# The 1948 Currency Reform: Structure and Purpose

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## 1. Introduction

The Currency Reform of 20.June 1948 represents a turning-point in the development of the post-war German economy. The abolition of a money supply denominated in the Reichsmark and its replacement with the new Deutsche Mark was a symbolic act whose political, cultural and economic impact has resonated throughout the latter half of the twentieth century. The inauguration of the DM as a stable currency reinstated the conditions for regular price formation and economic calculation absent in Germany since the mid-1930s. Contemporaries witnessed the overnight disappearance of disorderly market phenomena - goods shortages combined with currency excess, fixed prices, exchanges in kind, and the black market – and the dawn of a new day with fresh currency, goods in the shops, and an incentive to earn money wages. In popular mythology this event stands therefore at the inception of the Economic Miracle; it is thought of as the founding moment of West Germany's political and economic recovery, and it is generally linked to the elaboration of a Social Market Economy as the foundation of prosperity. The Reform also had profound political effects: it pre-dates the Federal Republic, but precipitated its formation. Introduced by the three Western military governments subsequent to the breakdown of efforts to reconstruct the German economy on a four-power basis, a parallel currency reform in the Soviet Zone sealed the monetary division of Germany and foreshadowed the partition of post-war Germany, whose territory then became for the next forty years the focus of a Cold War confrontation between western and eastern blocs. In 1990 this relationship between monetary and political sovereignty was played out once more; in early July the creation of a unitary German state was foreshadowed by the replacement of the currency of the (still extant) German Democratic Republic with the DM. The experience of post-war European reconstruction was often recalled during the progressive dismantling of eastern European state socialist economies that followed. Politicians and economists who favoured a "big-bang" approach to the creation of market-led growth turned instinctively to the 1948 Currency Reform as a model for economic reform. And finally, of course, the Reform serves as a model for the impending European Currency reform, in which the Euro is cast in the role of the DM.

In all of these stories it is customary to treat the Reform as a starting point.[1] Dissent from the ruling assumption that the Reform was instrumental in the initiation of economic recovery –

[1] See for example H. Giersch, K.-H. Paqué, H. Schmieding, "Openness, Wage Restraint, and Macroeconomic Stability: West Germany's Road to Prosperity 1948-1959", in R. Dornbusch, W. Nölling, R. Layard (eds.),

most cogently (and aggressively) argued shortly afterwards by Balogh[2] - has pointed to the impact of Marshall Aid, abundant supplies of labour, the overall recovery of the European economy and therefore of export markets, and the impact of the Korean War as associated factors affecting the rate and timing of economic recovery.[3] Analysis of the design and impact of the Reform itself therefore becomes ensnared within a more general discussion of the leading features of German post-war economic growth. This is especially true of those accounts which treat the Reform as the inaugural moment of a Social Market Economy, overlooking the fact that the Reform was designed and introduced by the Western allies, and that there was nothing unique about the Reform in a European context, apart from its timing.[4] This paper adopts a different strategy: it considers the genesis of the Reform against a background of pre-war and wartime financial policy, and also as one of the last in a series of contemporary European currency reforms. The purpose of this is to sharpen our appreciation of the agenda to which the Reform was addressed, as well as provide insights into the exact timing and properties of the Reform.

The paper will be in four main sections. For the sake of orientation, the exact terms and conditions of the 1948 Reform will be outlined first – many accounts of the Reform[5] are both cursory and inexact, and a return to the text of the relevant paragraphs is called for. This will be followed by a review of the domestic economic and monetary consequences of the manner in which the National Socialist regime pursued rearmament, territorial expansion and, finally, wars of conquest. Contemporary German discussion of this will be examined, followed by a survey of other post-war European reform measures aimed at the reconstruction of functioning market economies. The conclusion considers some of the more general

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*Post-war Economic Reconstruction and Lessons for the East Today*, MIT Press, Cambridge (Mass.) 1993 pp. 1-28. For a more journalistic version of the same story see W. Bickerich, *Die D-Mark. Eine Biographie*, Rowohlt, Berlin 1998.

[2] T. Balogh, *Germany: An Experiment in 'Planning' by the 'Free' Price Mechanism*, Basil Blackwell, Oxford 1950.

[3] See for example W. Abelshauser, "American Aid and West German Economic Recovery: A Macroeconomic Perspective", in C. S. Maier, G. Bischof (eds.) *The Marshall Plan and Germany. West German Development within the Framework of the European Recovery Program*, Berg, Oxford 1991 pp.367-409; A. S. Milward, *The Reconstruction of Western Europe 1945-51*, Methuen, London 1984 Ch. V. Abelshauser's argument that the Reform played a subordinate role in German economic recovery was first put forward in the mid-1970s, and has since then engendered much debate. For an overview and assessment see H. Berger, A. Rirschl, "Germany and the Political Economy of the Marshall Plan, 1947-52; A Re-revisionist View", in B. Eichengreen (ed.) *Europe's Post-war Recovery*, Cambridge University Press, Cambridge 1995 pp.199-245.

[4] Although of course those German economists most closely identified with the genesis of the Social Market Economy, notably the Arbeitsgemeinschaft Erwin von Beckerath, had long advocated monetary reform as a route to the re-establishment of market relations – see my *Strategies of Economic Order. German Economic Discourse 1750-1950*, Cambridge University Press, Cambridge 1995 Ch. 8.

[5] A recent exception is the account given by C. Buchheim, "Die Währungsreform in Westdeutschland", *Vierteljahrshefte für Zeitgeschichte* Bd. 36 (1988) pp. 217-20.

implications of the arguments which were advanced for and against a Currency Reform during the 1940s.

## 2. The Currency Reform: Terms and Conditions

The German Currency Reform involved both the substitution of one currency for another, and the sterilisation of monetary assets. The process began on Friday 18.June 1948 with the promulgation by the three western Military Governments of the first two laws, to come into force on Sunday 20.June 1948. Article I of Law No. 61, the "First Law for Monetary Reform (Currency Law)", established the Deutsche Mark as the legal currency from Monday 21.June, with Allied Military Marks of 1 and ½ Mark denominations, and Rentenbank notes of 1 Mark, being recognised until 31.August at one-tenth of their face value – resolving the problem that no small coin for the new currency yet existed.[6] Where existing laws and ordinances employed the Reichsmark, Rentenmark or Goldmark as a unit of account this should in general be henceforth read in DM (Art. II). Monetary obligations arising from application of these laws and ordinances were therefore to be written on 1:1 from the old to the new currency. A deadline of midnight on 26.June (ie. the Saturday of the week following the Reform) was set for all RM obligations (Art. IV). Article V provided for wages and salaries due later than the end of June, and this concluded Part One of the Law, subtitled "Conversion of Currency". Note that it includes two conversion rates, 1:1 under Article II and 10:1 under Article I.

Part Two of the Law dealt with the allocation of new DM to individuals above and beyond the conversion of their pending wages and salaries. Here commentary is often rather blurry, and so it is worth quoting Article VI in its entirety:

> Every inhabitant of the specified area shall receive in cash Deutsche Marks, in exchange for old currency notes as defined in Article IX paragraph 1(i)[7] of the same nominal amount to a maximum of 60 Deutsche Marks (quota per capita), of which not more than 40 Deutsche Marks shall be paid immediately and the remainder within two months. Where the person entitled can claim amounts in Deutsche Marks as a result of the subsequent conversion of old currency as defined hereinafter (Altgeld), the quota per capita shall be charged against the amount thus due.

The quota was to be issued to ration card holders, who in turn were required to surrender 60 RM in order to receive 40 DM immediately, and a further 20 DM at a later date. The 60 DM was an exchange for a nominal equivalent amount of cash denominated in the old currency; it

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[6] *Military Government Gazette* No. 25 Law no. 61 pp. 848-9.

[7] Reichsmark notes, Rentenbank notes greater than 1 RM, and Allied Military Marks with a value greater than 1 Mark – *Gazette* No. 25 Law No. 61 Art. IX p. 850.

was a maximum, so that if you did not have 60 RM in cash[8] you did not get the full 60 DM allocation. Furthermore, where individuals held accounts which were to be converted from old to new money, the quota was to be charged against these accounts. As we shall see, this meant that account holders could end up paying 600 RM for their 60 DM quota, instead of 60 RM, although they would not have become aware of this until the following October.

The old currency became invalid for new transactions from 21.June (Art. VIII), and all RM credit balances held in specified financial institutions became defined as "old currency" along with RM notes and Allied Military Marks (Art. IX). All old currency was, as we have already seen, to be declared and surrendered by 26.June 1948, the obligation to do so being laid upon juridical and natural persons, the latter taxable subject[9] then acting on behalf of any dependants (wife and children). Currency was to be surrendered at specific institutions, primarily banks and buildings societies of various kinds, but not the Postal Cheque Office and the Postal Savings Institute (Art. XII). Large private and government places of employment were also authorised for this purpose on behalf of the Land Central Banks. On receipt of the form declaring monetary assets the identity cards of those included on the form were punched in a defined manner to obviate future claims (Art. XII.5), and the balances placed in a Reichsmark Liquidation Account (Art. XIV). Procedures were also outlined to cover misreporting of various kinds. Part Five, the final substantive section of the First Law, dealt with the issue of new currency to public authorities and businesses. The Land Central Bank was made responsible for supplying agencies and offices with a sum of DM one-sixth of *Land* receipts during the last quarter of 1947 and the first of 1948, to which was added one-sixth of Zone receipts during the same period (Art. XV). For the ensuing half a year, therefore, public authorities received an allocation about one third of former annual receipts, introducing a further variation on the rate of exchange between DM and RM. Businesses were entitled to claim 60 DM per employee payable against their balances of old money, a requirement being that payment so made

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[8] 60 DM was roughly a week's pay for a working man; a skilled worker in Hamburg at this time would have earned 10 RM per eight hour day, and a six-day week was the official norm (official statistic cited in Buchheim, "Die Währungsreform in Westdeutschland", p. 193). Mendershausen and Matchett in their estimate of cash and deposit holdings in early 1946 estimated that 66.5% of the population in the US Zone and Berlin Sector held less than RM 250 in cash, that 28% of the adult population had no bank accounts, and that another quarter of the population had less than 2000 RM in bank and savings accounts: "Annex H: Analysis of Size Distribution of Cash and Bank Deposits", Colm-Dodge-Goldsmith Plan, reprinted in H. Möller (ed.) *Zur Vorgeschichte der deutschen Mark*, J. C. B. Mohr (Paul Siebeck), Tübingen 1961, pp. 459, 457. It is reasonable to suppose that during 1947 redistribution from poorer to richer households, and from urban dwellers to farmers, exacerbated this position. Burchardt and Martin drew attention to this when they noted that "…it must not be forgotten that in contrast to a country such as Britain all goods, bar the most essential ones, have become liquid assets and that the process of inflation continues to be fed by turning household stocks into money or directly into other goods." – F. A. Burchardt, K. Martin, "Western Germany and Reconstruction", *Bulletin of the Oxford University Institute of Statistics* Vol. 9 (December 1947) p. 409. It is therefore more than probable that many poorer urban households did not receive their full 60 DM allocation per person.

