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The agony of central power: Fiscal federalism in the German Reich

CARSTEN HEFEKER
WWZ, University of Basel, 4003 Basel, Switzerland

This article revisits the German system of fiscal federalism between unification in 1871 and hyper-inflation in 1923. I argue that the ill designed fiscal system led to systematically excessive debt for the Reich. The system was the outcome of overlapping distributional conflicts between centre and states, and between capital and labour. It was also responsible for the debt problems arising in World War I and the unsuccessful attempts at fiscal reforms during and after the war. Ultimately, these distributional conflicts contributed to the hyper-inflation in Germany. The German example also has implications for the debate about fiscal federalism in the European Union.

1. Introduction

Plans for monetary union in Europe and the fiscal requirements placed on countries that join it have raised the question of how useful those criteria are. Is there really a danger that countries may behave fiscally irresponsibly, hoping to be bailed out by the European Union (EU)? While the framers of the Maastricht Treaty seem to believe so, economists are sceptical that fiscal federalism requires co-ordination of fiscal policies. Eichengreen and von Hagen (1996) argue that borrowing constraints on 'sub-level' government institutions are only justified if these lack power to tax. They conclude that the Maastricht criteria are only justified if member states lose their power to tax.

This article, building on historical experience from the unification of the German Reich in 1871, points out another potential danger. If sub-national governments delegate more and more tasks to the central level without transferring at the same time the necessary power to tax, there is the danger that the *central* government may have to rely on issuing debt. The German fiscal system before the First World War illustrates this consideration. Lacking adequate sources of finance, the centre was forced to cover its budget to a large extent via debt, running ultimately into a serious debt crisis when expenditures increased during and after the war. The conclusion for Europe is that unification will need to give sufficient financial resources to the central power. While this seems obvious, it is by no means certain that the political process will ensure this, as the German example demonstrates.

Clearly, comparisons between the German Reich and the EU should not be driven too far. First, the EU as such is not allowed to issue debt, only the constituting sub-level institutions can do so. This should constrain overall debt. Moreover, the EU does not, and probably never will, aim at redistribution among member states in the way Germany did. Nevertheless, given that current net-paying member states aim at a reduction of their contributions, and with the planned enlargement to include Eastern European countries, there is an obvious danger for the EU-institutions' budgets.

Although the article takes the EU as a starting point, its main aim is to review the causes of the fiscal difficulties of the German Reich between 1871 and 1923. I aim less to provide new insights or results, than to reinterpret the origin of the difficulties of financing the First World War, the German hyper-inflation and the German default by putting these events in a longer time perspective. It has been argued before that the hyper-inflation in Germany was the result of a war of attrition between opposing interest groups (Alesina 1988). I argue below that distributional conflicts shaped the German system for much longer and that these continued to do so after the war. Although several attempts at fiscal reform were made they remained unsuccessful until after the hyper-inflation.

So far, these ideas have been widely scattered in the literature. Although since Bresciani-Turroni (1937) many studies have attributed the hyper-inflation to the fiscal implications of the First World War, most do not go back earlier in time to analyse distributional conflicts (though see Ferguson 1995). Another strand in the literature argues that interest groups shaped the fiscal system before the war (Witt 1970, Neumark 1976). The main aim of this article is to combine these aspects, put them into perspective and reinterpret them. My argument is that the system of fiscal revenues and redistribution between centre and states in Germany after unification in 1871 was not sustainable from its inception. The reason can be found in two overlapping conflicts. First, there was a distributional conflict between capital and labour, resulting in an insufficient tax structure. Second, there was another conflict between centre and states about relative powers. State governments feared that the central power would become too powerful when given extensive fiscal powers. These distributional struggles, whose relative importance changed over time, are the source of the debt accumulation, especially in the finance of the war, and the ultimate fiscal catastrophe when reparations were added after the war.

