

Financial Systems in Europe: the Case of Germany

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1. Introduction

Germany's financial history since the First World War is a showcase of almost all possible monetary-policy constellations and courses: inflation and deflation, reaching at times extreme rates; two currency reforms; policies of generally dear and easy money; periods of primarily growth and employment orientation and periods of extreme fixation on price stability; situations of dependence and of independence of political influence on the one hand and of foreign monetary developments on the other; weak-currency situations and key-currency positions; floating and fixed exchange rates; periods of foreign-exchange control in general and periods of control of international capital movements to stem the tide of either outflows or inflows; and more.

I will concentrate my study on the policy choices of Germany's central bank in typical cases of conflict between price stability and "real" economic policy goals: between growth and employment on the one hand and between stability and efficiency of the economy on the other. Taking a chronological approach, I will deal with these issues in the following three major sections of this paper: the inter-war period with flexible and fixed exchange rates and extreme crises; the late 1940s to 1973 with fixed exchange rates and rapid economic growth; and 1973 to the present with generally flexible exchange rates and slow growth. I will conclude with a summary: lessons from historical experience.

In this paper I focus on one question and one proposition: I ask whether economic growth and employment are better served by monetary policy when the central bank's scope for action is restricted, either by being dependent on the government or by being tied into a fixed-exchange rate system. I also look for evidence supporting the following proposition: when the central bank keeps real interest rates above the growth rate of the economy, growth is dampened and unemployment rises; but when it keeps real interest rates below the economic growth rate, growth is stimulated and unemployment falls.

2. The Interwar Period (flexible and fixed exchange rates and extreme crises)

This period was marked in Germany and world-wide by extreme fluctuations in economic growth and price developments ranging from hyperinflation to harsh deflation and in employment levels. Compared to the pre-World-War-I and post-World-War-II period, it was a period of protectionism, high uncertainty and relative stagnation.

The stability of the German economy was badly damaged by the First World War. The combination of strongly expansive fiscal policy with an easy monetary policy in order to finance military expenditure on advantageous terms led to full employment, but also to high inflation, however suppressed by price and foreign-exchange controls. In fact, the government had raised taxes just enough to cover the additional interest payments on its mounting debt. Almost a hundred percent of the actual war costs were covered by short- and long-term credit financing.¹ At the end of the War more than half of the short-term credit had been provided by the Reichsbank. It was mainly this government recourse to the printing press that had increased the monetary base in Germany from 7.2 billion marks at the end of 1913 to 43.6 billion marks at the end of 1918.²

¹ Holtfrerich, 1986, p. 118.

² Holtfrerich, 1986, pp. 51, 68.

In 1919 most of the controls on prices were lifted, including those on foreign exchange. This transformed the previously suppressed into an open inflation. In addition, the government continued to find itself in dire fiscal straits, however much military expenditure was reduced. It was confronted with reparation demands and it had to support and to reintegrate millions of demobilized German soldiers into the labour market. While in the spring of 1920 the mark fell heavily on the foreign exchanges, the government kept importing foodstuffs to keep the German population from starvation. It saw the need to restructure the economy from war to peace conditions and subsidized some of the important German industries, such as coal and steel as well as shipbuilding. Throughout the postwar inflationary period, with its conflict between price stability and growth, the government, together with the Reichsbank, opted for growth and employment even to the point of sacrificing the currency totally in the final hyperinflationary phase.

There were both internal and external reasons for making this sacrifice. Internally, the political stability of the young Weimar Republic was threatened by revolutionary movements. These the government wanted to contain by creating full employment and room for nominal wage increases without raising real costs. Walther Rathenau, then government advisor and a year later Germany's minister of foreign affairs, explicitly suggested in January 1921 the printing press should be allowed to run even faster in Germany in order to avoid the depression and the scale of unemployment that was spreading abroad during 1920-21.³ Externally, the inflationary environment provided the government with the opportunity to let the economy boom and at the same time present the appearance of financial exhaustion and inability to pay reparations, although only temporarily. There seems to have been an "inflation consensus" between the government, that rid itself of its internal debt, labour, that benefited from employment and wage increases, and industry and agriculture, that borrowed investment funds at negative real

³ His words are cited in: Holtfrerich, 1986, pp. 210-211.

interest rates and repaid old debt in depreciated currency. And indeed, in Germany, industrial production and real national income grew strongly from its low in 1919, while abroad it was shrinking during the world depression of 1920-21. According to an estimate by Friedrich-Wilhelm Henning, real national income in Germany (index 1913 = 100) stood at 72 in 1919 and increased to 83 by 1922. This is equivalent to an average annual growth rate of 4.9 percent, before the index value fell back to 72 in the final hyperinflationary phase of 1923, with its production disturbances due to German passive resistance to the French occupation of the Ruhr⁴.

But the short-term monetary palliative created a problem with the long-term efficiency of Germany's economy. Much of the increase in the capacity of the iron and steel sector, for instance, had a hard time finding market outlets once the currency had been stabilized. The inflation had not only bred growth and employment, but also a misallocation of productive resources.

After hyperinflation had ended in late 1923 and a fixed foreign exchange rate, as well as foreign supervision of German monetary policy, been put in place with the introduction of the Dawes Plan in 1924, the option of speeding the printing press for growth and employment purposes no longer existed. With the stimulus of a depreciating mark exchange rate gone, a different economic policy recipe was now needed in order to secure the international competitiveness of the German economy and to attract foreign capital investment to Germany. Drastic measures were taken by the government to end the fiscal deficits of the inflation period. The Reichsbank, which had become independent of the government in 1922, shifted to a dear money policy with real interest rates usually higher than the growth rate of the economy. Under these constraints, the German economy had a relatively stable development in terms of prices, but lost its stability in terms of achieving full employment during the "golden twenties" from 1924 to 1929. The problems were

⁴The data on industrial production in Germany (and in France and Great Britain) as well as the estimate for Germany's real national income are reproduced in: Holtfrerich, 1986, pp. 182, 204, 221.

now considered to be structural: wages and contributions to the new social security system were allegedly too high, working hours too low, taxes and regulation by the government too excessive. Nevertheless, economic growth was higher than in the prewar period, as was the growth of labour productivity per man-hour. Before it levelled off in 1929, the average annual growth rate of real GNP was 5.7 percent from 1925 to 1928 and that of labour productivity per man-hour was 2.8 percent from 1925 to 1929.⁵ The former was fuelled by foreign capital inflows on a large scale. The latter was a result of the so-called rationalization movement, in which German industry adopted Taylorist and Fordist production techniques from the United States. During this period of reorienting the German economy toward competing in world markets,⁶ the conflict between economic stability in terms of full employment and efficiency was solved in favour of efficiency.

Depression set in in Germany before it did in the United States with the crash of the stock market in New York in October 1929.⁷ In Germany the business cycle reached its peak already in 1928. The unemployment rate increased from 8.6 percent in 1928 to 13.3 percent in 1929.⁸ Economic growth was already slightly negative in 1929.⁹ In May 1927 the Reichsbank had forced the banks to implement credit restrictions.¹⁰ A month later it had also started to raise the discount rate from 5 percent in May to 6 percent in June, in October 1927 to 7 percent and finally in April 1929 to 7.5 percent.¹¹ As the consumer

⁵ For the data on labour productivity see: Holtfrerich, 1984, p. 130.

⁶ Hardach, 1976.

⁷ As to the role played by diminished foreign capital imports into Germany see the debate between Temin, 1971, pp. 240-248, and Falkus, 1975, pp. 451-465.

⁸ Perzina, 1977, p. 16.

⁹ For time series of the gross and net national product in Germany from 1925 on see: *Statistisches Bundesamt*, (1972), p. 260.

¹⁰ *Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft*, (1929), p. 68.

¹¹ *Deutsche Bundesbank*, (1976), p. 276. Meanwhile, the discount rate had been reduced to 6.5 percent just from January to April 1929. For the Reichsbank policy in general see: James, 1985. For Germany's economic performance during the Great Depression and its causes see: James, 1986. For the quantitative effects of German monetary and fiscal policies on economic growth see: Sommariva/Tullio, 1986, pp. 161-191.

price index rose less than 2 percent in 1928 and 1929, real interest rates were very high and much above the growth rate of the economy. This - in my view - was the main reason for the downturn in the German economic cycle already apparent in 1928.