[9] The German text is more precise here; it refers to those natural and juridical persons which are "steuerpflichtig" rather than "subject to taxation" - *Gazette* No. 25 Law No. 61 § 11 p. 850.

> …shall not exceed one Deutsche Mark for every Reichsmark of old currency credit balances.[10]

It could therefore reasonably be inferred that these balances were to be converted at 1:1. Supplementary regulations covered acceptance of RM postage stamps on letters in transit, the continuing validity of season tickets, and extraordinary procedures for the payment of quotas.

Law No. 62, the "Second Law for Monetary Reform (Issue Law), likewise to come into effect on 20.June, was much shorter, and outlined the terms of reference of the Bank deutscher Länder, the newly-formed central bank for the three Western zones of occupation. This dealt with the issue and withdrawal of notes, the replacement of the existing small change with proper coinage, it limited notes and coin in circulation to 10 bn. DM (Art. V) and established reserve requirements for the Land Central Banks (Art. VI). The first and second laws came into effect on Sunday 20.June, and when public trading resumed on the Monday all transactions were made in DM, former RM wages, prices and rents simply being redenominated at the rate of 1:1.

As we have seen, the First Law contained more than one exchange rate between the DM and the RM, but made no mention of the future treatment of the Reichsmark Liquidation Account balances, which brought together all existing monetary assets. This was clarified by Law No. 63, the "Third Law for Monetary Reform (Conversion Law)", which was announced later during the week of the conversion and came into force one week after the beginning of the Reform, on 27.June:

> In principle, old currency credit balances pertaining to Class I[11] shall be converted so that the owner is credited with one Deutsche Mark for every ten Reichsmarks. Of this, one half shall be credited to a free Deutsche Mark account (*Freikonto*) and the other half to a blocked Deutsche Mark account (*Festkonto*), with regard to which regulations will be issued within 90 days.[12]

This Law came into force the day after all RM currency became invalid, acting therefore directly on the established RM liquidation accounts. The Third Law also decreed that where such accounts had sufficient balances a further 540 RM per capita was payable in respect of the 60 DM quota allocation,[13] and by ten RM for each DM received as an advance by employers in respect of their employees under Law No. 61 Art. XVII. Balances, where they existed, were freed for conversion subject to clearance from the Tax Office, up to a limit of

[10] *Gazette* No. 25 Law No. 61 Art. XVII(1) p. 853.

[11] Ie. the balances paid in by natural and juridical persons, excluding the assets of financial institutions and public authorities.

[12] *Gazette* No. 25 Law No. 63 Art. II(i) p. 863.

[13] A supplementary regulation stated that where the balance of an account was below 540 RM, then the holder would receive 60 DM in return for the liquidation of that balance – Regulation No. 1 under Military Government Law No. 63, Article II(2), *Gazette* No. 25 p. 875.

5000 RM for individuals and 10,000 for members of trades or professions (Art. V).[14] Article XVI stated the principle that all RM financial claims were to be converted into DM at 10:1, with an exception being made for social insurance payments pending reform by the German authorities (Art. XXIII). The residual 20 DM cash allocation was made in September, and then in October 70% of deposits in blocked accounts was liquidated, 20% released and 10% made available for investment. A new rate of exchange with the dollar was also established, at 1 DM = 30 cents.[15]

The general monetary objective of the reform had been to cut the money supply by 90% through the surrender of RM for DM at the rate of 10:1, a rate originally established in the Colm-Dodge-Goldsmith Plan of April 1946 on the basis of a comparison of the existing national product and the money supply with that prevailing in 1938.[16] As we shall see, the appropriateness of the 10:1 ratio was disputed by British officials at the time, and today a more balanced appreciation of the relationship of economic activity to money supply raises doubts about the necessity of a 10:1 cut in money supply in 1948. Furthermore, as noted in fn. 7, since 1945 monetary assets would have been redistributed through the black market towards those able to obtain goods or who could sell produce, and so the impact of the Reform was perhaps more inequitable than might at first appear. In fact the Colm-Dodge-Goldsmith Plan had recognised the impact of war and post-war dislocation upon household incomes and provided for a general redistribution of assets. In the 1948 version, however, the Allies merely called upon the “appropriate German legislative bodies” to deal with the equalisation of non-monetary losses and assets by 31.December 1948, proposing a levy on property which would readjust the balance between real and monetary assets.[17]

The text of the three Laws was published in English and German, column by column, with the German version being the official text.[18] Working through the text as above draws attention to the fact that this was a military law, a scheme devised by the Western Allies, although drafted in detail by German experts. This requires emphasis, for the Reform is often run together with a number of parallel measures which liberalised the economy of the three western zones, but where we need to be careful in attributing the source of the initiative. On 18.June the Bizonal Economic Council[19] adopted an ordinance cancelling existing economic

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[14] Previous European currency reforms had used differential rates of exchange for blocked and free accounts, differing proportions between them and varying rates of release for blocked funds.

[15] S. F. Sherwin, *Monetary Policy in Continental Western Europe 1944-1952*, Wisconsin Commerce Studies Vol. II No. 2 (August 1956), University of Wisconsin, Madison 1956 pp. 53-6

[16] Reprinted in Möller, *Zur Vorgeschichte*, pp. 216-54 at pp. 219, 233.

[17] Military Government Law No. 63, Article XXIX, *Gazette* No. 25 p. 872.

[18] Just as well really, since there is a printing error in the English text of Law 63 Art. IV which does not appear in the German version.

[19] A body elected from the eight regional *Landtage* of the Bizone – see W. Benz, *Von der Besatzungsherrschaft zur Bundesrepublik. Stationen einer Staatsgrundung 1946-1949*, Fischer Verlag, Frankfurt a.M. 1984 pp. 60ff.

controls, and in the course of the summer this was given effect in a series of directives. Price ceilings were maintained for a limited number of essential foods, rents and some basic materials, such as coal and steel. Clothing and footwear were freed of controls but subject to rationing.[20] For the time being existing wage controls continued in force. This initiative was therefore German in origin, albeit surrounded with mythology concerning the relation of Erhard and Clay, the Military Governor. In addition to these measures a number of changes to direct and indirect taxation were made immediately following the start of the Currency Reform, with the objectives of restoring work incentives and encouraging saving.[21] These liberalising measures were however the prerogative of the military authorities, not the German Economic Council; the schedules relating to the changes are printed directly after the three Currency Reform Laws.[22] Most of these last changes simply reversed significant increases in taxation introduced by the military authorities during 1946 in an early effort to erode the monetary overhang through fiscal measures. Income taxes were reduced by some 33% overall, and there was a general shift from direct to indirect taxation, with the former accounting for 47% of the 1949 total.[23] Of the three principal components of the June measures – Currency Reform, abolition of controls, and taxation reform – the first and the third were introduced by the Allies without consulting the Bizone Council, while the actual deregulation of prices and wages was undertaken in stages over a period of many months.

At the Potsdam Conference the four Allied Powers had agreed to treat Germany as a unitary economy, and negotiations on a pan-German currency reform, based on the Colm-Dodge-Goldsmith Plan, had continued from the autumn of 1946 to the early spring of 1948. The unilateral declaration of a Currency Reform for the three western zones therefore broke openly with the Potsdam Agreement, and the Soviet Authorities responded forcefully in kind. On Wednesday 23.June the land blockade of Berlin was begun, and a separate Currency Reform for the Eastern Zone was announced. The preamble to "Soviet Military Administration Order No. 111 on Currency Reform in the Soviet Zone" stated that "A crushing blow has been dealt to German unity", and that the Soviet administration, "…conceding to the demands of the German democratic republic" was compelled to take measures to protect the interests of the German population and of the economy of the Soviet

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[20] F. H. Klopstock, "Monetary Reform in Western Germany", *Journal of Political Economy* Vol. 57 (1949) p. 283.

[21] 80 bn. RM had been registered as family accounts in June 1948, which ended up as 4.5 bn. DM total savings. The post-Reform spending spree, in which it seems households did not realise (prior to the 70% cancellation of blocked deposit accounts in October) that they were in fact spending most of their savings, reduced this figure to 300 m. DM in three months; in September savings accounted for 2.4% of money stock, as against 48% in 1938 – H. Sauermann, "The Consequences of the Currency Reform in Western Germany", *Review of Politics* Vol. 12 (1950) pp. 191-2.

[22] Schedule to Law No. 64, 22. June 1948 *Gazette* No. 25 pp. 890-915.

[23] W. W. Heller, "Tax and Monetary Reform in Occupied Germany", *National Tax Journal* Vol. 2 (1949) pp. 219, 225.

occupation zone.[24] Like the Western reform, the Soviet Currency Reform involved both the substitution of one currency for another (in the absence of new notes effected through the gumming of coupons on to RM notes) and the sterilisation of monetary assets. The actual course of the reform mirrored the procedures already outlined. The basic rate of conversion was 10:1, as in the West, but with a differential rate of exchange applied so as to implement a measure of redistribution. A rate of 1:1 was used on the first 70 RM surrendered, with savings deposits being converted at a rate of 1:1 on balances up to a value of 100 RM, and 5:1 up to 1000 RM. Deposits between 1000 RM and 5000 RM were converted at 10:1, while balances above this level were to be subject to investigation in respect of the legality of their source, earnings from black market dealing or war-profiteering being subject to confiscation.[25] As in the West, wages and prices were written on 1:1 from their former values. A Germany divided into two economic zones was therefore created in late June 1948, to be followed in 1949 by the establishment of two governments, each of which laid claim to sovereignty over a united Germany.