2. The budget of the Reich

The fiscal system of the German Reich after 1871 was based on that of the Norddeutscher Bund (North-German Confederation) of 1867, which in turn followed the Prussian system. There and in the German Reich, Prussia was the single most important state. It constituted about two-thirds of the

Reich's population and territory, which comprised 25 states. Political activity in the united Reich was conducted at three levels: the centre was formed by the Kaiser (emperor), the Reich chancellor and Reich authorities, by the Bundesrat (federal council) that represented the individual states, and the Reichstag (parliament). The Bundesrat had an important veto power because fiscal laws had to find the support of the Kaiser, the Bundesrat and the Reichstag. Especially in the early years, the Bundesrat was viewed as a mere mask for Prussian hegemony (Neumark 1976), which led smaller states to have a predisposition against any kind of central power. Constitutionally, this dominance was supported by the fact that the Prussian king was also the German Kaiser, that the Prussian prime minister was also Reich chancellor and that the Reich's secretaries of state often simultaneously held positions as ministers and secretaries of state in the Prussian government (Grotewold 1906). In addition, many Reich tasks such as the control of the budget were handled by Prussian authorities.

Sources of revenue for centre and states were determined by their respective tasks. The Reich was responsible for foreign relations, military and defence, post and telegraphy, co-ordination of public transportation, tariffs and trade laws, the monetary system including the central bank, and the social security system. To fulfil these obligations the Reich exercised authority concerning tariffs, indirect taxes on salt, tobacco, brandy, sugar and beer, and some indirect taxes on commerce and domestic trade. (Tariffs and indirect taxes were collected by the states and then transferred to the Reich for a small fee.) Moreover, the Reich obtained revenue from post and telegraph services, the railway in Alsace and other minor sources. Should those direct revenues not be sufficient, the states were obliged to contribute to the central budget according to their population, the so-called matricular contributions (Matrikularbeiträge) (see Section 3). After 1889/90 revenues and expenditures were divided into ordinary and extraordinary payments (previously only expenditures were separated). Regular expenditures were additionally divided into ongoing and one-time payments.[1] According to article 73 of the federal constitution, extraordinary expenses had to be covered by issuing debt but without defining what the extraordinary expenses were, and without any provision for subsequent debt reduction (Gerloff 1913, p. 394). By simply defining many items as extraordinary, the Reichstag made possible the debt financing of many issues. Forced to choose between debt and introducing new or higher taxes, the Reichstag often chose the former (von Kruedener 1987, p. 118).

The states in turn were responsible for police, commerce and domestic trade, culture, education, healthcare and infrastructure. Their sources of

[1] An international comparison concerning the structure of central and state budgets is complicated by this existence of ongoing and one-off, ordinary and extraordinary, gross and net financial flows, extra funds, and off-budget payments (Schremmer 1994).

revenue were direct taxes, revenues from public domains, railways and other state-owned enterprises. Since the budgetary systems of states were their own responsibility, there existed as many different systems as there were states (Schremmer 1994).

Changes in the fiscal system over the years reflected more fundamental national and international changes. In the economic sphere there was the change from agriculture to industry (see Neumark 1976 for details). Economic changes were also reflected in the social sphere with the structure of employment changing and the population moving into cities, forcing these to increase public expenditures. Increasing industrial employment also implied greater regulation of working relations in industry and led Bismarck to introduce a social security system in the 1880s. The changing economic and social situation was accompanied by changes in the internal political systems of the states which were very unevenly developed in terms of political participation.[2] Finally, in the international sphere the Reich began to play a role as a world power with strong implications for military expenses (see Table 1).

These basic changes are reflected in the structure of the Reich's budget in the broadest sense. The share of total government expenditures over GNP rose from 10 per cent in 1881 to 17.7 per cent in 1913 (the central government's share increased from 2.9 to 6.2 per cent) (Andic and Veverka 1963/64, Table A7). On the other hand, the structure of revenue and spending changed. Initially, revenues from tariffs and indirect taxation were the major source from which to finance the increased expenditure. This again followed the Prussian example whose tax system benefited the agrarian interests that dominated the three-class voting system (Feldman 1993, p. 14).[3] The share of tariff revenue in the Reich's budget increased from 25 per cent (1870s) to 40–50 per cent (1890s), the largest contributor being tariffs on agricultural products. By 1913 they had fallen back to 35 per cent. Sources

Table 1. *Total expenditures of the Reich, 1876–1913 (as percentage of total).*

Average over years	Administration	Defence	Social expenditures	Debt
1876–1880	9.9	76.1		0.68
1891–1895	8.7	65.8	17.8	5.7
1901–1905	7.4	56.7	28	5.6
1911–1913	7.4	53.1	30.6	6.0

Source: Calculated from Andic and Veverka (1963), Table A22.

