced and unbiased examination.

¹ See his «Zur zeitgenössischen Debatte der Nationalökomen über die Ursachen

The causal sequence appears quite different, however, from the perspective of the champions of the "inflation theory" (Gustav Cassel, Ludwig Albert Hahn, Alfred Lansburgh). For them it was the huge national debt and the massive increase in currency issued by the Reichsbank which caused the major price rises, and it was these which then caused the rapid deterioration in the foreign exchange rate of the mark. Although we neither can nor need discuss more recent and complex variants of the inflation theory here, in its original and schematic form the theory is a continuation and development of the currency theory first advanced by David Ricardo. Its strongest support came from the fact that the excessive expansion of both the national debt and the volume of currency had begun during the war itself — that is several years before the commencement of reparation payments.

Finally, in his comparative analysis of the hyper-inflation in Germany with the lower rates of inflation in the victorious countries Gustav Cassel has developed a theory of "purchasing power parity", in which he argues that during an inflationary period the "normal" exchange rate between two currencies subject to inflation is the same as their former exchange rate but multiplied by the quotient resulting from the respective rates of price increase in the two countries. In the 1920s Cassel's theory was widely accepted, and received considerable support from Keynes, Hahn and Lansburgh. It is, however, valid only in the highly improbable case where international trade exercises no limitation or constraints and where simultaneously there is no appreciable movement of capital influencing exchange rates. Between 1918 and 1923, however, neither of these conditions obtained.

Although the three theories have all helped clarify individual aspects of the problems of Germany's inflation in this period, none of them provides any explanation of its causes, its extent, or even of the phases by which it developed. By concentrating exclusively on specific factors each theory attempts a monocausal explanation wholly inappropriate to a highly complex phenomenon such as Germany's inflation in these years. It is particularly apparent that any purely economic discussion of an economic issue which was as intimately linked with political developments as the collapse of the German monetary system after 1918 is unlikely to be satisfactory. Economic historians were for many years able to chide political historians for neglecting economics, and they were right — but they must not now make the same mistakes themselves, and commit the error of leaving the politics out of economic history.

The first detailed and, even today, the most comprehensive historical description of Germany's inflation was written in 1931 by a contemporary

der deutschen Nachkriegsinflation» in the proceedings of the international conference on *Industrielles System und politische Entwicklung in der Weimarer Republik* (12-17.6.73) at Bochum.

observer who had participated, albeit indirectly, in the events — the Italian economist Costantino Bresciani-Turroni.² Between 1920 and 1929 he acted as a financial expert for the Italian government during various reparation negotiations. As a supporter of the "inflation theory", Bresciani-Turroni argued that it was the German government's mistaken financial policy, and the equally misguided currency policy of the Reichsbank, which were responsible for the collapse of the currency. In 1964 the Danish economists Jorgen Pedersen and Karsten Laursen³ published a study of the circumstances in which the German government evolved their policies. They claimed that the main cause of the inflation and subsequent hyper-inflation lay in the excessively high and uncontrolled level of wages, and pointed out that "the German government was powerless to have fought this given that a deflationary policy must have led to mass unemployment with extraordinarily dangerous political consequences. More recently Peter Czada has suggested new critical approaches to the problems of inflation arising from his research.⁴ He suggests that it was the deficits in the Reich budget which created the first inflationary pressures, and claims that the attempt to control inflation began as late as it did because the industrialists favoured inflation, and continued to do so as long as they could profit from devaluation, and succeeded because the Reichsbank so completely misunderstood the situation.

In a brief survey such as this I cannot attempt to provide fresh research, but I do wish to consider certain aspects of the problem which have not received due attention and to examine certain unanswered questions. Germany's post-war inflation began during the war itself because of the way in which the war was financed. It was only towards the end that the war was financed through increased taxation, and then only on a very limited scale. In general the war was financed by borrowing. Of the total war expenditure of over 185 thousand million marks, only 1/5 (38,000 million) was raised from normal revenue, while 50% came from loans (97,000 million marks) and 27% (50,000 million marks) from the issue of short-term exchequer bonds. Although the Reichsbank used the exchequer bonds as secondary cover for its banknotes in circulation, it was until 1916 able to maintain the prescribed tertiary cover in gold. It was able to do this for two reasons. First it collected the gold coin still in circulation in 1914, and as a result the Reichsbank's gold stocks doubled between 1914 and 1916 from 1,253 million gold marks to 2,520 million. Secondly, the Reichsbank maintained the gold cover not only for the official issue of banknotes but also for an indirect disguised issue which was never openly recorded in the Reichsbank's accounts. The disguised issue was effected through public loan offices which

² *The Economics of Inflation*, London 1968 (Ital. edn. 1931).