The 1948 German Currency Reforms were by European standards considerably delayed by inter-Allied argument over the future of Germany, but as reforms go this is their only idiosyncratic feature – apart of course from the fact that all other European reforms were carried out by sovereign governments, while the German reforms were devised and imposed by Military Governments. Moderate and suppressed inflation was a characteristic of the economies of all participants in the war, exacerbated in Continental Europe by extensive damage to industrial plant, housing and infrastructure caused by aerial bombardment and land fighting, combined with a variety of short-term problems in labour supply. Output levels for 1945 were everywhere much reduced on pre-war figures, but within two years production indices had recovered everywhere – except in Germany. This despite the post-war capital stock being higher than that of 1938, and that demobilisation and expulsions, combined with the termination of arms production, provided Germany with a large and highly-skilled workforce. German recovery was hampered in part directly by the occupation, and also partly by disagreements among the four Allied powers concerning Germany's economic future. The principal line of cleavage that developed was of course that between East and West, but the Western Allies also had their differences, and this emerges clearly in the pre-history of the Currency Reform. None of this alters the fact that, as a Currency Reform, there is nothing especially unusual about the scheme finally agreed upon by the British, American and French in early 1948.

In May 1945, following the German capitulation, all banks had been closed, although commercial banks quickly reopened in the Western Zones, local branches of the Reichsbank being placed under central control without the right to issue notes. In the Soviet Zone, by contrast, all existing banks remained closed and a new state banking system was created

[24] "Soviet Military Administration Order No. 111 on Currency Reform in the Soviet Zone", 23.June 1948, reprinted in B. R. von Oppen (ed.) *Documents on Germany under Occupation*, Oxford University Press, London 1955 p. 295.

[25] von Oppen, *Documents*, pp. 297-8.

designed to service an administered economy. The Reichsmark continued to circulate in all occupation zones, together with the Occupation Marks which the Allies at their Yalta meeting had agreed to use as a common currency.[26] The Potsdam Agreement of August 1945 had provided for the joint administration of Germany by the four powers, with the Americans favouring rapid decentralisation of banking operations under a single currency in the four occupation zones. Despite initial British objections that the system already worked and that decentralisation would make supervision more difficult, by October 1946 the French, British and American authorities had agreed to the establishment of *Land* central banks. There was however no agreement with the Soviets over the central authority.

American proposals for a currency reform had already been formulated by November 1945, involving a 5:1 conversion rate together with a capital levy and capital gains tax aimed at war profiteers. The British authorities at this time considered a 5:1 rate draconian, and generally adhered to the position that any reform should be deferred until some kind of equilibrium had emerged in the German economy. The Treasury was concerned at the prospect of a wage-price spiral in the German economy, but generally supported a moderate inflationary approach to the excess money supply, rather than the deflationary approach implicit in a sharp reduction in the money supply. Accordingly, British officials favoured differential price rises of up to 100%, together with controlled wages, any currency reform that was subsequently imposed then being at the much reduced rate of 2:1 or 3:1.[27] British officials therefore favoured a broadly fiscal approach to economic stabilisation, but found that the Americans adhered strongly to a monetary approach based upon a radical reduction of the money supply.[28] When the revised American Colm-Dodge-Goldsmith Plan for Currency Reform was published in April 1946 it took no account of British reservations, increasing the conversion rate from 5:1 as in the draft proposal to 10:1. Introduced as a basis for four-power discussion in September 1946, the British proposed instead a 1:1 conversion rate subsequent to price increases, but this was brushed aside by the American delegation. The British responded by suggesting a rate no higher than 2.5:1, combined with the blocking of bank deposits. This was likewise scornfully rejected by the American representatives, and the

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[26] The set of plates given to the Soviet Union under this agreement were used to print unknown quantities of notes which were distributed to troops in lieu of backpay, and also to obtain goods in the West, where they in turn found their way into the hands of US servicemen, who then sold it to the US Government as part of a buyback deal, together with their own surplus Occupation Marks. Some $160 m. was disbursed in this way before occupation pay was reorganised – Sherwin, *MonetaryPolicy*, p. 49.

[27] I. Turner, "Great Britain and the Post-war German Currency Reform", *Historical Journal* Vol. 30 (1987) pp. 690-4.

[28] British officials also found the competence of American financial experts deficient compared with that of Russian and the French experts – Turner, "Great Britain and the Post-war German Currency Reform", p. 700 fn. 81. Buchheim ("Die Währungsreform in Westdeutschland", p. 205) suggests that the British focus upon fiscal solutions reflected the Keynesian cast of British thinking, but he overstates the influence of economic theory in policy formation. The British officials involved were overwhelmingly senior career civil servants without any formal training in economics, who later went on to be leading business figures; and neither the Treasury nor the Bank of England could at this time be described as "Keynesian" in their general approach to policy.

French proposed a compromise of a 70% cancellation of monetary assets, 20% blocking, and 10% issue of new currency – proportions later imposed on blocked deposits in October 1948.[29]

The Colm-Dodge-Goldsmith Plan became the *de facto* basis for discussion between the Allies, all four powers agreeing on its proposed monetary purge plus compensation for war losses, together with the replacement of the Reichsmark by a new currency unit. Discussions quickly bogged down however over Soviet insistence on printing the new currency in two centres, Berlin and Leipzig. Ostensibly the American representatives considered the proposal to print in Leipzig a security problem, and insisted that all printing should be carried out in Berlin under strict Four-Power control.[30] There was no agreement on the matter by the end of 1946, and in any case no progress had been made on the future structure of the German banking system.

The Americans went ahead and established a Central Bank in each of the *Länder* of its occupation zone on 1.January 1947, and these LzB's assumed the major functions of the old Reichsbank, without of course the ability to issue money. In March and October 1947 there was a parallel reorganisation of the French Zone, but the British Zone remained substantially unchanged until 1948, since the British considered that decentralisation in the absence of a central authority conflicted with the terms of the Potsdam Agreement relating to the joint administration of a unitary German economy.[31] By this time of course there had been a substantial alteration in the political climate, relations between the Four Powers increasingly deteriorating into a confrontation between two blocs. This confrontation was reflected in proposals for a German banking system, for the Western Allies eventually realised that the Russian demand for a common German central bank would provide them with an instrument through which the entire German economy could be administered along Soviet lines. In this way arguments over a future central monetary authority, the necessity for which all four Powers continued nominally to agree upon, turned into a struggle for the future economic organisation of a united Germany. Despite the fruitlessness of discussions on the banking system and a common currency since early 1947, in the autumn Bevin and Marshall, respectively British and American Foreign Secretaries, instructed their military governors to convey to the Soviets their preparedness for a common currency. At about the same time rumours began to circulate that the Soviets were preparing to print new banknotes in Leipzig, and that a separate Eastern currency reform was a possibility. This prompted Clay, the US Military Governor, to order the secret printing of new DM currency in Washington, shipment to Germany taking place in late 1947 without the knowledge of the recently-formed German Bizonal Economic Council.

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[29] Turner, "Great Britain and the Post-war German Currency Reform", p. 695.

[30] H. Möller, "Die westdeutsche Währungsreform von 1948", in Deutsche Bundesbank, *Währung und Wirtschaft 1876-1975*, Frankfurt a.M. 1976 p. 443.

[31] H. Adler, "The Post-war Reorganisation of the German Banking System", *Quarterly Journal of Economics* Vol. 63 (1949) pp.322-30.

In January 1948 the three Western powers sought once more to come to an agreement with the Soviet authorities on the issue of the future financial structure of Germany, but by this time the Soviet demand for a common central bank had become a point of explicit division. On 20.March the Soviet Delegation left the Control Council, the *Bank deutscher Länder* having finally been established as the Central Bank for the three western zones on in Frankfurt 1.March 1948. The way was now clear for the organisation of a currency reform, for the notes had been printed and were ready for issue in Germany – although this was still a closely-guarded secret. At the beginning of April the Allies requested that the Bizone Economic Council nominate German experts to take part in the planning of the reform, and the group began their work on 21.April under conditions of strict isolation in an American barracks near Kassel.

During the period from 1945 to June 1948 more than 250 proposals for a reform of German currency and finance had been drafted,[32] although there are of course only a limited number of ways in which an excess money supply can be removed. There was therefore a general expectation that, sooner or later, the Allies would introduce a currency reform, and production figures clearly indicate that manufacturers built up stocks of semi-finished goods and raw materials in anticipation.[33] Nevertheless, the long delay and the secrecy with which the Reform had been prepared contributed to the shock effect of its announcement on Friday 18.June.[34] The initial impact upon popular perceptions is typically captured by the following passage:

> The black market suddenly disappeared. Shop windows were full of goods; factory chimneys were smoking; and the streets swarmed with lorries. Everywhere the noise of new buildings going up replaced the deathly silence of the ruins. If the state of recovery was a surprise, its swiftness was even more so. In all sectors of economic life it began as the clocks struck on the day of the currency reform. Only an eye-witness can give an account of the sudden effect which currency reform had on the size of stocks and the wealth of goods on display. Shops filled up with goods from one day to the next; the factories began to work. On the eve of currency reform the Germans were aimlessly wandering about their towns in search of a few additional items of food. A day later they thought of nothing but producing them. One day apathy was mirrored on their faces while on the next a whole nation looked hopefully into the future.[35]

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[32] Möller, *Zur Vorgeschichte*, p. 6.

[33] Buchheim, "Die Währungsreform in Westdeutschland", p. 196.

[34] Although of course the exact timing of all such reforms, if they are to have any chance of success, must necessarily be unanticipated.

[35] Jacques Rueff and André Piettre cited in L. Erhard, *Prosperity through Competition*, Thames and Hudson, London 1958 p. 13 (translation of *Wohlstand für Alle*, Econ Verlag, Düsseldorf 1957).

But nothing is ever that simple, and to understand the original purpose of the Reform we need to examine the financial history of Germany under the National Socialists.