The world depression beginning in October 1929 made things worse in Germany. By the time the depression reached its low in 1932, Germany's gross national product had shrunk to 83 percent of its level in 1929 in real terms and to 63 percent in nominal terms. Consumer prices had fallen by 22 percent, wholesale prices by as much as 30 percent.¹²

In this period the Reichsbank gradually lowered its discount rate, finally reaching 4 percent in June 1930. But, starting in October 1930, in a frantic race against the withdrawal of capital from Germany after the Nazi Party's first success at the polls, it increased the discount rate strongly to a peak of 15 percent in the first twelve days of August 1931. Note that the last step from 10 to 15 percent had been taken shortly after the banking crisis had broken out in Germany in mid-July. After foreign-exchange controls had been put in place in August, the Reichsbank gradually reduced the discount rate, again finally reaching 4 percent in September 1932. With prices falling, real interest rates nevertheless remained extremely high in Germany.

During Chancellor Heinrich Brüning's term of office from March 1930 to May 1932, he added to the problem by pursuing an extremely restrictive fiscal policy. On account of the depression, the fiscal deficits widened, of course. But Brüning was determined to balance the Reich's budget, irrespective of the costs in terms of falling demand, further shrinkage of the national product and further increase in the unemployment rate. He actually managed to achieve a balanced budget in 1932, after public expenditure had been reduced by about one third since 1930 and many taxes and social security contributions raised. Thus the net credit financing of public budgets had been reduced from 3.6

¹² *Deutsche Bundesbank*, (1976), p. 7. Further data on the decline of prices and wages in: *Untersuchung des Bankwesens*, Part II: Statistiken, (1934), pp. 476-477. Irmeler, 1976, pp. 314-315.

¹³ Albers, 1976, pp. 336-340.

billion Reichsmarks in 1929 to only 0.2 billion in 1932.¹³ Brüning's primary goal behind this catastrophic policy was to convince the Allies that their reparation demands had to be ended once and for all.¹⁴ This goal was reached with the Treaty of Lausanne, signed on 9 July 1932, but only after Brüning had been dismissed from his office on 30 May 1932 and Franz von Papen had taken over the chancellorship on 1 June 1932.

Was there a conflict between stability and growth on the one hand and stability and efficiency on the other during the depression years? And what policy option did the Reichsbank and the government choose? I would argue that there was no conflict in either respect. As prices were falling sharply, there was no price stability. Policies to stimulate growth and employment, i.e. expansive fiscal and monetary policies, would have promoted price stability as well. There was also no conflict between stability and efficiency. With the shrinkage of demand and the national product, low capacity utilization became a big problem for industries with a high proportion of fixed costs in their total costs. As unchanged fixed costs had to be carried by a diminished volume of production, production costs increased in spite of saving on the number of employed workers and on wage rates. Even though variable costs per unit of output could be cut, these reductions could not compensate for the increase in fixed costs per unit of output. The efficiency of the economy suffered heavily. Therefore, policies to improve the price and employment stability, i.e. expansive monetary and fiscal policies, would have served the goal of greater efficiency of the economy as well. This led State Secretary Hans Schäffer, Brüning's closest adviser in fiscal policies, to suggest an expansionary public works programme on 2 September 1931 on a scale corresponding to about 3.6 percent of Germany's GNP in 1931 in order to "moderate an enormous deflation".¹⁵ Brüning was not receptive, as he considered any improvement in the performance

¹³ For Brüning's policy priorities see: Holtfrerich, 1982, pp. 605-631. This article is part of an ongoing debate on Brüning's room for manoeuvre that was initiated by an article by Borchardt, 1979, pp. 85-132. The contributions to this debate are too numerous to be listed here.

¹⁴ Cited in: Holtfrerich, 1982, p. 622.

of the German economy as counterproductive to his primary political goal of ending reparations.

During the Great Depression the conflict was, therefore, not between price stability on the one hand and economic growth or efficiency on the other, but between the foreign policy goal of ending reparations on the one hand and non-conflicting economic policy goals on the other. Brüning opted for his primary foreign policy goal, forsaking an economic policy against the depression. The outcome was the worst depression ever experienced in Germany, which in turn, of course, contributed to the depth of the world depression, the radicalization of the political scene in Germany and the loss of democracy with the Nazi's accession to power in January 1933.

There was no conflict between price stability and economic growth when the Nazis started their expansionary fiscal and monetary policies, which were at first not primarily undertaken for military purposes, but - in view of their promise to their supporters at the polls - for employment purposes.¹⁶ It is said that in the early summer of 1933 Chancellor Hitler asked the financial expert in the Reich's Economic Ministry, Wilhelm Lautenbach (later called the German Keynes), whether it was true what the Social Democrats and the bourgeois parties had held against him, namely, that by expansionary policies he would cause inflation. Lautenbach answered: "Herr Hitler, you are now the most powerful man in Germany. But you are unable to do one thing: under the present circumstances you cannot produce an inflation, not even with as much effort as you may be making."¹⁷

The Nazis thereafter took expansionary fiscal policies much further than Brüning's two successors, Franz von Papen and Kurt von Schleicher, had done in the previous half year after the end of reparations in Lausanne. Hjalmar Horace Greeley Schacht, reinstated by Hitler as Reichsbank president, kept the discount rate at 4 percent throughout the 1930s, but he consented to discounting large volumes of treasury bills in disguise, especially the so-called *Öffa* and *Mefo*

¹⁶ Albers, 1976, p. 360. The armaments build-up started on a big scale as late as 1935. Imler, 1976, p. 326. See also: Overy, 1985.

¹⁷ Röpke, Preface to: Lautenbach, 1952, p. X.

bills, the former for work-creation, the latter mainly for military programmes.¹⁸ Schacht obviously thought - as his predecessor Hans Luther and Chancellor Brüning should already have done - of "reflation" in order to create growth and employment without provoking an "inflation". For, after full employment had been reached in Germany in 1936 and inflationary pressure had built up, he demanded in 1937 that the government should no longer make use of the Mefo bills, but should buy back the outstanding ones, as had been agreed upon in 1933, when the devices for deficit financing had been introduced. He was so determined on this point that he threatened his resignation if the government did not comply with his demand. After the government had agreed only to the exchange of the Mefo bills for another type of obligations in 1938, Schacht and the whole Reichsbank directorate wrote a harsh letter to Hitler on 7 January 1939 that led to his and most of his colleagues' dismissal. Walther Funk, who had already succeeded him as Reich Economics Minister in early 1938, was chosen to be Schacht's successor at the helm of the Reichsbank, too. The Reichsbank Law was changed on 15 June 1939: Germany's central bank was totally subjected to instructions and supervision by Hitler himself, after preliminary steps in this direction had been taken, starting in 1933.¹⁹ Funk and the new directorate did nothing to stop the inflationary financing of the war that soon broke out. They even lowered the discount rate of 4 percent, in force since 22 September 1932, to 3.5 percent on 9 April 1940. Inflation became open-ended. Price controls and rationing supplanted market forces and led to the huge monetary overhang with which Germany came out of the war. The problem was not solved until West Germany's currency reform of 20 June 1948, introducing the Deutsche Mark, reduced monetary assets to about 6.5 percent of the Reichsmark's nominal value.

Let me present a few figures for the performance of the Nazi

¹⁸ As to these devices for credit expansion see: Schiller, 1936. Stucken, 1964, pp. 122-123, 149-150.

¹⁹ As to the changing relation between the Government and the Reichsbank see: Holtfrerich, 1988, pp. 105-159, specifically for the Nazi period pp.133-139..

economy, at least for the period up to the war. In the seven years from 1932 to 1939, GNP increased in Germany by an average growth rate of 8.9 percent p.a.,²⁰ while the official consumer price index rose at an annual rate of only 0.7 percent.²¹ Practically all of the almost 6 million officially unemployed persons of 1932 were reintegrated into the job market. Note that the real interest rate in Germany during this period was kept relatively low, much lower than the growth rate of the economy. The Nazi "economic miracle" confirms my general point that this constellation promotes economic growth and an increase in employment.

We can also see from this account that the macroeconomic policy mix during the first three to four years of the Third Reich served both economic growth and stability in terms of price development and employment. There was no conflict between these policy goals. The conflict emerged in 1936, when the official unemployment figure was down to 1.6 million persons, which was considered the necessary labour market reserve to preserve price stability without price and wage controls²². The Reichsbank under Schacht in this situation began fighting to give priority to the price stability goal and therefore demanded that the government should end its deficit financing. The government, however, gave priority to growth, carried away by its determination to prepare for the war with huge armament expenditure. It put up with an overheated economy and the resulting inflationary pressure. It finally crushed the resistance of the Reichsbank, as we have noted above.