³ *The German Inflation 1918-1923* (Amsterdam 1964).

⁴ *Ursachen und Folgen der grossen Inflation in Finanz- und wirtschaftspolitische Fragen der Zwischenkriegszeit* (von H. Winkel, Berlin).

were established after the outbreak of war. Although officially independent, these offices were in fact administered by the Reichsbank. They discounted commercial and treasury bills and exchequer bonds, issuing loan bonds in exchange. As the public banks accepted these loan bonds they were also accepted commercially as legal tender, and in fact became banknotes in their own right. After 1917, however, there was such a volume of currency in circulation that the Reichsbank was forced to underwrite the gold cover officially. Between 1914 and the end of the war the number of banknotes in circulation increased from 2,900 million marks to 18,600 million marks — in addition to which a further 9,900 million marks circulated as loan-bonds. Despite this massive increase in the volume of currency in circulation, which does not include the increase in savings bank deposits, the exchange rate of the mark for the dollar and against its domestic purchasing power in 1914 had by the end of 1918 fallen only by about half. A heavier fall in the exchange rate had been avoided because the blockade had reduced Germany's foreign trade to a minimum. The exchange rate was also held up by the fact that German obligations on neutral countries abroad had been honoured and the Reichsbank had in fact purchased gold from them. The strict rationing of essential goods also prevented steeper price rises occurring at home.

With the ending of the war, however, the collapse of the currency continued apace, and by the end of 1919 the exchange rate of the mark against the dollar had fallen to 1/11 of the pre-war rate. In December 1919 the average rate was 46.80 marks to the dollar, but after the Versailles treaty was concluded in January 1920 the exchange rate in the following weeks fell to about 99 marks. One of the main causes of the collapse lay in the flight of capital out of Germany, and from early 1920 until June 1921 a period of relative stability followed during which the mark averaged 64 against the dollar. But the fall in the foreign exchange rate of the mark began again at the end of May (238,633 dollars = 1,000 million gold marks) in response to the London ultimatum. The decline was now more rapid than in 1919, and by June 1922 the dollar was already quoted at 317.50 marks on average. After the assassination of the Foreign Minister Walter Rathenau (24th June 1922) the exchange rate fell in July to 493.20 marks to the dollar. It was at this point, with the inflationary Reichsbank credits to which we shall return later, that the period of galloping inflation began. In December 1922 the dollar climbed to an average of 7592 marks but it was after the occupation of the Ruhr by French and Belgian troops in January 1923 with the consequent passive resistance on the part of the Germans and the further retaliatory measures adopted by the French that the downward spiral really lapt out of control. In January 1923 the dollar had reached 17,972 marks, by July it reached 300,000 and 400,000 marks, and after August the collapse of the mark had become so total that it no longer functioned as a standard of value with the result that the German economy disintegrated. On 15th

November 4,200,000 million marks were paid for a single dollar, and this was the last quotation before the now valueless paper mark was replaced by the transitional "Rentenmark".

In searching for the causes of these developments one of the first things to strike the observer is the huge deficit on the Reich's budgets throughout these years. Not only was this the case at the start of the inflation during the war, but also during the inflation after the war had ended, for the Reich remained in heavy deficit even after 1918. Regular revenues failed to cover even half of the Reich's expenditure during the first years of peace — in the financial year 1920/1 they covered 34%, in 1921/2 44%, in 1922/3 38%. In these immediate post-war years the Reich budget was burdened with the extraordinary expenses of demobilisation, of posting troops to deal with local uprisings, of maintaining the occupying forces in the Rhineland and Palatinate, all of which made a return to balanced budgeting extremely difficult. The Reich also suffered considerable loss of revenue as a result of the inflation, for in the case of assessed taxes (income tax, corporation tax etc.) there was normally a gap of some 18 months between the time of assessment and payment. Devaluation then decreased the income both of the Reich itself and of the various regions.