## 3. Rearmament and Wars of Conquest: *geräuschlose Finanzierung* and its Consequences

During the 1930s the German economy became increasingly autarchic, the relationship between the domestic and the international economy being subject to rigorous control of foreign exchange and capital movements. This increasing closure of the German economy was a response to world-wide depression, and many of its characteristic features had been introduced before 1933. Exchange controls had for example been introduced in 1931, and on his accession to power Hitler inherited an existing programme of public works and employment creation. In the course of the 1930s international trading relations became increasingly protectionist – this is for example the period during which Britain adopted the policy of Imperial Preference – and the Nazi regime took advantage of this development to establish a more permanently isolated economy. By the later 1930s the Nazis were able to pursue domestic economic objectives unimpeded by concerns about the balance of payments, the relation of domestic to international interest rates, capital movements or indeed currency depreciation. Domestic prices had been administered since 1931, when a Commissar for the Supervision of Prices was appointed; but it was only after 1933 that a consistent price policy was pursued. In November 1936 a price freeze was imposed, and this remained in effect until mid-1948, although in practice some upward adjustment in prices was possible.[36] A general wage freeze followed in June 1938, and this remained in force until late 1948. To all intents and purposes Germany was a closed economy from the mid-1930s, and this meant that conventional economic principles no longer apply when analysing the regulation of domestic production and consumption.

Recovery from the depression of the early 1930s was in Germany largely effected through public works and arms expenditure, the latter accounting for at least 50% of government spending between 1933 and 1938.[37] The financial arrangements facilitating this were creative, if nothing else. During the mid-1930s almost one half of arms expenditure was financed by three month "Mefo Bills", paper drawn upon the Metallurgische Forschungsgesellschaft m. b. H. and whose bills the Reichsbank was obliged to discount. The Metallurgische Forschungsgesellschaft was no more than a dummy company set up to provide a simulation of commercial activity, enabling the government to finance its contracts with what appeared to be commercial bills of exchange, but which were not.

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[36] K. H. Hansmeyer, R. Caesar, "Kriegswirtschaft und Inflation", in Deutsche Bundesbank, *Währung und Wirtschaft 1876-1975*, Frankfurt a.M. 1976 pp. 408-9.

[37] Historians of the period note that some military expenditures were included in the civilian budget, understating the published figures for arms spending.

## 1. Arms Expenditure 1933-38[38]

| | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1933-38 |
|---|---|---|---|---|---|---|---|
| Expenditure bn. RM | .7 | 4.2 | 5.5 | 10.3 | 11 | 17.2 | 48.9 |
| Mefo Bills (%) | - | 50 | 49 | 44 | 25 | - | 25 |
| Arms spending as % Govt. expenditure | 8.3 | 39.3 | 39.6 | 59.2 | 56.7 | 61 | 49.9 |
| As % of GDP | 1.2 | 5 | 7.1 | 11.2 | 12 | 15.7 | 9.5 |

As can be seen from Table 1, by the later 1930s a substantial part of the German economy was dedicated to military purposes. When war was precipitated in the early autumn of 1939 the economy was already at full capacity,[39] so that any further expansion of military-related production had to be at the cost of civilian consumption. German workers had for many years lived in an economy where resources were directed to rearmament and where the quantity and quality of consumer goods was low in comparison with nominal GDP per head. Any increases in personal incomes in the later 1930s had resulted from longer hours worked, and not from a share in the growth of the economy.[40] By 1939 there were latent inflationary pressures, which were then exacerbated by the manner in which the government financed its military purchases.

Official understanding of the problems of excess purchasing power was coloured by popular memories of the inflationary collapse of 1923, and this inclined policymakers in the early 1940s to soften, rather than harden, the fiscal stance, while at the same time officially discouraging public discussion of war finance, fearing a general flight from money.[41] Fiscal policy remained relatively slack throughout the war, and payments to the dependants of service personnel were generous, involving therefore both a high level of public expenditure not backed by tax receipts, while at the same time providing little incentive for such

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[38] Hansmeyer, Caesar, "Kriegswirtschaft und Inflation", p. 392.

[39] Although female labour was not rapidly mobilised in the way it was in Britain and the United States. According to the 1939 job survey, around 6m. women were without employment, of whom 3.5m. could be regarded as employable. The Labour Ministry planned for an increase of 2.6m. female workers, but in fact over the next few years female participation fell: from 14.626m. 1939; to 14.385m. in 1940; and down to 14.186m. in 1941. There was a recovery in 1942, the pre-war level being returned to only in 1943. There was however a redistribution of female labour, into transport, energy, administration and military administration. See L. Herbst, *Das nationalsozialistische Deutschland 1933-1945*, Suhrkamp Verlag, Frankurt a.M. 1996 p. 263.

[40] This point needs to be kept in mind when comparisons are made between pre- and post-war levels of production and consumption.

[41] Salin draws attention to the paradox that the only detailed study of the inflation of 1923 available as late as the 1960s was by an Italian and translated into English, despite the importance of the episode for the German economy: C. Bresciani-Turroni, *Le Vicendo del Marco Tedesco*, (1931) trans. M. E. Sayers as *The Economics of Inflation. A Study of Currency Depreciation in Post-war Germany*, London 1937. The definitive modern study is by Holtfrerich, *Die deutsche Inflation 1914-1923*, de Gruyter, Berlin 1980. E. Salin, "Zur Einführung", in H. Möller (ed.) *Zur Vorgeschichte der deutschen Mark*, J. C. B. Mohr (Paul Siebeck), Tübingen 1961 p. V.

dependants to seek employment. The outcome was a war financed through the plundering of occupied economies while printing money at home, resulting in a significant RM purchasing power overhang at the end of the war in circumstances where output had dropped to less than half of pre-war levels. The allied occupiers extended the 1936 price freeze on the one hand and sought to control the emergent black market, although the extent to which the latter undermined the restoration of normal market relations can be exaggerated.[42]

### 2. Price and Monetary Indices, Germany 1932-44[43]

| | Wholesale Price Index | Adjusted Money Stock | Real Cash Balances (col. [2]/col.[3]) | National Income (bn. RM) | Income Velocity (NI/Money Stock) |
|---|---|---|---|---|---|
| 1932 | 100 | 100 | 100 | 45.2 | 1.35 |
| 1933 | 96.7 | 96.2 | 99.5 | 46.5 | 1.44 |
| 1934 | 102 | 99.6 | 97.6 | 52.7 | 1.58 |
| 1935 | 105.5 | 106.2 | 100.7 | 58.6 | 1.65 |
| 1936 | 107.9 | 114 | 105.7 | 65.8 | 1.73 |
| 1937 | 109.7 | 124 | 113 | 73.8 | 1.78 |
| 1938 | 109.5 | 139.4 | 127.3 | 82.1 | 1.76 |
| 1939 | 110.8 | 160.6 | 144.9 | 89.8 | 1.67 |
| 1940 | 114 | 196.9 | 172.7 | 92.5 | 1.41 |
| 1941 | 116.4 | 257.4 | 221.1 | 97.8 | 1.14 |
| 1942 | 118.5 | 333.4 | 281.4 | 98 | .88 |
| 1943 | 120.4 | 424.9 | 352.9 | 99 | .7 |
| 1944 | 121.9 | 536.6 | 440.2 | 90 | .5 |

As is apparent from Table 2, relative price stability throughout the period 1932-44 was accompanied by the rampant growth of the money supply, reflected in the strong growth of cash balances. National Income doubled from 1932 to 1939, peaked in 1941 but then declined – in 1944 it was little more than that of 1939, and in the following year estimates put it at about half the level of 1938. Money stock began a rapid rise at the outbreak of war, quadrupling over the era of the Third Reich, but was matched by a fall in velocity of circulation since opportunities for using money declined. This continued into the post-war years, where exchange in kind became increasingly important for both households and firms.[44] It was therefore a sudden upward move in the velocity of circulation that was the danger in the early post-war years, not the existence of a given stock of money. However, as

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[42] Hansmeyer and Caesar estimate that no more than 10% of transactions were conducted on the black market, but 80% of the money in circulation was concentrated here, leading to spiralling prices – "Kriegswirtschaft und Inflation", p.423.

[43] J. J. Klein, "German Money and Prices", in M. Friedman (ed.) *Studies in the Quantity Theory of Money*, University of Chicago Press, Chicago 1956 Table 1 p. 122.

[44] For example, those who worked for the occupation administrations received an off-ration midday meal at the official price, which was the principal attraction of such employment – Buchheim, "Die Währungsreform in Westdeutschland" p. 193.

we shall see in conclusion, very few German economists or officials at the time made this simple distinction.

The insulation of the domestic economy from international goods and money markets, coupled with the fact that the public debt which financed rearmament and then wars of conquest was largely domestic in origin, meant that the Nazi regime was consistently able to run considerable budget deficits. Such deficits are financed by the sale of government bonds, which in normal circumstances are bought through financial markets by domestic and foreign financial institutions, and in a modified form by domestic private households. The autarchic and centrally-administered nature of the German economy meant however that these markets had lost much of their significance, and domestic financial institutions had no significant alternative for the cash balances building up in their customer's accounts other than the purchase of government bonds. In Britain and in the United States governments sold war bonds to the population, and encouraged towns and cities to contribute directly to the purchase of aircraft and other equipment – excess purchasing power was in this way converted into privately-held war bonds whose terms of redemption would be determined after the war, or simply sterilised. Apart from Party initiatives such as *Winterhilfe*, the Nazi regime generally sought to conceal the economic cost of war from its domestic population, and relied chiefly on what became known as *geräuschlose Finanzierung*, the sale of bonds directly to financial institutions, a system of "silent finance" in which the population "paid" the costs of the war without it being necessary to sell war bonds to them directly, or radically increase taxation. In essence, the accumulation of a very large public debt relied upon the existence of fixed prices and wages, an economy that had few links with international markets, and a banking system entirely subordinated to the government.