As to the conflict between stability and efficiency, the account is somewhat different. It is true that unwinding the low-capacity utilization of 1931-32 increased the economies of scale and thus the efficiency of the German economy, during the first two or three years of the Nazi regime. However, it was not a goal as such, but a by-product of employment policies. When large-scale armament production plants, partly as public enterprises, were set up, starting in 1935-36, efficiency considerations took second place to the

²⁰ Computed from the data in: *Statistisches Bundesamt*, (1972), p. 260.

²¹ Computed from the consumer price index figures in: *Deutsche Bundesbank*, (1976), p. 7.

²² Irmeler, 1976, p. 321.

maximization-of-output principle in preparation for the war²³. And there is another aspect. The efficiency of the German economy was badly hurt by the policy of autarky that had been started in the foreign-exchange crisis of the summer of 1931 with the introduction of foreign-exchange controls and an increased foreign-trade protection of German agriculture. With the help of Schacht and the Reichsbank, the Nazi government, with its anti-liberal stance against international capitalism, made autarky a policy goal and developed it up to the point that not only multilateral trade and payment relations were turned into bilateral ones, but also production plants for substituting imports were set up in Germany, for example for synthetic rubber. This came about at the price of a loss in efficiency, an experience that the communist world was to have for a much longer period and that contributed considerably to its eventual downfall. In sum, during the conflict between stability in terms of employment and efficiency during the first three years of the Nazi regime, the government opted for stability and forsook efficiency, as far as the international division of labour could have contributed to it. Thereafter, when inflationary pressure built up, there was no conflict between improving price and employment stability on the one hand, and greater efficiency by integrating the German economy into multilateral trade relations with the world on the other. But neither stability nor efficiency were given priority. Autarky was preserved for reasons of ideology and transforming Germany into an economically self-sustained fortress in preparation for the intended war. Economic considerations were overridden by political and military aims.

3. From the late 1940s to 1973 (fixed exchange rates and rapid growth)

This period was generally characterized by an unusually high growth of productivity, of employment and of the economy as a

²³ Christoph Buchheim is at present devoting a lot of research effort into showing just this. See also: Buchheim, 1994, pp. 97-119.

whole, not only in West Germany, but in the world.²⁴ At the same time, it was characterized by the absence of deflation and of extreme fluctuations in output and prices. It was rather a period of creeping inflation. Central banks and governments shouldered responsibility not only for price and currency stability, but for full employment as well.

The stability of the German economy was badly damaged by the Second World War. The combination of a strongly expansive fiscal policy with an easy monetary policy in order to pay for military expenditure, while drafting a large part of the German male labour force into the army kept labour in extremely short supply. The gap was not only filled - as in the First World War - with German women, but this time also with forced labour from concentration camps and especially with foreign labour from occupied territories. As in the First World War, both the expansive fiscal and monetary policy-mix led to high inflation, this time, however, much better suppressed by rationing as well as by price and foreign exchange controls and the death penalty for economic crimes, i.e. for violating the official rules.

In contrast to the First World War, part of the much higher war expenditure in nominal (about 500 billion Reichsmark) and in real terms was covered by increased taxation. In addition, resources transferred from occupied and allied countries made up for one fifth of the total expense. But 350 billion Reichsmark had to be financed by credit. Government debt at the end of the war amounted to almost five times the German national income of 1938. In 1918 it had been only about three times the national income of 1913. Again, government paper was placed with the Reichsbank with the result that the monetary base increased 7.5 times between the end of 1938 and the war's end. During the First World war it had increased "only" 5.5 times.²⁵

The Allied Control Council, instituted by the victorious powers in place of the German government, was determined not to let the hyperinflationary experience of Germany happen again after the

²⁴ Maddison, 1989.

²⁵ Holtfreich, 1996, pp. 42-44.

Second World War. The Reichsbank was shut. But the whole rationing, price and foreign-exchange control apparatus installed by the Nazis was kept intact. Only the death penalty on economic crimes was lifted, at least in the Western zones of occupation. This might explain why black marketeering in West Germany developed under the Allied occupation, which it had not done to any significant degree under the Nazis.²⁶ The control economy suited the ideology of the Soviets, but not that of the Western powers. Especially the Americans were planning an early monetary reform already in 1945 in order to get rid of the monetary overhang and return to a free-market economy. But monetary reform belonged to the rights reserved to the Allied Control Council, where mainly the Soviets dissented on this issue. It was only after the Soviets had left their seat in the Allied Control Council over differences with the Western powers on 30 March 1948 that plans for a monetary reform in the Western zones materialized. A new central bank (Bank deutscher Länder) had already been founded on 1 March 1948. The D-Mark was introduced on 20 June 1948. The conversion rate of the old Reichsmark reduced the volume of money to 6.5 percent. The rationing and control system was quickly lifted.

In the period up to June 1948 there was a conflict between growth and stability. There was a huge inflationary potential in the economy. The military governments of the Western Allies increased taxes to extremely high levels. Thus, with additional subsidies from their home countries, they did away with the deficits in the public budgets. Although inflation was suppressed by administrative controls, the huge availability of money probably contributed to the pre-currency-reform recovery of the German economy. Industrial production in the British and American occupation zones started out with only 15 percent of its level of 1938 in the second half of 1945. It rose to about 31 percent in 1946, 37 percent in 1947 and 53 percent in the first quarter of 1948.²⁷ There was no scarcity of money and the real interest

²⁶ This is contended by: Stucken, 1964, p. 167. Balabkins, 1983, p. 365. Boelcke, 1986, pp. 9-31.

²⁷ Abelshauser, 1980, p. 35. Abelshauser, 1983, p. 34.

rate was certainly far below the rate of economic growth. Credit, however, was not easily available, as the money and capital markets were not yet functioning properly.

The growth of the West German economy that followed the currency reform was even more spectacular. Industrial production increased by 50 percent in the second half of 1948.²⁸ In this case it was the lifting of controls and the return to market-economy conditions - in tandem with the introduction of the D-Mark - that speeded economic growth. The efficiency of the economy was restored, which is evident from the fact that, despite the extremely high growth rate, the number of unemployed rose from 450,000 at the time of the currency reform, to 800,000 at the end of 1948.²⁹

But inflation was a problem in the second half of 1948. As with the currency reform, formerly hoarded goods became suddenly available in the shops and households quickly used their allotted D-Marks for purchases. Between June and October 1948 the cost of living rose by around 14 percent. The central bank saw the need for action in this conflict between price stability and growth. It acted in November. Minimum reserves were increased slightly. But the central bank council refused to increase the discount rate, because it saw relatively low interest rates as a prerequisite for high investment and growth. Instead it took the interventionist approach and ordered guidelines for selective credit control (until 22 March 1949). From the end of 1948 prices began to fall. This was not primarily the result of the credit-control measures, which turned out not really to retard the growth of credit.³⁰ But it was due to more saving by households and surpluses in public budgets, to a recession in the USA with prices for primary goods on world markets falling and, finally, to the stabilizing effects of the Marshall Plan aid starting at that time.

Industrial production grew by almost 25 percent in 1949,³¹ but

²⁸ Holtfrerich, 1995, p. 499.

²⁹ Holtfrerich, 1999 (Monetary Policy), p. 328.

³⁰ In the case of the Deutsche Bank the volume of credit increased by a factor of two to three between September/October 1948 and November 1949. Holtfrerich, 1995, p. 499.

³¹ Ritschl, 1985, pp. 164-165.

unemployment increased from 800,000 at the end of 1948 to 1.3 million in the summer and autumn of 1949 and to almost 2 million in February 1950. This, again, demonstrates the leap in efficiency that the German economy achieved after the currency reform.

Import activity in 1949 was so intense that West Germany developed high deficits in its balance of trade in 1949. The D-Mark had to be devalued, although less than the pound sterling, on 19 September 1949. With prices falling and increasing unemployment domestically and a negative trade balance and weak currency externally, the central bank found itself in a dilemma that was to repeat itself - although with the opposite constellation - several times in Germany during the following decades: the conflict between internal and external equilibrium. In this instance the central bank did lower its discount rate in two steps from the 5 percent in force since the currency reform to 4 percent on 14 July 1949, thus giving preference to domestic over external stability. It declared itself in agreement with the West German government under Chancellor Konrad Adenauer and with the Allied High Commission that German economic policy would have to concentrate on stimulating exports.⁵² With preferential export credits and other measures this policy turned out to be successful initially. Until the Korean War broke out in June 1950, exports and the investment-goods industry picked up steam without endangering price stability. In June 1950 the number of unemployed was 450,000 lower than at its peak in February 1950 of almost 2 million persons.