At the time the Reich government was frequently accused abroad of deliberately failing to attempt to create a balanced budget so that Germany could use her inflation to prevent her meeting her reparations obligations. However in 1919/20 the government did make a serious attempt with the Erzenberger financial reforms to create greater and more productive sources of revenue and to make stronger claims on the rich and wealthy in order to divide the tax burden more equitably in favour of the weaker social groups. This did not succeed, however, and throughout the period of inflation it was only those with large incomes and fortunes who profited from the devaluation of the assessed tax burden. The government was then unable to escape the harmful effects of inflation in their tax policy, and as a result over half of the Reich's expenses had to be financed by the issue of treasury bills. Consequently the floating debt rose from about 50,000 million marks at the end of the war to 800,000 million by July 1922.

How important a part did reparations play in this deficit in the Reich's finances? The incidence of cash reparations was slight, and before the implementation of the Dawes Plan Germany had paid only 1,700 million gold marks in cash reparations (in gold and foreign currency). The reparations in kind were of much greater importance, however, and by German calculations the Reich had by 1924 paid the value equivalent of 19,000 million gold marks in reparations in kind (merchant shipping, railways plant, coal, factory equipment etc.). The Reich was forced to purchase these goods on the domestic market and then charge them against its budget, with the result that the reparations in kind effectively deprived the German national economy of these goods. However, by 1924 these losses had been made up for the

greater part. Devaluation made it easier for their replacement to be effected through credit. Between 1920 and 1923, for example, more ships were built in German shipyards and at German expense than in the years before 1914. Due to wartime losses and the obligation of surrendering all vessels over 1,600 tons as reparations, the German merchant fleet had declined from 5.13 million tons in mid-1914 to only 0.4 million tons in the summer of 1919, but by the start of 1924 it had once again expanded to 2.9 million tons. The Reich railway system by 1924 had not only made good losses of locomotives and rolling-stock due to war damage and reparations, but even had a larger stock of locomotives and wagons than the Imperial railways of 1914 which of course covered a much larger territorial area. In 1921 and 1922 reparations payments almost entirely accounted for the regular revenues of the Reich, and in 1920 had taken up $\frac{2}{3}$. This additional expenditure, then, to which must be added the cost of replacing the losses to the Reich railways resulting from reparations in kind, was financed almost exclusively through increasing the Reich's floating debts. This is the link between reparations — especially the reparations in kind — and the deficit in public finances, on one hand, and the growth of inflation on the other.

This cause and effect mechanism does not, however, explain the enormous extent of the inflation after the summer of 1922, for it was then that the effects and contribution of the Reichsbank's policies began to be felt. Starting in the summer of 1922 the Reichsbank began to make highly inflationary credit available to private economic enterprises. The rate of interest charged for these credits was so far below the true level of devaluation, that when the credits matured they represented only a fraction of their original value. In the summer of 1922 when the mark had descended to $\frac{1}{100}$ th of its previous value the Reichsbank charged 25% interest, while in the summer of 1923 when the mark stood at one million of its 1914 exchange rate the Reichsbank charged 85% interest. The effects of this policy are evident from the accounts of the Reichsbank in the sudden increase in commercial bills after the inflationary credits had begun. Between 30th June 1922 and 30th September 1922 the Reichsbank's supply of currency bills grew from 4.8 to 50.2 thousand million marks. But while the stock of currency increased tenfold, the price index increased by between four and fivefold. The inflationary credits not only made it easier to finance the replacement of the goods lost as reparations in kind, but more important made investment good business and so released a wave of investment. Thus far one can claim that the inflation enabled the German economy to renew its productive structure and infra-structure.

It would be mistaken to believe that either the government or the Reichsbank had deliberately encouraged inflation in order to bring this about, or that they had sat back while it developed without adopting measures to control it. Even as late as the winter of 1922/3 the government and the Reichsbank were still trying to stabilize the currency. They attempted to