### 3. Reich Budget (bn. RM)[45]

| | 1938-39 | 1939-40 | 1940-41 | 1941-42 | 1942-43 | 1943-44 | 1944-45 |
|---|---|---|---|---|---|---|---|
| **I. Total Expenditure** | 31.8 | 52.11 | 78.0 | 101.9 | 126.6 | 153.0 | 171.3 (planned) |
| Wehrmacht & Armaments | 18.4 | 32.3 | 58.1 | 75.6 | 96.9 | 117.9 | 128.4 |
| Family Support | - | n.a. | n.a. | 4.8 | 5.5 | 6.5 | 8.1 |
| Debt Interest | 1.3 | 1.9 | 2.8 | 4.2 | 5.9 | 6.6 | 10.5 |
| Debt Amortisation | 1.0 | 1.3 | 1.7 | 1.9 | 2.1 | 1.8 | 2.8 |
| **II. Total Income** | 28.8 | 39.5 | 57.6 | 75.0 | 91.6 | 96.2 | 89.7 |
| Taxes, Duties | 18.2 | 24.2 | 27.5 | 32.3 | 42.7 | 38.0 | 37.5 |
| Local War Contribution | - | .8 | 1.4 | 1.4 | 1.6 | 2.0 | 2.5 |
| Government borrowing | 7.5 | 6.6 | 18.5 | 22.9 | 22.0 | 28.4 | 21.0 |
| Occupation costs etc. | - | - | 6.1 | 12.2 | 18.9 | 20.3 | 23.6 |
| **III. Annual Balance** | -3.0 | -12.6 | -20.4 | -26.9 | -37.0 | -56.8 | -81.6 |
| **IV. Cumulative Shortfall** | -5.1 | -17.6 | -38.0 | -64.9 | -101.9 | -158.9 | -240.3 |

From the standpoint of the late twentieth century the evolution of the German government budget summarised in Table 3 makes grim reading, but there are here echoes of the balance sheets of both British and German governments during the First World War. Then, both governments had for a long time believed in the imminent end of the war; neither had a taxation system with a broad enough base and sufficient flexibility to absorb a sudden large and prolonged increase in government spending; while the level of daily expenditure required by modern warfare was completely unanticipated on all sides. The war began about half way through one financial year, and already by the next, 1915-16, the UK current account deficit had risen to nearly one third of National Income, continuing on to around 40% in 1917-18.[46] The budget for this fiscal year forecast expenditure of £2290m. with anticipated revenue at £613m; which was however an improvement on the September 1915 Budget, which had raised just 21.6% of expenditure from taxation.[47] These figures lend some sort of comparative perspective to German wartime budgetary practice. It is also worth bearing in mind in this context that the massive expansion of the British public debt which the First World War brought about was paid off in the usual manner without provoking serious economic instability – although the servicing of national debt accounted for 46% of all British government expenditure by 1925-26.[48]

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[45] Hansmeyer, Caesar, “Kriegswirtschaft und Inflation”, p. 400.

[46] Morgan, *Studies in British Financial Policy, 1914-25*, Macmillan, London 1952, p. 102.

[47] Morgan, *Studies*, p. 92.

[48] Morgan, *Studies*, p. 98. It is today a commonplace to note that so long as the creditors of a National Debt are domestic – as was the case in Germany in 1945 - servicing the debt is primarily a redistribution problem between taxpayers and creditors. When a significant part of the debt is held by foreign creditors – as was

Macroeconomic data has little meaning without the identification of trend relationships within and between economies. When considering German financial and economic statistics over the period 1930 to 1950 we need to set them in some kind of perspective which makes sense of the numbers in relation to the trend performance of the German economy and/or in relation to that of similar contemporary economies. Curiously enough, this very elementary consideration is rarely introduced into discussion of German post-war monetary history, which sometimes reads as though Germany were the only country ever to suffer monetary stress. The 1923 inflation certainly played an important role in linking economic instability to a loss of confidence in political institutions; but it is seldom noted that another consequence of this episode was the dissolution of the German National Debt. Reparation payments would continue to be a problem for Germany during the 1920s, but after 1923 the direct cost of the First World War for Germany was wiped out. The National Debt was therefore at the beginning of the 1930s at a very low level, unlike that of Britain.

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the case in Britain after 1918 – repayment involves foreign exchange transactions which, if large enough, can have serious macroeconomic repercussions.

## 4. Comparison of US, German and GB Public Debt[49]

| Central State Debt | | Germany | | | USA | | | UK | |
|---|---|---|---|---|---|---|---|---|---|
| | 1933 | 1939[50] | 1945 | 1933 | 1939 | 1946 | 1933 | 1939 | 1946 |
| In bn. of given currency | 12.8 | 30.8 | 440 | 22.5 | 40.4 | 265 | 7.6 | 8.2 | 25 |
| In bn. RM[51] | 12.8 | 30.8 | 440 | 56.3 | 100.6 | a795<br>b1325 | 110 | 95.7 | a300<br>b500 |
| In RM per capita | 194 | 388 | 6674 | 448 | 768 | a5663<br>b9438 | 2365 | 2015 | a6276<br>b10460 |
| As % National Income | 28 | 31 | 917 | 53 | 57 | 162 | 224 | 178 | 245 |
| National Income in bn. of national currency | 45.2 | 98.3 | 48 | 42.3 | 70.8 | 164 | 3.4 | 4.6 | 10.2 |

Whether the comparison of National Debt is made in terms of a proportion of National Income or in RM per capita, the German figures are clearly not unique. Even after the Nazis' military spending spree of the 1930s the German public debt was still in 1939, on these measures, below the levels prevailing in the United States and Britain. The principal difference emerges when these statistics are compared for 1945; but here again, what is striking is the rate of increase of debt, not its overall size. German public sector debt is shown here to be approximately four times that of Britain when compared to National Income; but this is because in the interim the National Income of Germany has been (temporarily) halved while that of Britain has (permanently) doubled. Given the proportion of expenditure and output devoted to the war in Germany - one estimate puts the proportion of GDP dedicated to war expenditure in 1943-44 at around 70% of GDP[52] - it is hardly surprising that the figure for National Income in 1945 should have collapsed, for after the cessation of hostilities all German military expenditures ceased, not to be resumed until the 1950s. All combatant economies confronted the problems of economic demobilisation, but it is reasonable to suggest that the wartime imbalance between military and civilian

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[49] E. Wolf, "Geld- und Finanzprobleme der deutschen Nachkriegswirtschaft", in Deutsche Institut für Wirtschaftsforschung, *Die deutsche Wirtschaft zwei Jahre nach dem Zusammenbruch*, Berlin 1947 p. 202.

[50] Excludes Mefo and tax credits; inclusion would raise this figure by c. 35%.

[51] 1933 and 1939 converted at prevailing rate of exchange; for 1946 a) at 3 RM to $ and 12 RM to £; b) at 5 RM to $ and 20 RM to £.

[52] Hansmeyer, Caesar, "Kriegswirtschaft und Inflation", p.399.

consumption was in Germany so extreme that the disappearance of the former brought about a unique recession. This was a fundamental problem of the post-war economy, often overlooked when considering the sheer level of destruction to infrastructure, homes and factories.

When evaluating the extent of the problem that the monetary overhang presented this point must be kept in mind, for as we have seen the first post-war Currency Reform proposal, the Colm-Dodge-Goldsmith Plan, used a comparison of money supply with national income over the period 1938 to 1945 to arrive at the conclusion that 90% of the money supply had to be eliminated. This assumption was simply built into the planning of the 1948 Reform. In fact both figures, money supply and national income, pre- and post-war, are somewhat indeterminate. Wolf's calculations (summarised in Table 5) indicate that the generally accepted level of post-war money stock can be severely qualified, while on the National Income side even before the war the level of government spending on armaments and related projects was close to 20% of GDP. With levels of public expenditure like this it should be no surprise that gross output slumped immediately following the war, since the most significant item of expenditure suddenly disappeared from the accounts. The low levels of output in the immediate post-war years reflect this, and can perhaps be compared to the redirection of production and consumption that has recently occurred in the former Soviet Union.

**5. Estimated Changes in German Monetary Stock since May 1945**[53]

| | |
|---|---|
| A. Stock in May 1945 | 300 bn. RM |
| I. Reductions brought about by war, territorial changes, blocked assets | |
| 1. Physical destruction of banknotes | 4bn. |
| 2. Territorial detachment | 56 bn. |
| 3. Blocked assets in Soviet Zone and Berlin | 70 bn. |
| 4. Blocking of assets in W. Zones | 8 bn. |
| Total | 138 bn. |
| II. Expansion of stock | |
| 1. Occupation currency | 12 bn. |
| 2. Use of Reichsbank reserves | 2 bn. |
| 3. Credit guarantees to public agencies | 2 bn. |
| 4. Freeing of blocked savings accounts etc. | 2 bn. |
| Total | 18 bn. |
| III. Reduction through Contractionary Measures | |
| 1. Local administration surpluses | 4 bn. |
| 2. Foreign Trade accounts | 1 bn. |
| 3. Reduction in outstanding Occ. Marks | 2 bn. |
| Total | 7 bn. |
| Balance of changes - | 27 bn. RM |
| B. Stock early 1947 | **173 bn. RM** |

The monetary stock is the obverse of the mode in which the public debt was created, but Wolf's calculation significantly modify the extent of the problem as perceived during the immediate post-war period. Of the estimated 300 bn. nominal money stock at the end of the war, 20% had either been destroyed or was left behind in Poland, Czechoslovakia or Austria as a consequence of the realignment of frontiers. When combined with those assets frozen in banks closed in Berlin or in the Soviet Zone, the net result is to reduce the money supply by more than half. Some additions are necessary, however: the occupation currency freely printed by the Allies had increased the stock, as well as various credits to public bodies.

[53] Wolf, "Geld- und Finanzprobleme der deutschen Nachkriegswirtschaft", pp. 219-20

Nevertheless, Wolf estimates that the RM monetary stock in early 1947 was 58% of the assumed 1945 figure, which was the figure implicitly assumed in the 1948 calculation, since this was in turn based on the Colm-Dodge-Goldsmith Plan of early 1946.

Wolf also provides estimates of the location of the money supply, as between cash and deposits, cash in circulation and in banks, and between the occupation zones.