The Korean War changed the whole picture. It led to an explosion of demand on world markets and domestically. Industrial output in West Germany rose by 20 percent in the second half of 1950. With it came inflation, at first especially for raw materials and producer goods. In addition, another foreign-exchange crisis began to emerge as Germany liberalized its imports and used up all its credit lines in the newly founded European Payments Union (EPU) to import as much

⁵² Holfrerich, 1999 (Monetary Policy), p. 332. Where not otherwise noted, the following text relies on this source.

raw material and semi-finished goods as possible in order to equip its export industries. The central bank raised the discount rate from 4 to 6 percent on 27 October 1950. But, in view of inflation, this was a low, if not negative real interest rate. The central bank did not go higher and demanded a restrictive fiscal policy instead, arguing that it was not possible to counter a foreign-trade deficit solely by means of credit policy, "otherwise we will run the risk of depressing economic activity as a whole".³³ Its concern was more for external than for internal stability, although there was no conflict: both required the raising of interest rates.

But there was a conflict between stability and efficiency in the economy. Administrative controls on imports - though already on a reduced level - were still in place when the crisis broke out. They were reinforced in order to overcome the balance of payments deficit. This went against the aims of Economics Minister Ludwig Erhard, with his strong belief in the market economy. It also ran against the wish of the president of the directorate of the Bank deutscher Länder, Wilhelm Vocke, who said of 1950 that there had been a "much more far-reaching and profound cramping of economic life by state intervention ... than at present [1956]".³⁴ He himself had been in favour of higher increases in the discount rate instead of the return to administrative controls. But he had been outvoted. In this instance efficiency was sacrificed in favour of stability.

The moderate discount-rate hike and restrictions on imports by administrative controls did not solve the problem of the balance of payments crisis. The EPU came to rescue. In November 1950, the first EPU special credit provided to any country was granted to West Germany, which was never again to find itself on the debtor side. When the foreign-exchange crisis reached a second peak in February 1951, the central bank council - with a view to preserving economic growth - still refused to raise the discount rate further. Happily, the Korea boom world-wide continued and had pulled the German

³³ For the quotation see: Dickhaus, 1996, p. 90.

³⁴ Vocke, 1956, Foreword by Volkmar Muthesius, p. 14.

economy out of its balance of payments crisis already by May 1951.

From then on, throughout the period of fixed exchange rates, West Germany generally had surpluses in its balance of payments. Its strong position in exports became the driving force behind its “economic miracle” during the 1950s and 1960s.³⁵ It was the result of what I call “monetary-policy mercantilism”. That this was a planned strategy and not merely the outcome of fortuitous conditions is evidenced by a speech of Wilhelm Vocke on 17 May 1951:

“Of course, the high rates of inflation have been a cause of great concern to us, but if you compare these with the foreign price levels and with the rates of inflation in other countries, you will see, with satisfaction, that we have consistently remained below them. And that is our chance, that is decisive, for our currency and especially for our exports. Raising exports is vital for us, and this, in turn, depends on maintaining a relatively low price and wage level. ... As I have said, keeping the price level below that in other countries is the focal point of our efforts at the central bank, and it is a success of those efforts. That should be borne in mind by those who say to us: your restrictive measures are too tight, are no longer necessary.”³⁶

In his 1955 study of German monetary policy, Robert Emmer found that the Bank deutscher Länder had always also pursued, in addition to price stability, output-related and foreign-trade-policy goals. In cases of conflict it had, he noted, accorded priority to the foreign-trade goal.³⁷ Henry C. Wallich observed in the same year that German monetary policy had been hesitant in deploying domestic expansionary measures, in order to create a “capacity reserve” for more exports.³⁸

Germany’s monetary-policy mercantilism was most acute during the period 1951 to 1956, because it was supported by fiscal-policy measures. These took in the forms both of special tax concessions for exports (Export Promotion Act of 1951) and of guarantees for export

³⁵ Lindlar, 1997. Giersch/Paqué/Schmieding, 1992.

³⁶ Vocke, 1956, p. 56.

³⁷ Emmer, 1955, p. 69.

³⁸ Wallich, 1955.

level fiscal policy also contributed to export promotion credits (Hermes guarantees). On the macroeconomic terms by repeatedly posting budget surpluses, purchasing power that was accumulated at the central bank and thus sterilized ("Juliusturm", which was tapped in the second half of the fifties to build up the newly-created German military forces). On top of this came the enormous contribution made by the public sector to the macroeconomic savings-to-income ratio: 44 percent of the total between 1948 and 1960.³⁹ A similar effect was achieved by the generous public support for private saving.⁴⁰

Actually the mercantilist strategy was pursued almost until the end of the Bretton Woods period of fixed exchange rates, as Hajo Riese has pointed out. According to Riese, the strategy of the Deutsche Bundesbank and of its forerunner, the Bank deutscher Länder (until 1957), was directed, in the final analysis, not towards price stabilization as such, but rather, to put it most graphically, towards "combining the strength of the Deutsche Mark with its undervaluation."⁴¹

The strategy worked very well in a cooperative international environment, in which - in contrast to the inter-war period - trade barriers were constantly reduced, by world-wide GATT and regionally by OEEC and EPU, and foreign-exchange controls gradually eliminated. The economy grew at an average annual rate of 7.9 percent during the 1950s and 5.4 percent from 1960 to 1973. Real interest rates remained far below these growth rates. The unemployment rate came down to 5.6 percent by 1955, when a rate of 5 percent was considered to be full employment. But it fell much further. With a few exceptions, it lay below 1 percent during the period 1960-73. This was considered "over-employment", a situation that drew many foreign workers into the German labour market. But then there was also some upward pressure on the development of prices. Whereas after the Korea boom the cost of living increased only 1.1 percent p.a. on average from 1952

³⁹ Stolper/Roskamp, 1979, p. 388.

⁴⁰ Details in: Holtfrerich, 1999 (Monetary Policy), p. 346, footnote 115.

⁴¹ Riese, 1990, p. 11,13.

to 1959, this inflation rate was 2.7 percent p.a. during the 1960s and increased to even 5.3 percent p.a. during 1970-73. But on the whole, price performance was much better in Germany than in most other countries. Within the framework of fixed exchange-rates, this rendered the German economy, which for structural reasons was internationally very competitive anyway, even more competitive. Large export surpluses developed and strong international pressure to revalue the D-Mark occurred several times. Each time, large volumes of foreign capital flowed into Germany in order to participate in any revaluation gains. Under the terms of the Bretton Woods Agreement the Bundesbank was obliged to exchange the inflowing dollars into D-marks on demand. Thus it was forced to increase the money supply. Starting in 1956 and through the 1960s this led to heated discussions about "imported inflation".⁴²

Efficiency of the economy was not a major concern in Germany during this period. The lowering of trade barriers put German producers under sufficient pressure to modernize. With high economic growth and the immigration of workers, mainly from East Germany until the construction of the Berlin Wall in 1961 and thereafter from foreign countries, rapid structural adjustments occurred, not least because immigration labour was almost perfectly mobile.

But the Bundesbank's room for manoeuvre in executing stabilization policies was extremely limited under the conditions of the fixed exchange-rate system. With unusually high growth rates and more than full employment, the typical conflict between price stability and economic growth could have been rather painlessly solved. Both price and growth developments needed dampening. As the economy was overheated most of the time, economic development would have been more balanced. But the Bundesbank's power to protect price stability at the expense of growth was undermined by another conflict: the one between internal and external stability. The more price stability at home, the more surplus on the external account and the greater

⁴² The later Bundesbank president Otmar Emminger coined the term in 1956. See: Emminger, 1986, p.79.

the potential for “imported inflation”.