negotiate a stabilizing loan from American, Dutch and Swiss banks and were prepared to pledge gold as security, but such a loan would only have been advisable — and indeed could only have been granted — had reparations payments been postponed for some years. This could not be done, however. It could rightly be claimed that these negotiations were not exactly energetic attempts at stabilization, that the Reichsbank's credit policy was in any case at odds with their desire for currency stabilization, and that the administration of the Reichsbank at this time seemed unaware of the contradiction. Until the autumn of 1922 it seems to have been unaware of the impending catastrophe and had not even begun to appreciate the difficulties of breaking out of the inflationary cycle. This is clearly apparent from the tone of the statements made by the president of the Reichsbank, von Havenstein, and his deputy, von Glasenapp, during their discussions with the government.² A severe credit restriction such as that introduced by the new president of the Reichsbank, Schacht, following the 1924 currency reform was not considered feasible by either the bank or the government in the social and political circumstances of the post-war years in view of the danger of creating mass unemployment. Mass unemployment would have considerably increased political instability in the early years of the Weimar Republic. Relying on such arguments, industrial interests had little difficulty in ensuring that credit and tax policies were organized in such a way that industry was able to finance large investments. In fact, until the end of 1924 defeated Germany had a comparatively lower rate of unemployment than the Netherlands, Sweden, Belgium and Great Britain. In October 1922 only 1.4% of German trades union members were unemployed, compared with 14.1% in Britain, 9.6% in the Netherlands, 15.5% in Sweden and 3.9% in Belgium. It is necessary to bear in mind, however, that there was a greater degree of trades union organization in Germany than in the other countries. But even if we allow for the varying degrees of unionization, the German unemployment rate remains exceptionally low. This is one reason why the German trades unions did not resist the government's tax and credit policies very resolutely, for the benefits handed out to the entrepreneurs did ensure full employment at a time when unemployment in other countries was very high.

The occupation of the Ruhr by French and Belgian troops in January 1923 constituted a turning point, however. The occupation of the largest industrial area in Germany was intended as a sanction against the delayed payment of reparations in kind. The threat of military action against the Reich's government was not new or sudden, and the reparation payments subject to delay were not great. They could easily have been delivered in fact by the requested date in order to have avoided the occupation of the Ruhr. The government under Cuno's leadership let the situation slide until the Ruhr was occupied, which gives rise to the question of whether it was deliberately following a catastrophe policy in order to free itself from the obligation of paying reparations even if this meant destroying the whole

economy? Such suspicions have often been voiced. They find some support in a memorandum made by the then Secretary of State at the Chancery⁶ to the effect that the government intended to put France and Belgium in the wrong. That such disproportionate severity had been employed to punish what was merely a trifling delay in making the stipulated reparations would certainly strengthen Germany's position in all future negotiations over reparations. Allowance was made not for the collapse of the monetary and financial system but for the difficulties of maintaining public welfare (were there a coal shortage), of mass unemployment and in its wake political unrest which might intensify and «lead to the dissolution of the Reich». The government's fears and calculations were in fact pretty accurate, and Germany did obtain better terms for reparation payments after the occupation of the Ruhr — but of course only after the German financial and monetary systems had collapsed as well. Then in the autumn of 1923 the rising in Bavaria and the separatist movements in the Rhineland and the Palatinate threatened to bring about the dissolution of the Reich.

First of all, however, the occupation of the Ruhr hastened the collapse of the German currency. The government called for passive resistance to the occupation and France retaliated with a blockade on the transfer of all taxes from the occupied to the unoccupied areas. The loss of revenues from this largest and richest industrial area in Germany was only partly compensated by additional short-term loans and ultimately by increased issue of banknotes. It was then only a matter of time before the economic and financial system collapsed, but it was only at this moment that serious plans for restabilizing the currency were drawn up. The progress of the inflation had now become so catastrophic that no one benefited any longer, and the unemployment rate began to rise very steeply. There was no longer anything to be gained by letting the inflation continue unchecked, and those very dangers which in 1922 had been seen as the consequences of an anti-inflationary policy (unemployment and political unrest) now came into being as the consequence of hyper-inflation. The need for decisive measures to break the inflationary spiral was now accepted: a drastic drop in the exchange rate, the destruction of all cash savings, severe austerity in state budgeting, credit restrictions and even temporary bans on Reichbank credit facilities. In the desperate situation at the end of 1923 these measures were accepted by the German people. A year earlier the bank and the government could have obtained the same effect — the stabilization of the currency — with similar measures, but at a much lesser cost. But this can be no more than a hypothetical verdict, for it is very doubtful whether the German nation was psychologically prepared to tolerate such measures one year earlier.

⁵ See *Akten der Reichkanzlei, Weimarer Republik*.

⁶ See *Akten der Reichkanzlei, Weimarer Republik: Das Kabinet Cuno* (Boppard 1968) p. 122.