**6. Stock of Notes and Coin plus Bank Deposits in Individual Zones, September 1946 (bn. RM)**[54]

| | Notes &Coin: | Notes &Coin: | Deposits: | Deposits: |
|---|---|---|---|---|
| | Circulating | In Banks | Savings | Others |
| British Zone | 10 | 7.0 | 34.0 | 27.0 |
| US Zone | 8.0 | 5.7 | 20.8 | 18.6 |
| French Zone | 4.0 | 2.3 | 10.6 | 5.0 |
| Soviet Zone | 14 | 8.5 | 2.4 | 8.5 |
| Berlin | 4.0 | 1.6 | 0.2 | 2,1 |
| **Total** | **40** | **25.1** | **68.0** | **61.2** |

Table 6 highlights the fact that around one third of the money supply was in savings deposits, and a surprisingly large amount of cash in circulation was in the Soviet Zone, whose population was much smaller than those of British and American zones. While not denying that the excess RM money stock hindered economic reconstruction, the above figures dictate a revision in the customary habit of focussing on the simple existence of a monetary overhang and redirect our attention to more general problems in the functioning of market institutions. This observation is reinforced when we consider the level of national output, which should by 1947 have recovered from the artificially low level prevailing in the summer of 1945. The specifically German problem was that output had not recovered as quickly as it had elsewhere in Europe. This can in part be attributed to the administration of the economy by military governments, a positive German policy on the part of the Western allies developing in stages as a reflex to the worsening relations with the Soviet Union. The seemingly obvious and direct developmental path - from Nazi war finance to monetary overhang and thence to the need for a currency reform which would abolish this overhang and enable the market mechanism to function properly - turns out on closer examination to be less compelling than was widely assumed at the time, and most modern treatments simply recycle these assumptions. Having established that the case for a radical reduction in the money supply was less compelling than generally thought, we can now turn to consider the institutional and intellectual context which led politicians and economists to argue that conditions did in fact dictate a radical Currency Reform.

[54] Wolf, “Geld- und Finanzprobleme der deutschen Nachkriegswirtschaft”, p. 221. The total stock adds up to 194.3 RM here, the figure of 173 bn. being arrived at by the subtraction of assets in blocked accounts in the Soviet Zone and in Berlin.

## 4. The Restoration of Market Relations and Economic Policy

So far in this account no mention has been made of the role of the Reichsbank in German monetary policy. Following the hyperinflation of 1922-23 the independence of the Reichsbank had been established by the Bank Law of 1924, but this autonomy was short-lived. In October 1933 Hitler, as German Chancellor, assumed the right of appointment and dismissal over the Director and members of the Directorate. Succeeding measures progressively limited the scope for independent banking activity on the part of the Reichsbank, and in January 1937 it was explicitly subordinated to the Führer.

As outlined above, already by the mid-1930s the absence of international economic constraints permitted the government to indulge in its own monetary creation. Throughout 1937 and 1938 the Reichsbank struggled to bring government spending into some kind of orderly plan, finally in January 1939 refusing the Finance Ministry a special credit and demanding that the state be declared bankrupt. On 7.January 1939 the President of the Reichsbank, Schacht, sent a memorandum to Hitler, signed by all the Directors, stating that unchecked public expenditure was becoming a threat to the currency, that the creation of an orderly budget was being progressively undermined, that state finances had been brought to the verge of collapse despite the unprecedented use of taxation, all of which was tending to undermine the central bank and the currency. He noted that

> No central bank is able to maintain the currency in the face of an inflationary expenditure policy on the part of the state.[55]

The memorandum closed with four demands:

1. The Reich and all other public instances to cease making expenditures, assuming responsibility or issuing guarantees unless backed by tax revenue, or by such loans as can be raised through loans without harming long-term capital markets;
2. To ensure adherence to this the Reichsfinanzminister must assume full control of public expenditure;
3. Price and wage controls must be organised effectively;
4. Resort to gold and capital markets to be the sole prerogative of the Reichsbank.

Schacht and all of the directors were summarily dismissed on 20.January 1939. Later, in June 1939, the *Gesetz über die Deutsche Reichsbank* abolished all regulations on monetary expansion. Subsequently only one third of public expenditures in the period 1939-45 were based on receipts; 12% was raised on foreign and 55% on domestic capital markets. In December 1944 for example 36% of all state expenditure was effected by printing money, leading to an unprecedented expansion of the money supply combined with a steady reduction in the already limited supply of goods to the non-military market.

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[55].Facsimile copy of letter printed in Hansmeyer, Caesar, “Kriegswirtschaft und Inflation” pp. 382-3.

It is sometimes suggested that the treatment dealt out to Schacht and his directors drove serious discussion of the problems of war finance underground, and it is true that wartime discussion of post-war economic conditions did become a delicate matter. Nonetheless, specialist journals frequently published contributions addressed to this issue right up to late 1943, after which many of them simply ceased publication owing to increasing economic dislocation. In late 1939 a number of noted German economists put their names to an official memorandum on wartime finance whose line of argument largely coincides with that of the Reichsbank. This "Professoren-Kriegsfinanzierungsgutachten" was dated 9.December 1939, its authors listed as Berkenkopf, Eucken, Hasenack, Jessen, Lampe, von Stackelberg, Stucken, and Teschemacher. Eucken and Lampe were colleagues in Freiburg, Stackelberg also being involved in their discussions during the war; Jessen, originally a dedicated Party member, organised discussions among German economists under the auspices of the Akademie für Deutsches Recht and was executed in the wake of the failed attempt to overthrow Hitler in July 1944. The structure of the Memorandum is typical of Eucken: the argument turns upon a contrast of two ideal economic forms, one with free price formation and the other with fixed prices. Just as Schacht in his memorandum sought to establish the principle of a balanced budget and moderate use of the capital market, this December Memorandum begins by noting that war finance is constrained by the level and material composition of total income. The state, it is argued, can only make limited use of existing reserves and investments in the economy, since exercise of this prerogative reduces the scope for restocking and accumulation. There is a limit to this, for no amount of monetary creation will call forth additional output unless there are related efforts to secure the level of production to which the government aspired. The only way out of the existing domestic constraints was by imports, but these have to be paid for out of existing balances or foreign credit. Any attempt to by-pass these intransigent economic facts through financial manipulation simply renders rational production and a price policy impossible.

There was, the *Gutachten* continues, consequently a right and a wrong way of financing the war. Credit creation resulting in the increase of means of payment without associated increases in the supply of goods has the following consequences:

a) qualitative or quantitative alteration in money values

b) reduction in production volume

c) consumption of reserves and stocks

d) exit of smaller and medium-sized firms from the economic process

e) destruction of any rational economic management (*Wirtschaftslenkung*).[56]

Expansion of the money supply while prices are fixed leads to a progressive dislocation of economic activity, and to emphasise this point the Memorandum schematically presents the phases of progressive dislocation under increasing degrees of inflationary pressure, assuming

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[56] Möller, *Zur Vorgeschichte* pp. 29-32.

that the economy is at the outset already at full capacity. There are several interesting features of this presentation, quite apart from the manner in which it contrasts the consequences of free and of administered prices, the latter directed to the consequences of German government policy in the later 1930s. The criticisms extend beyond the impact upon the retail market to production organisation, incentives, levels of output and tendencies to industrial concentration, highlighting the damaging effects associated with suppressed inflation in an economy with fixed prices. And they were quite explicit about the economy they had in mind:

> In the contemporary German economy the problem is principally one of covert monetary depreciation.[57]

This Memorandum is notable not only for the thoroughness with which it spells out the consequences of suppressed inflation, but also for the fact that it does so before a serious purchasing power overhang emerged. It was not however unique in expressing these problems, although another early discussion approached the matter tangentially through a comparison of current practice with German financial policy during World War I.[58] In February 1940 a special meeting of the Association of German Economists was devoted to discussion of these matters, and an entire issue of the specialist journal *Weltwirtschaftliches Archiv* was devoted to papers from the conference.[59] Economists generally agreed that war expenditure was that it should only be financed out of the incomes arising from current production, but that the present requirements were so large that taxation was an inadequate instrument. In this way discussion focused upon the nature of inflation as a symptom of shortages in current production for which the printing of money represents no solution. In a later article Terhalle described the developing system of war finance as "…scheinbar fast automatische, im ganzen wenig geräuschvolle".[60] Another author argued that the capacity for an economy to wage war was a function of its politico-economic system, the market system typical of liberal-capitalist economies being unsuited to the tasks. A "guided economy", on the other hand, in which money, prices and markets are stripped of the autonomy they enjoy in a capitalist economy, was a much more suitable economic form for the prosecution of a modern war.[61] It was not until 1942 that articles began to appear which directly addressed the problem of the "purchasing-power overhang", or *Kaufkraftüberhang*.[62] This theme was

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[57] "In der gegenwärtigen deutschen Wirtschaftsordung handelt es sich überwiegend um das Problem der verdeckten Geldentwertung." Möller, *Zur Vorgeschichte* p. 32.

[58] F. Terhalle, "Die deutsche Kriegsfinanzierung 1914-1918. Ein naheliegender Rückblick", *Bank-Archiv* Jg. 1939 Nr. 23 1.December pp.549-52.

[59] Bd. 51 Heft 3 (1940).

[60] F. Terhalle, "Die Aufbringung der Kriegskosten als volkswirtschaftliche Aufgabe", *Bank-Archiv* Jg. 1940 Nr. 11 1.June p. 193.

[61] K. Burkheiser, "Kriegsfinanzierung und Wirtschaftsystem", *Bank-Archiv* Jg. 1940 pp.260-63.

[62] As in the title: G. Keiser, "Die Abtragung des Kaufkraftüberhangs", *Bank-Archiv* Jg. 1942 Nr. 14 pp. 273-5. Keiser was chief editor of the *Bank-Archiv*. See also O. Veit, "Geldüberschuß und Wirtschaftslenkung",

also taken up in discussions among the Arbeitskreis Erwin von Beckerath, where Adolf Lampe and Walter Eucken consistently argued from the existence of a monetary surplus to the need for its removal if market relations were to be restored in a post-war economy.[63] Implicit in most of these analyses was the assumption that inflationary pressures are directly caused by an excessive money supply, that the dangers of inflation were kept at bay only by a price freeze, and that before market relations could be restored it would be necessary to remove excess purchasing power in some way, preferably through a currency conversion which drastically reduced the money supply.