The first such conflict materialized in 1955, when the booming economy approached full employment and when the D-Mark became *de facto* convertible. Export surpluses and capital imports, the proceeds of which had to be exchanged for D-Marks by the central bank, expanded the money supply and boosted demand. In this situation Germany’s central bank very hesitantly used restrictive measures: mainly some open-market operations as well as a completely insufficient increase in the discount rate from 3 to 3.5 percent on 4 August 1955. It relied instead primarily on the government, which reduced import duties unilaterally in order to reduce the export surplus and exert a stabilizing effect on prices in the domestic market. It declared that more restrictive monetary measures were inappropriate for external reasons.⁴³ In this conflict between stability and growth, the central bank - under pressure from the external account - opted for growth and left most of the stabilizing measures to the government. Efficiency of the economy, of course, was served by increased competition from liberalized imports. But this was a side-effect.

In 1956 the central bank council did raise the discount rate more strongly, in two steps, to 5.5 percent on 19 May. This provoked harsh criticism by Chancellor Adenauer, who feared that the intended slowdown in economic activity would harm his prospects of winning the next election in 1957. But as the central bank was politically independent, it could bear this criticism with poise. The real pressure developed from the external account. The restrictive monetary measures aimed at dampening domestic demand showed perverse effects for the first time. The Bank spoke of the external position developing “against all the rules”.⁴⁴ Although the ongoing boom in Germany should have increased imports more than exports, the opposite was the case, i.e. the export surplus grew. At the same time, the relatively high interest rates attracted foreign capital into Germany, which ran counter to the Bank’s effort to restrict liquidity in the

⁴³ Bank deutscher Länder, Geschäftsbericht 1955, p. 1.

⁴⁴ Bank deutscher Länder, Geschäftsbericht 1956, p. 7.

economy by the high discount rate. Starting already on 6 September 1956 the Bank began reducing the discount rate in steps to a low of finally 2.75 percent on 10 January 1959, also as a reaction to criticism from abroad, where a high-interest-rate policy in Germany was seen as a cause for the weakness of other European currencies. The Bank switched away from interest-rate policy toward restrictive liquidity policy by selling considerable amounts of government paper on the open market and by raising the minimum reserve requirements, especially on deposits by foreigners in German banks in order to make capital imports less attractive.

By 1956, Economics Minister Ludwig Erhard, his Economic Advisory Council, and Otmar Emminger, member of the central bank's Board of Directors, had recognized that there was a conflict between stabilizing the domestic price level and the D-Mark's exchange rate. The external surplus position was seen as a fundamental disequilibrium, which the statutes of the Bretton Woods Agreement permitted to be corrected by an adjustment of the exchange rate. But the government, with the exception of Erhard, and the Central Bank, with the exception of Emminger, were strictly opposed to any revaluation of the D-Mark, although not to a realignment of currencies via devaluations by the weak. The Bank's way to counter the pressure from capital imports on the D-Mark was the already-mentioned reduction in the discount rate, but, as 1959 and 1960 were to show, to no avail.

At the end of 1958, a year of recession in the USA and of relatively low growth in Germany, all the European currencies of the EPU had been made convertible. The floodgate was now wide-open for international capital transfers. And in Germany economic growth came back with a vengeance, at a rate of 7.4 percent in 1959 and 9 percent in 1960. Yet the export surplus did not diminish and a flood of capital imports streamed into Germany, as a result of expectations speculating on a revaluation of the D-Mark. The Bundesbank was fully aware of the "open flank" of the external economic position. It therefore called on the government to pursue a restrictive fiscal policy to dampen the overheated economy, with an unemployment rate as low as 2.6

percent in 1959 and 1.3 percent in 1960. Inflationary pressure was on the horizon. In 1959 the Bundesbank began promoting the export of money through swap-rate policy. It raised the discount rate to 4 percent on 22 October 1959 and to 5 percent on 2 June 1960. It put a ban on interest payments for foreign money in German banks to counter the capital-import-inducing effect of the higher interest rates. This was a slap in the face of the currency-convertibility agreement reached in Europe at the end of 1958. In addition, the Bundesbank raised the minimum reserve requirements to the legally possible maximum and intensified its open-market policy to reign in excess liquidity. But this "credit-policy broadside" of 2 June 1960 turned out to be a complete failure. One of the reasons was that the FED in America relaxed its - until then restrictive - monetary policy, which practically pushed the Bundesbank's restrictive course "out of the saddle".⁴⁵ In its helpless position, the Bundesbank again turned to the government, demanding more fiscal restrictions to dampen domestic demand and a huge increase in development aid in order to compensate for the growing surplus in the capital account. It saw itself forced to lower the discount rate in two steps to 3.5 percent on 19 January 1961. Against the wish of Economics Minister Erhard, it had abandoned the securing of price stability and left the task to the fiscal policy of the government. Instead, it now concentrated on defending the exchange rate of the D-Mark. Erhard favoured a continuation of a restrictive monetary policy to secure domestic stability, while he also wanted a revaluation of the D-Mark to correct the external imbalance. But the Bundesbank had given up fighting for internal stability with its own tools. At the same time its president Karl Blessing and the majority of the Central Bank Council were vehemently opposed to a revaluation of the D-Mark. This double stance meant that they preferred an adjustment inflation to correct for the external imbalance to a revaluation.

Speculative attacks on the D-Mark, mounting to flood-like proportions at the end of 1960 and in early 1961, helped Erhard put

⁴⁵ Emminger, 1986, p. 14.

the revaluation question on the political agenda. It was the government's prerogative to decide on the D-Mark's parity. Chancellor Adenauer had always declared himself opposed, as were his friends and advisers from the world of business, the industrialist Fritz Berg and the bankers Hermann J. Abs and Robert Pferdmenges. It was Pferdmenges who finally advised Adenauer that it might be prudent to take only a small step in order to take the heat out of developments and at the same time not to antagonize the business world by the 7.7 percent revaluation that Erhard had proposed on the advice of Emminger. In a cabinet meeting, with Blessing present, Adenauer was willing to accept a revaluation of 5 percent, from 4.20 to 4.00 D-Mark to the US-Dollar. "It is much easier to do one's sums at 4.00 D-Mark to the dollar, and we would be showing consideration to those affected."⁴⁶ Even Blessing and the Central Bank Council eventually agreed to this.

In this conflict between stability and growth, the Bundesbank as well as the Adenauer government opted for growth, up to the point of giving up on stability. The interests of export and import-competing industries, which were strongly opposed to any revaluation, were at the time highly respected and heeded by the Bundesbank and the Adenauer government alike. It was economic growth and low unemployment that counted for the government, and even for the Bundesbank, more than the absence of creeping inflation. In fact, some adjustment inflation actually occurred after Germany's first revaluation. The cost of living that had increased only 1.0 and 1.4 percent in 1959 and 1960 did so by 2.3 percent in 1961 and by 3.0 percent each in 1962 and 1963.

During the years from 1961 to 1967 there was hardly any threat to the external stability of the D-Mark. The previously large surpluses in the current-account balance vanished and even turned into a large deficit in 1965, when the German economy was booming for the second year on the basis of strong growth in domestic demand. That the government had been running budget deficits since 1963

⁴⁶ Emminger, 1986, p. 124.

contributed to this. There was hardly any interest-rate differential on the money market between the USA and West Germany.⁴⁷ The capital account was also not spectacularly off balance.⁴⁸ It was a period in which the Bundesbank recaptured some room for maneuver. The economic growth rate had increased from 3.4 percent in 1963 to 6.8 percent in 1964 and remained high with 5.7 percent in 1965. Wages increased considerably more, by almost 10 percent in 1965. Unemployment remained under 1 percent throughout these years. The inflation rate rose to 3.4 percent in 1965 and 3.5 percent in 1966.

The Bundesbank started raising the discount rate in January 1965 from 3 to 3.5 percent and further to 4 percent in August. Worried about the ongoing wage and price inflation it even went to 5 percent in May 1966. The inflation rate actually went down thereafter, to 1.4 percent in 1967 and 1.5 percent a year later. But the monetary brakes also provoked a recession in the Federal Republic, for the first time in its history with a negative growth rate in 1967 (-0.2 percent), while the unemployment rate increased to 2.1 percent. In this conflict between price stability and growth the Bundesbank had opted for price stability and sacrificed growth. But it had been able to do so only because its monetary restrictions - at least in 1965 - served internal and external stability simultaneously and the typical conflict between these goals was absent. But this was only a brief respite.