[2] While Baden and Württemberg had a constitutional monarchy, Prussia had a highly inequitable 3-class parliamentary system.

Table 2. *Major regular revenue of the Reich (as percentage of total).*

Average over years	Tariffs and taxes	Net contributions from the states	Revenue from public enterprises
1872–1874	66.2	22.7	4.4
1900–1904	81.3	1.9	8.3
1910–1913	81.0	2.5	2.4

Source: Schremmer (1994).

of indirect taxes in turn were mainly brandy, sugar, beer, salt and tobacco. In 1913 indirect taxes contributed about 35 per cent to regular revenue, and indirect taxes on domestic business and commerce contributed 11 per cent. The latter were levied on cheques, lotteries, insurances, legal services, and the issue of bonds and freight-papers. Additional revenues came from public enterprises and the states' matricular contributions (see Table 2).

The last source of public finance was debt. The years 1871–79 were the 'liberal era', where free trade coincided with the low financial requirements of the young Reich. The phase up to 1892–93, in contrast, was one in which the debt of the Reich increased enormously, although a fundamental shift in trade policy towards protection caused tariff revenues to rise (Kitchen 1978, p. 167). Indeed, it has been argued that the change in trade policy was mainly due to the emerging fiscal problems of the German Reich.[4] Von Kruedener (1987, p. 116) and Roesler (1967, p. 13) argue that Bismarck hoped that increasing tariff revenues would make the matricular contributions by the state no longer necessary. Given that Bismarck tended to support agrarian interests in general, protectionist trade policy served two purposes at the same time.[5] Public debt nevertheless increased because the states used their veto power to make sure that most of the extra tariff revenue went to the states, as the next section will show.

3. Fiscal redistribution between Reich and states

The fiscal system of the German Reich was characterised by two general problems: an 'excessive federalism' (Neumark 1976, p. 60) and the struggle between legislative and executive power. While the central government aimed to strengthen the Reich *vis-à-vis* the states, the latter resisted (Grotewold 1906). The financial flows between states and centre reflect

[3] Witt (1970) argues that the whole tax and tariff system in Germany between 1871 and 1914 was a sophisticated system to benefit agrarian interests at the expense of the working classes.

[4] The change in trade policy was also influenced by the protectionist interests of industry and agriculture. See Lambi (1963) or Kitchen (1978) for analyses of German trade policy.

[5] This era ended when chancellor Caprivi returned to freer trade after 1892.

these opposing interests. Figure 1 shows the gross and net capital flows between the states and the central power. (I have summarised flows from the centre to the states as transfers and the reverse channel as matricular contributions.) During 1872–78, matricular contributions were the only channel of redistribution between the Reich and the states, but in 1879 a reverse channel arose from the tariff revenues of the Reich.

The problem with the matricular contributions was twofold. First, they were designed to be a subsidiary source of revenue only if regular revenues proved insufficient (Grotewold 1906). Part of the constitution of the Reich was the so-called Miquel clause (after the Prussian minister of finance) which envisaged that those contributions should only exist until 'real' Reich taxes were introduced (Neumark 1976, p. 64). Miquel argued that the Reich had a genuine right to its own revenue sources in order to become independent from the states (Gerloff 1913, pp. 61–2). On the other hand, it was in the power of the parliamentary system to determine how much of the funds that the states contributed to the central budget could be used for expenditure. This implied much discretion for the parliament in deciding whether expenditure would be covered via regular revenue, matricular contributions or debt (Cohn 1899, p. 143). Indeed, it was the declared aim of the states to make sure that the Reich would not become financially independent and control over the budget was important in achieving this end. Finally, since matricular con-