Some contributors to the debate took a different line, however. In a lengthy article published in 1942 Otto Donner invoked instead the "new theory of credit", by which he meant the new Keynesian economics. The point of departure for Donner was the fact that by April 1942 public indebtedness had already reached the level prevailing at the end of World War I; was there then, he asked rhetorically, a level beyond which state indebtedness could or should not go, to be exceeded only at the risk of bankruptcy or inflation? Not according to the new credit theory, argued Donner, citing Keynes' *Treatise on Money* and the *General Theory*. He went on to recapitulate arguments concerning deficit financing, full employment, the balancing of civilian against government consumption and the associated inflationary pressures in the kind of wartime setting laid out by Keynes in *How to Pay for the War*, a text to which he does not however refer.[64] Having discussed the various measures open to a wartime government, he then turns to a post-war economy in which a monetary overhang exists. Switches between military and civil production, and the return of soldiers into productive employment, would result in an expansion of consumer goods output, although some economists had argued that the consequent increase in incomes would prevent a reduction in the wartime purchasing-power overhang. Donner countered this by pointing to the savings ratio, with the observation that if this model of production and consumption were true, then there would never be any cyclical slump in sales. The shift to consumer durables, argued Donner, would be associated with an alteration in expectations: the idea that tomorrow things will be cheaper and of better quality would create a sense of stability and longer-term consumer planning, shifting much of the overhang into savings, assisting the state in its efforts to transform short-term into long-term debt.[65]

The ruling monetary orthodoxy among German economists was a simple form of quantity theory, in which surplus money created inflationary pressures which, if left unchecked, would hinder a post-war return to the market mechanism. Adherents of the new Keynesian line of analysis did not deny the problems created by inflation, but were more sanguine in facing the post-war economy, pointing as Donner did to alterations in patterns of consumption and

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*Weltwirtschaftliches Archiv* Bd. 57 (1943) I pp. 278-309, and R. Meimberg, "Kaufkraftüberhang und Kriegsfinanzpolitik", *Weltwirtschaftliches Archiv* Bd. 58 II (1943) pp. 98-130.

[63] See my discussion of this in *Strategies of Economic Order*, pp. 227-32.

[64] O. Donner, "Die Grenzen der Staatsverschuldung", *Weltwirtschaftliches Archiv* Bd. 56 (1942) II p. 183-224.

[65] Donner, "Grenzen", p. 212.

saving, and the expansion of economic activity that could be expected in a peacetime economy. There were however considerations other than the simple existence of a monetary overhang which pointed to the need for a reform of the currency, and these are usefully highlighted by the series of European currency reforms which preceded the German reform of 1948.

## 5. Currency Reform in Post-War Europe

The manner in which the German war economy was financed domestically was made possible by its insulation from international capital and goods markets; but the German war economy was intimately connected to the international economy in a different fashion, namely through conquest. A substantial part of the German war economy was supported by the systematic plunder of those economies which it had occupied, requisitioning labour, transplanting factories, charging occupation costs and managing the "European Economic Space" to its own best advantage.[66] Naturally enough, the costs imposed upon the European economy as a whole were significant, and during the war the price level in all Western European economies advanced at a faster pace than that in Germany.[67] Countries were liberated from late 1944, although there was no uniformity in the economic problems that they displayed. Belgium was the first, liberated in five days, with a largely intact industry but a population close to starvation. Denmark was largely intact, the economy depleted of raw materials but with only a 5% reduction in national wealth since the outbreak of war. The Netherlands was 10% under water, with 75% of its rolling stock lost, a 33% reduction in national wealth, and a population whose near liberation in September 1944 made the following winter under an additionally harsh occupation regime hard to bear. All of these countries made reform of the currency a priority, seeking to establish a firm basis for reconstruction.

The Belgian government launched a currency reform in October 1944. This had as one of its aims the removal of excess liquidity, but it was also thought prudent to issue new currency through an exchange of notes, for it was suspected that the German occupation forces, after their withdrawal, might possess a duplicate set of printing plates with the aid of which the economy could be flooded with currency. It was planned to remove surplus monetary assets above a designated equilibrium level by issuing bonds which would be later amortised through special tax measures.[68] The reform was announced by the Finance Minister by radio

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[66] See my *Strategies of Economic Order*, pp. 251-5.

[67] With 1938 = 100, the cost of living at the time of Liberation was in Belgium 181, in Denmark 160, in France 290, and in the Netherlands 167, compared with 125 for Germany – Sherwin, *Monetary Policy* Table I p. 7.

[68] The problem of what the equilibrium level might be was resolved through a comparison of the Congolese Franc, devalued in 1940 by 17%, with the £ sterling, since Britain was Belgium's major trading partner. Equilibrium was therefore thought to lie in a price and wage level 17% above that prevailing in Britain in 1944. In calculating the new money supply constant velocity and prewar production levels were assumed – Sherwin, *Monetary Policy* pp. 11-12.

on Friday 7.October 1944. All notes above Frs. 100 had to be deposited at Post Offices or banks, and each individual was permitted to exchange Frs. 2000 of old notes for new ones. At the end of the following week old notes ceased to be legal tender. All bank deposits were blocked except for those that pre-dated the invasion of 10.May 1940, or an amount not in excess of balances as at 8.October 1944. From 3.November 1944 each person could withdraw Frs. 3000 from these blocked accounts, after which all assets in blocked accounts were divided into temporarily (40%) and permanently (60%) blocked accounts. The former were to be freed gradually as production expanded, the latter were to be converted into long-term Government bonds, to be amortised through taxation. The total money supply was reduced from Frs. 160.7 bn. to Frs. 96.4 bn. This undershot the target by 13%; but the major problem turned out not to lie in the execution of the Reform, but rather that war had not ended as expected in December. Instead, the Ardennes offensive brought large numbers of Allied troops into Belgium who were paid in local currency (Frs. 12.5 bn.), and who consumed Frs. 16.6 bn. in goods and services. This pushed the cash deficit to Frs. 39.6 bn., and since this could not be financed by the issue of bonds inflation began once more. It had been planned to stabilise the price level at 160 of 1938, but by June 1945 it was 343. All was not lost, however, for the Allies reimbursed the Belgian Government in foreign exchange for Frs. 22.1 bn. of goods and services supplied to the Allies during the winter of 1944-45, providing Belgium with a windfall of hard currency with which substantial amounts of food were imported, successfully breaking the black market and stabilising prices, and leading to a rapid restoration of the pre-war standard of living.

During the early post-war years this process was repeated throughout Europe. The Dutch reform followed on quickly from that of Belgium because the Benelux agreement of September 1944 linked macroeconomic policy in the two economies. The contraction of the Dutch money supply took longer, beginning on 9.July and terminating on 27.September, when the old notes ceased to be legal tender and a period of progressive deblocking of accounts began.[69] In Denmark a Reform was carried out beginning on 23.July 1945, when the banks were closed, new notes were issued in exchange for old up to Kr. 500,[70] residual monetary assets being placed in blocked deposits. A principal objective of the reform was a post-war "cleansing", a census of assets being used to penalise any who had profited from the occupation; the impact upon the money supply was a reduction of less than 15%.

The French story was more mixed. At the time of Liberation in September 1944 the key relevant statistics – output and money supply – were no better, if not worse, than those of Germany. Balogh in 1945 estimated that industrial output was 30% of the pre-war level,

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[69] Sherwin, *Monetary Policy*, p. 24.

[70] $1 = Kr. 4.81, the note issue was therefore up to a ceiling of $103.95, as compared with the initial German issue to the value of $12. The Danish government was in a position to carry out this reform because new currency was available, the Central Bank having been clandestinely printing new notes since 1943 - Sherwin, *Monetary Policy*, p. 34.

Sherwin in his later study has a lower estimate for all output at 20% of the 1938 level.[71] Money supply is given by Sherwin in the same table as 550 with 1938 = 100, with retail prices at 290. As mentioned in passing above, within three years the economy had recovered to levels of production and consumption prevailing in the later 1930s, but this owed little to consistent and rigorous economic policy. The Free French Government had intended to carry out a reduction in the money supply, but were opposed by some French economists who argued that the price level is determined by income levels, not the money supply, rendering a reduction in the money supply unnecessary. Other economists argued that an excess money supply was the result, not the cause, of inflation; while some suggested that a mechanical relationship between money supply and prices did not take account of alterations in the velocity of circulation.[72] Moreover, the incumbent Finance Minister opposed a Reform on the grounds that it was technically impossible, given the degree of dislocation to communications. Instead, the government launched a series of voluntary bond drives, lowered the rediscount rate, and announced a note exchange and registration of liquid assets in June 1945. Together, these measures tended to increase velocity, outweighing small reductions in money stock, and over the year following Liberation the price level rose from 267 to 373.

Gurley[73] in his survey of the 24 post-war European currency reforms that took place between October 1944 and May 1952 divides them into three basic types:

1. Reduction of the supply of liquid assets at the outset without blocking any portion of this supply. This was done by a currency exchange of old for new notes at rates of exchange which substantially reduced the outstanding volume of assets – eg. 3:1 in the Austrian programme. (8 cases)
2. No immediate reduction in the supply of liquid assets; instead efforts were made to immobilise a proportion of this supply by blocking bank deposits. Banknotes were called in and deposits declared by their owners. (12 cases)
3. Combines the primary features of 1 & 2. Currency and bank deposits are converted into new money at deflated rates of exchange, but a portion of amount the residual is in turn frozen in blocked accounts. (4 cases)

In all three types, the registration of securities and assets was also required, whether monetary, real or both. Half of the reforms were introduced before the end of 1945, and only three reforms were carried out after mid 1948. Only in a few cases, such as Greece and Hungary, was the introduction of a new unit of currency a response to rampant inflation; in most cases the reforms were part of the process by which governments regained control over their economies after years of occupation.

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[71] T. Balogh, “The Economic Problems of France”, *Bulletin of the Oxford Institute of Statistics* Vol. 7 (1945) p. 62; Sherwin, *Monetary Policy*, p. 35.

[72] Sherwin, *Monetary Policy*, p. 36.

[73] J. G. Gurley, “Excess Liquidity and European Monetary Reforms, 1944-1952”, *American Economic Review* Vol. 43 (1953) pp.76-100.