After the government's strong criticism of the high-interest-rate policy, the Bundesbank - beginning at the start of the recession year 1967 - lowered the discount rate back to 3.0 percent by May 1967. It was now recession at home and a booming world economy that carried the seeds not only of a quick economic recovery, but also of a new version, greater than ever, of the dilemma between internal and external stability. In 1967 and 1968, the current account showed record surpluses. In 1967 it was compensated for by capital outflows, because the USA and the United Kingdom had considerably higher

⁴⁷ See the graph in: Holtfrerich, 1999 (Monetary Policy), p.315.

⁴⁸ *Deutsche Bundesbank*, (1988), p. 255.

interest rates than Germany. But this spread vanished in 1968. Economic growth was back to over 6 percent and accelerated to 7.8 percent in 1969, when the unemployment rate again dropped to under 1 percent. There was still price stability in Germany, while inflation abroad was high. Beginning in 1968, Germany was again attacked by a waves of short-term capital imports speculating on a new revaluation of the D-Mark.

The Bundesbank saw the inflationary potential that was building up both from the domestic boom and from the speculative capital inflows. It recognized that any attempt at cooling the domestic boom by raising interest rates would be undermined by even more capital imports. So it did nothing on this front. Instead, this time it was the Bundesbank that, after a massive speculative attack in September 1968, urged the government to revalue the D-Mark in order to cope with the external stability problem and to regain some freedom of action for domestic stabilization policy. The government refused. After another, even more massive, attack on the Mark's external value in November 1968, the government decided only on a "pseudo-revaluation": a special duty on exports and a tax allowance on imports, each of 4 percent, was introduced, thus leaving the capital account untouched. This measure was totally inadequate. The Bundesbank kept making strong demands for a real revaluation. And despite the open external flank, the Central Bank Council decided to raise the discount rate to 4 percent on 16 April 1969 and further to 5 percent in June and to 6 percent in September. Although the pressure on the D-Mark from speculative capital imports became immense, it took a change in government to bring about a real revaluation of 9.3 percent.

This step was rewarded by massive capital outflows. The Bundesbank was now able to go on with its restrictive monetary policy and raised the discount rate even further to a record level of 7.5 percent in March 1970 in its fight against the accelerating inflation, but to no avail. Inflation remained high and mounted from 3.5 percent in 1970 to over 5 percent in 1971 and 1972. These years before the final breakdown of the Bretton Woods System of fixed exchange rates were

again marked by large capital inflows speculating on further revaluations of the D-Mark. In 1971 the German government was willing to comply. Possibly because the foreign-exchange situation had turned into a crisis of the dollar, in relation to which all parities were fixed, it agreed to a revaluation of 13.7 percent in the Smithsonian Agreement of December 1971. But when the pressure thereafter continued, the Bundesbank convinced the government that administrative controls of foreign-capital transfers would be preferable to a floating of the D-Mark exchange rate and thus to further revaluations.

From 1968 to 1972, despite D-Mark revaluations, the Bundesbank remained essentially powerless to solve the domestic conflict between price stability and growth, the rates of which both remained relatively high. It was caught in the conflict between internal and external stability once again. Only after the end of the Bretton Woods System, in early March 1973, was it free from the fetters of its obligation to defend the parity of the D-Mark externally.

In summing up the period between Germany's foreign-exchange crisis of 1951 and the end of the Bretton Woods System in 1973, one can say that West Germany's central bank was relatively powerless and not the most important source of high monetary growth, which transformed itself into high economic growth. The more important source was what Otmar Emminger called the "Ersatz-Notenbank", the "substitute central bank", i.e. the inflow of foreign exchange, in the 1950s primarily from the current account and in the late 1960s and early 1970s mainly from the capital account. The traditional instruments of stabilization policy deployed by the central bank - increases in the discount and lombard rate and in minimum reserve ratios as well as sales on the open market to counter inflationary forces and dampen economic activity - more often than not proved to be powerless. Any liquidity tied up, any growth of the money stock prevented by the use of these instruments, was far more than offset by the "substitute central bank". In view of this fact, it is surprising indeed that it took the Bundesbank until the end of the 1960s to no longer oppose revaluations of the D-Mark, but rather to ask for one, because it was

the recurrent fundamental disequilibrium of the Mark exchange rate that made the "substitute central bank" on the whole more powerful than the Bundesbank.

On the other hand, fiscal policy played a big part in stabilizing or destabilizing price developments in this period. It was generally, but not always, willing to assume responsibility for the goal of price stability. It did so strongly in the first half of the 1950s, when its large budget surpluses were accumulated in an account at the central bank, the famous "Juliusturm". It was even officially charged with such responsibility in the well-known "Stability and Growth Act" of 1967. But all this sharing of responsibilities for stabilization policy between the Bundesbank and the government broke down with the Bretton Woods System of fixed exchange rates.

4. From 1973 to the Present (flexible exchange rates and slow growth)

The adoption of a flexible exchange rate system in 1973 had liberated the Bundesbank's monetary policy from the fetters that the "substitute central bank" had roped around its room for manoeuvre. It was freed from its obligation to intervene in the foreign-exchange market to keep the D-Mark's exchange rate within the narrow band around its official parity. It could, and did, from then on concentrate on safeguarding the internal stability of the Mark, while until then it had been burdened with the task of guaranteeing the external stability of the Mark as well. Fiscal policy that had participated in responsibility for price stability until then abandoned its role in 1973-74 and shifted it over to the Bundesbank alone. It marked the end of the anti-cyclical policy that the government of the Federal Republic had pursued from the beginning and that had been enshrined in Germany's Magna Carta of Keynesian stabilization policy, the Stability and Growth Act of 1967. How much fiscal policy changed course is best evidenced by its expansionary trend throughout the following decades. Between 1950 and the first half of the 1970s, total government debt in West Germany, expressed as a percentage of GDP, revealed no trend towards

expansion, remaining consistently slightly below 20 percent. The figure has increased more than threefold since then.⁴⁹ A new "assignment" of economic policy tasks had occurred in 1973-74.⁵⁰

The economic policy discourse began to change in the second half of the 1970s; too. From then on until today the trend of economic growth was lower than before and the unemployment rate showed a rising trend until today. Mainly the Bundesbank considered these shortcomings no longer to be a result of the business-cycle, but of structural problems. Market rigidities, over-taxation and -regulation, too-high wage settlements, i.e. supply-side aspects, replaced demand-side arguments in explaining low growth rates and high unemployment, as had been the case in the second half of the 1920s. It was no longer full employment of labour, but full employment of the capital stock regardless of the number of unemployed left behind that the Bundesbank considered a satisfactory state of the business cycle and that served as an alarm to put the monetary brakes on the economy. The early shifting, in 1974, to monetarism, setting goals for and controlling the growth of the money supply instead of targeting interest rates, sufficiently low to induce enough investment and growth of the capital stock in order to attain full employment, was an expression of the new monetary-policy orientation. It had been recommended by the "Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung", the equivalent to the U.S. Council of Economic Advisers, in its annual report for 1974-75.⁵¹ The result was higher nominal and real interest rates than before. As the trend of economic

⁴⁹ Comparable time-series data for other industrialized countries reveal broadly similar structural breaks at more or less the same time. It can be concluded from this that there was an international cause behind this phenomenon: the end of the Bretton Woods System.

⁵⁰ In its Annual Report for 1974 the Bundesbank stated that monetary policy was now primarily responsible for price stability, whereas the government's primary task was that of overcoming structural economic weaknesses. Hagen, 1999, p. 422. See also: Kloten *et al.*, 1980, pp. 77-79. Kloten/Ketterer/Vollmer, 1985, pp. 392, 395.

⁵¹ *Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung*, (1974), paragraph 364 *sequitur*.

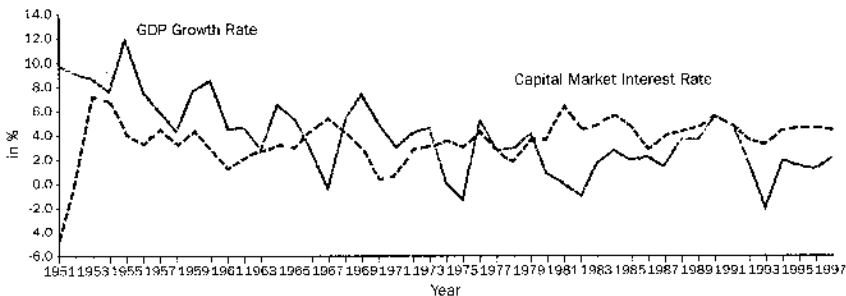
growth rates had fallen, real interest rates on average lay almost constantly above the economic growth rates.

On average, the annual economic growth rate of West Germany's economy amounted to only 2.1 percent during the period 1974 to 1997, while the average annual rate of inflation at 3.3 percent was higher than from 1952 to 1973 (2.5 percent). The unemployment rate that had been brought down from 11 percent in 1950 to only 1 percent in the early 1960s and had hovered around that rate throughout the period until 1973, increased to more than 9 percent in the mid-1980s and, despite some occasional improvement, is hardly below this level today.

When we take a look at what in American parlance is called the "misery index" (the inflation rate plus the unemployment rate), the different performance of the pre- and post-1973 periods becomes clearly visible (Figure 2).

As I see it, there was hardly any conflict between price stability and efficiency during this period. As the Bundesbank was more restrictive in its monetary policy during this period than before, it

FIGURE 1 - GDP Growth Rate and Capital Market Interest Rate 1951-1997
(both in real terms)

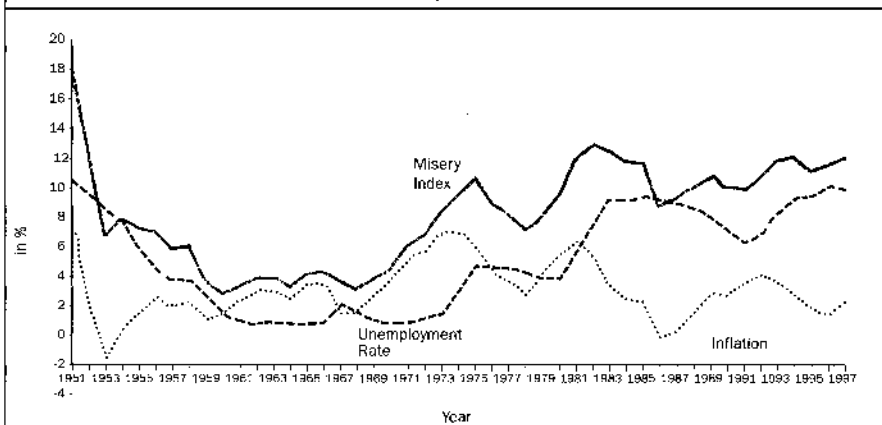


Notes: The GDP growth rate is that of West Germany only up to 1997. The capital market interest rate is what the Bundesbank publishes as "Umlaufrendite festverzinslicher Wertpapiere inländischer Emittenten" (yield on domestic fixed-interest securities). The real capital market interest rate was calculated from the nominal one by subtracting the rate of change of the GDP deflator.

Sources: Deutsche Bundesbank (ed.), *40 Jahre Deutsche Mark: Monetäre Statistiken 1948-1987*, Frankfurt am Main (1988), p. 226. For the period before 1955 capital market interest rates from: Markus Morawietz, *Rentabilität und Risiko deutscher Aktien- und Rentenanlagen seit 1870: Unter Berücksichtigung von Geldentwertung und steuerlichen Einflüssen*, (Wiesbaden 1994), p.334. All other data directly from the Bundesbank.

dampened demand and investment activity; the investment rate was much lower in the period after 1973 than before, which in my view is the major cause for the higher unemployment. Monetary restraint also put pressure on producers' scope for price increases. This made them especially keen on cost reductions. Investment turned to labour-saving techniques to a greater extent than before 1974. Especially during the second half of the 1970s and during the 1990s restrictive monetary policy in Germany resulted in a strong appreciation of the D-Mark on the foreign-exchange market. This also put German producers under sharp competitive pressure that intensified their efforts to reduce costs. Although - in line with the diminished overall investment activity - labour productivity increases were lower than during the pre-1974 period, they were considerably higher in Germany than, for instance, in the USA. With its fight for price stability, the Bundesbank contributed to this, albeit at the expense of economic growth and employment. Its permanent demands for more flexibility and deregulation also helped to bring about reform processes by the

FIGURE 2 - Misery Index 1951-1997



Notes: The unemployment rate and the inflation rate are those of West Germany up to 1997. From 1962 the inflation rate is based on the cost-of-living index of all private households. For the years up to 1961 it is the cost-of-living index of a four-persons household with medium income.

Sources: Deutsche Bundesbank (ed.), *40 Jahre Deutsche Mark: Monetäre Statistiken 1948-1987*, Frankfurt am Main (1988), p. 4 and 7. Institut der deutschen Wirtschaft (ed.), *Zahlen zur wirtschaftlichen Entwicklung der Bundesrepublik Deutschland*, (Köln 1993), Tables 27 and 55, 1997, Tables 21 and 51.

government, the legislature and the collective-bargaining partners, which additionally promoted the efficiency of the economy. In sum, I can detect no conflict here.

But conflicts between price stability on the one hand and economic growth and employment on the other were almost permanently acute during this period. I have selected three typical episodes in which the Bundesbank most visibly opted for price stability at the expense of economic growth and employment: at the end of the Bretton Woods System of fixed exchange rates in early 1973, after the second oil price shock of 1979-80 and after the German unification in October 1990.

By German standards the inflation rate had been out of control in the early 1970s. It had amounted to 5.6 percent in 1972 and, in early 1973, was rising further under the impact of huge inflows of foreign capital speculating on an appreciation of the D-Mark. Actually the inflation rate reached almost 7 percent in 1973 and, under the impact of the oil-price shock, remained at that level in 1974 as well. Shortly after the fall of the Bretton Woods System in March 1973, the Bundesbank used its newly gained scope for autonomous action and restricted the growth of the money supply by - among other measures - increasing the discount rate considerably from 5 percent since January 1973 to 6 percent in early May and further to 7 percent a month later. The lombard rate was even raised to 9 percent. These, by German standards, extremely high levels were kept up for more than a year, until reductions began on 25 October 1974. The economic growth rate, which stood at 4.7 percent in 1973, diminished to practically zero in 1974 and dropped to minus 1.5 percent in 1975.⁵² The unemployment rate rose from 1.2 percent in 1973 to 2.6 percent in 1974 and further to 4.7 percent in 1975. But, for the price of this recession, the Bundesbank broke the inflationary trend. The rate of increase in the cost of living index that had stood at 6.9 percent in 1973 and 1974 came down to 5.9 percent in 1975 and further to 4.4 percent in 1976. Economic growth recovered, but not enough to bring

⁵² Monetary policy's contribution to this recession was analyzed by: Neumann, 1981, pp. 405-431.

the unemployment rate down to its level of 1973. It only fell gradually to 3.8 percent in 1979 and 1980, before the second oil-price shock induced the Bundesbank to pull the monetary brakes once again.

When the second oil-price shock hit in 1979-80 and the inflation rate went up from 2.7 percent in 1978 to 4.2 percent in 1979 and to 5.4 percent in 1980 and further to 6.3 percent in 1981, the Bundesbank again gave priority to regaining price stability at the expense of economic growth and employment.⁵³ It raised its discount rate from 4 to 5 percent in July 1979, to 6 percent at the start of November, to 7 percent in late February 1980 and further to the new record high of 7.5 percent in early May 1980, again with the lombard rate two percentage points higher. This time the high discount rate was kept for more than two years, until it was gradually reduced, beginning at the end of August 1982. The economic growth rate, which amounted to 4.0 percent in 1979, dropped to 1.5 percent in 1980, to zero percent in 1981 and even to minus 1.0 percent in 1982. The unemployment rate increased from 3.8 percent in 1979 and 1980 to 5.5 percent in 1981, to 7.5 percent in 1982, to 9.1 percent in 1983 and 1984 and further to 9.3 percent in 1985. This unprecedented increase in the unemployment rate by altogether 5.5 percentage points corresponded with the unprecedented duration of an extremely restrictive monetary policy. It demonstrates very well the absolute determination of the Bundesbank to regain price stability regardless of the costs in terms of economic growth and employment. Germany's central bank reduced growth and employment not only within Germany, but also in many European countries, since, especially with the creation of the European Monetary System (EMS) in March 1979, other European currencies were so tied to the relatively strong D-Mark that the Bundesbank had for all practical purposes in fact become Europe's central bank.⁵⁴

Again the Bundesbank managed to break the inflationary trend.

⁵³ The Bundesbank's internal definition of price stability was an inflation rate of less than 2 percent. The ECB has inherited this tradition and has announced this definition officially. For the FED a higher rate of inflation (ca. 3 percent) evidently conforms with price stability.