Klopstock[74] emphasised the historical novelty of the early post-war Currency Reforms for, unlike the sequence of reforms that followed World War I, they were chiefly designed to pre-empt, rather than contain, hyperinflation. The Polish currency unification of 1920 for example was accompanied by a sharp expansion of Polish marks, and the re-establishment of a stable currency involved an exchange of marks for newly-issued gold zlotys at rate of 1.8m. : 1.[75] The Czech currency reform of 25 February 1919 sterilised half the circulating medium on its territory by stamping notes of the Austro-Hungarian Bank and then forcibly converting half of them into non-negotiable government bonds. It has been noted in passing above that the First World War had serious financial consequences for Britain, without the consequent economic constraints provoking serious economic or political instability. Jessen alluded to precisely this point in an article discussing Wagner's law of increasing public expenditure, published the year before his execution as a participant in the July Plot.[76] He went rather further back, to the British public finances in the post-Napoleonic era, when the three largest items of British government spending were debt interest, the navy and the army, in that order. During the period 1822-31 an average of 59% of government expenditure was devoted to debt repayment.[77] Until the mid-nineteenth century, interest paid on the National Debt took up almost half of all government expenditure; in 1880 it was a quarter and in 1890 11%.[78] This burden was increased once more in the 1920s, and one of the more remarkable features of the evolution of the British National Debt during the interwar period is not simply its size, but the speed with which moderate economic growth reduced its impact.

## 6. Conclusion

As noted in the introduction, the 1948 Currency Reform is usually judged in terms of its consequences, not its purposes. There are substantial difficulties in attributing the real development of the German economy in subsequent years to individual contributory factors – Marshall Aid, the revival of intra-European trade, the completion of the period of recovery and the onset of the European "Golden Age", the establishment of a central Government in Bonn, or the absence of significant military spending and related atomic energy research. Debate on the consequences of the Reform takes as its variables these and other factors, while assuming that the Reform itself requires little direct discussion, or that the benificent results

[74] Klopstock, "Monetary Reforms in Liberated Europe", *American Economic Review* Vol. 36 (1946) pp. 578-95.

[75] Klopstock, "Monetary Reforms" p. 580.

[76] J. Jessen, "Das 'Gesetz der wachsenden Ausdehnung des Finanzbedarfs'", *Schmollers Jahrbuch* Jg. 67 I. Hlb. (1943) pp. 164-5. His discussion centred upon England because Wagner's Law could only be tested against a state whose territory had remained unchanged for centuries and where there was also adequate and reliable statistical data.

[77] P. Harling, P. Mandler, "From 'Fiscal-Military' to Laissez-faire State, 1760-1850", *Journal of British Studies* Vol. 32 (1993) p. 49.

[78] A. T. Peacock, J. Wiseman, *The Growth of Public Expenditure in the United Kingdom*, National Bureau of Economic Research Number 72, General Series, Princeton University Press, Princeton 1961, p. 38.

of the Reform prove that it was economically justified.[79] This paper has approached the matter differently, seeking to understand the nature of the Reform in its context – the real economic developments of the early 1940s, the assumptions governing the framing of policy on the part of German economists and Allied administrators, and the wave of Currency Reforms which preceded it. From this a rather different picture of the Reform emerges, which in turn has implications for our understanding of its significance.

Firstly, the terms of the Reform were dictated by the Military Governments – chiefly the American administration. German involvement was restricted to the actual drafting of the laws and regulations, an onerous task certainly, but a strictly subordinate one. Secondly, the Reform was just one of many Currency Reforms conducted in the immediate aftermath of war as governments sought to re-establish functioning market economies; as such its terms were a variant on a limited number of variables with a restricted range of permutations. The German Reforms were distinguished only by the fact that they were imposed by Military Governments and took place after some delay. Thirdly, the overall aim of reducing the money supply by 90% was principally based on an assessment of National Income and money supply in the period 1945-46. How far this was justified in 1948 is questionable, and in any case the statistics underlying these estimates are open to substantial revision or qualification. Given the general expectation that a Currency Reform would eventually take place, and the consequent hoarding of cash and goods, by 1948 some kind of reform was needed simply to jolt the money economy back into life. The June Reform certainly gave the jolt, but how far its actual terms and conditions were important in stimulating activity is open to question. Finally, underlying all arguments for a radical reduction of the money supply is a simple quantity theory of money, in which rapid growth of the stock of money in an economy without administered prices leads directly to inflation. Some remarks can be made about this presumption in closing.

Table 2 shows that there was a decline in the velocity of money from 1937 onwards, the rate of decrease accelerating in 1940. This reflects diminishing opportunities to use money under a fixed price regime combined with brutal suppression of a black market. All that changed in mid-1945 was an alleviation of the pressure upon black market transactions, while the presence of Allied troops introduced goods which hitherto had been either unavailable or in very limited supply – cigarettes, coffee, and nylon stockings. The principal problem for households and enterprises in the immediate post-war period was the lack of effective market mechanisms capable of regulating the distribution and consumption of goods. The limited uses for money transactions was expressed in the low velocity of money. We measure velocity by comparing the stock of money with National Income, and as such it is a statistical construct with tautological implications; but it is more than this, for it expresses the volatility of transactions and hence economic activity. Contemporary economists and administrators

[79] Erhard himself took the position that there were no serious problems subsequent to the Reform which were not caused by misguided opposition to his policies. His account of the impact of the Reform misses out the year 1949 altogether, jumping from increasing prices and credit creation in late 1948 to retail price reduction in 1950, then comparing the performance of European economies in the early 1950s with base 1950 = 100 – *Prosperity through Competition*, pp. 16, 20-21.

tended to link the absolute size of the money stock directly to the flow of transactions, without considering the presence of intermediate institutional factors which dictated variations in flow independently of the size of the stock. The implicit assumption that money stock was the same as money supply – that money supply was also simply a stock – was related to the idea that in equilibrium conditions velocity (a flow concept) would be invariant, and therefore of negligible importance. The conception that velocity would be invariant in equilibrium conditions amounts to asserting that when everything balances no relationships change, and the tautologous nature of the simple quantity theory of money has frequently been noted. However rudimentary such notions might appear today, they represented the principal theoretical underpinnings of the view that excess money supply either caused inflation, and that in the presence of an excess its absence or moderation was due to market imperfections.

Cagan's classic study of seven hyperinflations[80] established that amongst all the noise of ballooning prices and wages during periods when monthly price changes exceed 50% there was a stable relationship between the average rate of change of prices per month and the average change of cash per month. He observed that it was usual to treat cash balances as a function (not necessarily a linear function) of real income and other variables, but that the erratic behaviour of cash balances in the course of hyperinflationary periods indicated the limitations of this approach. Instead, he proposed that the variations in real cash balances depended mainly on the expected rate of change in prices, and that generally hyperinflations should be explained in terms of the expectations formed by rational actors.[81] Applying the general logic of this argument to the later 1940s, we could say that the prospect of excess money supply bringing about significant inflation depends upon "rational expectations" formed by an appraisal of institutional developments and the opportunity cost of holding cash. Inflation, we might say, is not a monetary phenomenon, in that it is not mechanically triggered and sustained by excess money stock, but instead by social and economic institutional factors which influence the formation of expectations.

Friedman in his introduction to *Studies in the Quantity Theory of Money* represented the quantity theory as a theory of the demand for money, and suggested that his representation was based on a Chicago oral tradition of the 1930s and 1940s separable from the published writings of Faculty members, "…a theoretical approach that insisted that money does matter…".[82] In this model, Friedman suggests, the demand for money is stable over time. This does not involve the belief that velocity of circulation is constant over time, although (since he goes on to state that stability is instead located in the relation between the quantity demanded and the variables determining it) this amounts to an adherence to constant velocity in a stable state. In some respects this oral tradition appears congruent with the governing

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[80] P. Cagan, "The Monetary Dynamics of Hyperinflation", in M. Friedman, *Studies in the Quantity Theory of Money*, University of Chicago Press, Chicago 1956 Table 1 p. 26.

[81] Cagan, "The Monetary Dynamics of Hyperinflation", pp. 29-37.

[82] M. Friedman, "The Quantity Theory of Money – A Restatement", in Friedman (ed.) *Studies in the Quantity Theory of Money*, University of Chicago Press, Chicago 1956 pp. 3-4.

assumptions of German economists during the 1940s, but Patinkin has since shown that this "oral tradition" presented by Friedman serves mainly to disguise his assimilation of Keynesian theory, and has little to do with monetary orthodoxy in the Chicago of the 1940s. Patinkin was a student there at the time, and he asserts that his teacher Simons never, in print or in lectures, used the expression "demand for money":

> …Simons did not spell out the details of the mechanism by which an increase in the quantity of money was supposed to increase the volume of spending on goods and services. Instead, he sufficed with the simple, sometimes implicit, and frequently mechanical statement that an increase in *M* increased aggregate demand *MV*.[83]

This sounds rather familiar, especially in the light of Patinkin's argument that Simons treated the quantity theory as a theory relating the quantity of money to the aggregate demand for goods and services and thence to the price level and/or level of output. On the other hand, Simons was aware of the dangers in sudden changes in velocity, due to anticipated changes in the price level and changing states of business confidence.[84] Mostly these observations were developed in the context of the recessions of the 1920s and 1930s, and they did not envisage the consequences of an accumulated purchasing power overhang as in Germany. But there are three points that can be made in closing.

Firstly, too little is known about German monetary economics of the 1930s and 1940s. The arguments put forward by German economists and administrators were shaped by this tradition, and this paper has sought to demonstrate that the relation between war finance and the Currency Reform is not as entirely straightforward as usually supposed, since the relationship is mediated by principles drawn from prevailing theories of money and banking which are remote to us today.[85] Secondly, even cursory examination of contemporary American monetary thought reveals parallel assumptions, from which we could infer that a more detailed study of international monetary thought during the 1930s and 1940s might throw up further similarities.[86] Thirdly, and finally, a study of this kind might show how far monetary orthodoxy in Germany during the 1940s was simply a reflection of a more international orthodoxy; and, therefore, that the economic content of Ordoliberalism, the foundation of the Social Market Economy, is nothing more than a version of a neo-classical orthodoxy elsewhere eclipsed in the course of the 1950s.

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[83] D. Patinkin, "The Chicago Tradition, the Quantity Theory, and Friedman", in his *Essays on and in the Chicago Tradition*, Duke University Press, Durham N.C. 1981 p. 247. (Reprint of article originally published 1969)

[84] Patinkin, "The Chicago Tradition", p. 245.

[85] Or which have been recycled as new orthodoxies, but this does not alter the problem of historical understanding.

[86] See for example D. Laidler, "Hawtrey, Harvard, and the Origins of the Chicago Tradition", *Journal of Political Economy* Vol. 101 (1993) pp. 1068-1103.