⁵⁴ Bernholz, 1999, pp. 754-759.

The rate of increase in the German cost-of-living index that had mounted to 6.3 percent in 1981 fell to 5.3 percent in 1982, to 3.3 percent in 1983, to 2.4 percent in 1984, to 2.2 percent in 1985 and practically to zero in 1986 and 1987. Economic growth recovered, but not enough to bring the unemployment rate down to its level of 1980. It only fell gradually to 7.9 percent in 1989, before the unification boom at first reduced it further to 6.3 percent in 1991.

With favourable business conditions even before the unification boom, the inflation rate had increased from zero to 1.3 percent in 1988 and to 2.8 percent in 1989.⁵⁵ It remained at about this level in 1990, but then climbed to 3.5 percent in 1991 and to 4.0 percent in 1992. It was mainly the expansive fiscal policy, paying huge transfers to the eastern part of Germany without increasing taxes, that drove the boom. This time again the Bundesbank gave priority to regaining price stability at the expense of economic growth and employment. Prior to the fall of the Berlin Wall on 9 November 1989 and unification 11 months later, it had already raised its discount rate from 3.5 at the beginning of 1989 to 6 percent in October 1989. It was kept at that level in 1990. Thereafter the Bundesbank executed its most restrictive policy ever. It raised the discount rate to 6.5 percent in February 1991, to 7.5 in August, to 8 in December 1991 and finally to its absolute record of 8.75 percent in July 1992.⁵⁶ This broke the back of the EMS.⁵⁷

A gradual lowering of the rates started already in September 1992. But if we consider the previous record of 7.5 percent reached in May 1980 to be a high rate, then this time the discount rate was kept high, that is above this level, from August 1991 to April 1993. Thereafter, it took many small steps to get it back to a normal level of 3.5 as late as August 1995. The economic growth rate, which had amounted to 5.7 percent in 1990 and 5.0 percent in 1991, dropped to 2.2 percent in 1992 and even to minus 1.2 percent in 1993. The unemployment rate

⁵⁵ These and the following data are taken from: Deutsche Bundesbank, 1998 (CD-ROM).

⁵⁶ From November 1990 to August 1991 the lombard rate had been even two and a half percentage points higher.

⁵⁷ Italy and Great Britain dropped out and the band around the parities was generally widened from +/- 2.25 to +/- 15 percent.

increased from 6.3 percent in 1991 to 6.6 percent in 1992, to 8.2 percent in 1993, to 9.2 percent in 1994 and to 9.3 percent in 1995 and further to 10.1 percent in 1996, finally reaching the record figure of 11.0 percent in 1997.⁵⁸ Seven years of recession and poor economic growth due to prolonged monetary restrictions - in the second half of the 1990s combined with a restrictive fiscal policy in an effort to meet the Maastricht criteria for entering into the European Monetary Union (EMU) - had produced this result. Again the Bundesbank had demonstrated its fixation on the price-stability goal regardless of the costs in terms of economic growth and employment. Even after the engine of economic growth had cooled down in the recession of 1993, it kept real interest rates relatively high and much higher than the extremely poor growth rates of the economy for the rest of the 1990s. From 1994 to 1999 the average annual growth rate reached only 1.5 percent in Germany.

But, again, the Bundesbank had managed to break the inflationary trend. The rate of increase in the cost of living index that had mounted to 4.0 percent in 1992 began falling in 1993 and was down to between 1.4 and 1.8 percent in the years 1995 to 1997 and below 1 percent in 1998 and 1999. The small drop in the unemployment rate by half a percentage point each in 1998 and 1999 came about as a result of demographic factors, not economic growth.

German monetary autonomy came to an end with the creation of the EMU at the beginning of 1999. The European Central Bank (ECB) started out with interest rate cuts. Whether this was a break with the Bundesbank tradition of tight money regardless of economic growth and employment or only a reaction to deflationary dangers on the horizon after the Asian financial crisis had broken out is not yet clear. It was, and still is, my hope that the ECB will refrain from doing what the Bundesbank did to please financial wealth-holders and those who see a strong foreign-exchange rate as a symptom of good economic performance. That monetary policy can serve both price stability and real growth as well as full employment has been

⁵⁸ The data on the unemployment rate, as those on the inflation rate, are those for West Germany only.

demonstrated in Germany during the 1950s and 1960s and in the USA during the 1990s.

5. Summary: Lessons from Historical Experience

As to the question raised in the introduction, the historical account allows for a very clear answer. When the central bank was under government control, that is during Germany's great inflation after the First World War (up to May 1922) and more and more during the pre-World-War-II period of Nazi Germany, it pursued an easy-money policy spurring growth and employment. But it was unable to resist the inflationary excesses to which the government pushed the Reichsbank in order to finance its extremely expansive fiscal policies. This type of central-bank dependence served growth and employment only on a short- to medium-term basis, finally ending in the days of reckoning: two currency reforms.

The two periods of restrictions on the central bank's scope for action caused by international developments, when the Mark was tied into a fixed-exchange rate system, namely the periods from 1924 to 1931 (introduction of foreign exchange controls in Germany) and from the late 1940s to 1973, show contrary results. In the latter period, the inflow of liquidity from Germany's export surpluses and still more from capital imports forced the Bundesbank to refrain from highly restrictive monetary policies for external reasons. It helped to keep real interest rates in Germany relatively low and this promoted internal investment activity, economic growth and full employment. As the ample money supply did not - during the years of Germany's economic miracle in the 1950s and 1960s - really endanger price stability, this period demonstrates that monetary expansion can transmit more impulses for production activity and employment than for price increases. The period 1924 to 1931, on the other hand, demonstrates that the fixed-exchange-rate chain can also enforce extremely high interest rates, hurting investment activity, economic growth and employment, when liquidity is lost on account of large deficits in the trade balance (1924 to 1928) or - even worse - in the capital account (1929 to 1931). Capital flight

out of Germany forced the Reichsbank to pursue excessively restrictive monetary policies that led to the typical deflationary spiral during the Great Depression with not only production activity and employment shrinking, but also prices falling strongly. Charles P. Kindleberger has rightly argued that this poor outcome not only in Germany, but in many countries world-wide, was due to a lack of leadership by the USA in the monetary-policy and trade-policy fields.⁵⁹ As the US government had learned its lesson by the end of World War II,⁶⁰ it provided ample liquidity to the world economy in the decades that followed. That the Bretton Woods System ultimately broke apart was the result of an overdose of such liquidity in the late 1960s and early 1970s, when the hegemon did not live up to its international financial responsibility.

The proposition stated in the introduction, namely that in periods when the central bank keeps real interest rates below the economic growth rates it stimulates growth and employment and vice versa, has been confirmed by the evidence. It is demonstrated by the fact that Germany's economy displayed strong growth during its Great Inflation after World War I, while outside Germany the world economy had fallen into a great depression. It was true also during the pre-World-War-II period of Nazi rule and during the long period of Germany's economic miracle during the 1950s and 1960s and further on up to the end of the Bretton Woods System of fixed exchange rates in 1973. In contrast to that, real interest rates were generally kept above the economic growth rates during the fixed-exchange-rate period from 1924 into the early 1930s and during the flexible-exchange-rate period from 1973 to the late 1990s.⁶¹ The result was insufficient growth to keep labour fully employed; the general trend was even increasing unemployment rates.

The lesson I draw from this historical experience is twofold. The leading central banks, like the ECB and the FED, who carry responsibility not only for domestic developments but also for

⁵⁹ Kindleberger, 1986, pp. 288-305.

⁶⁰ Instrumental in this learning process was: Lary, 1943. See also: Frühbrodt/Holtfrerich, 1998, pp. 85-123.

⁶¹ For the wrong policy mix during the latter period see: Holtfrerich, 1999 (Economic Policy Targeting), pp. 365-378.

developments abroad and who possess enough room for manoeuvre to pursue an independent monetary policy should make use of the rule that a real interest rate below the economic growth rate stimulates growth and employment, and that the reverse constellation dampens activity in the real economy.

The FED seems to have behaved accordingly in the 1990s. Its chairman Alan Greenspan stated during hearings in Congress, already in 1993, that the relationship between money supply and price developments had broken down and that the control of real interest rates would better serve the development of growth and employment as well as relative price stability than the control of the money supply. The use of this recipe was rewarded by the longest boom in US history and a long period of full employment. The ECB should act likewise to help free the European economy from its unemployment problem.

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