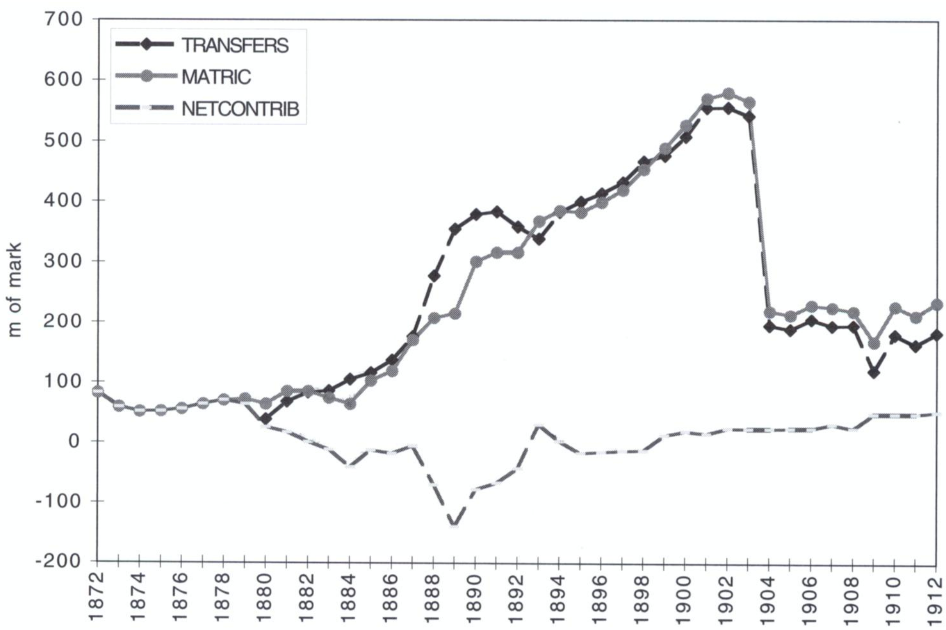

Figure 1. *Fiscal flows between states and Reich.*

Source: Gerloff (1913, p. 522).
Note: Netcontrib = Matricular Contributions-Transfers

tributions were determined at the beginning of the fiscal year, the government was often forced to require additional funds from the states should more funds be needed. There was also a strategic element since both sides based their arguments on estimates. The Reich had an incentive to underestimate its revenues, while the states had the opposite incentive (Cohn 1899).

The second major source of fiscal revenue for the Reich was foreign trade. As explained above, tariffs were drastically increased in the late 1870s in response to a combination of interest groups' pressure and the government's desire to become independent from the states' contributions (Gerloff 1913, p. 133). However, the financial interest of the states and their objective of constraining the central power created the so-called Franckenstein clause in 1879. Its basic effect was that revenue from tariffs and tobacco taxes which were above a certain amount (initially 130m *marks*, but raised several times thereafter) had to be redistributed to the states. This clause was designed by the states to overcompensate the matricular contributions (Gerloff 1913, p. 296). The states thus gained control over the revenues of the Reich and the Reich remained dependent (von Kruedener 1987, p. 111). It has been argued that without the Franckenstein clause the Reich would have been able to repay its debt (Gerloff 1913, p. 316).[6] The Franckenstein clause only worsened the situation. The states' desire to constrain the Reich's financial power had several unpleasant consequences: the Reich was not able to benefit from the most profitable source of taxation, the income tax, while the Franckenstein clause forced a financially weak Reich to distribute money to state governments. And even small increases in consumption taxes took years to pass through parliament (Neumark 1976, p. 100). While the states were determined to avoid any increase in the relative power of the centre by making it financially less dependent, higher consumption taxes, it was feared, might increase political support for Left leaning parties. At the same time, the Reich's total expenditure increased tremendously because of rising military commitments. Here the main burden came from the development of the fleet which cost an increasing share of the military budget. As a consequence, the Reich piled up large amounts of debt after 1880 to cover its increasing spending (see Figure 2).

For this reason, as shown in Figure 3, the debt of the Reich was increasing relatively fast (starting from zero because of the French reparations), although by 1913, for instance, only 16 per cent of public debt was Reich debt, while 51 per cent was issued by the states. The debt of Prussia for instance reached a peak of 18.4 per cent in 1895. The reason for this tremendous increase (in 1875 it had been as low as 6.4 per cent) was

[6] Von Kruedener (1987, p. 119) even argues that the Franckenstein reform destabilised financial flows between the Reich and states because deficits and surpluses became unforeseeable, inviting the states to spendthrift behaviour, and making reliable and steady state finances impossible. In his conclusion, he claims that the 'Franckenstein Paradox' produced results opposite to its purpose.

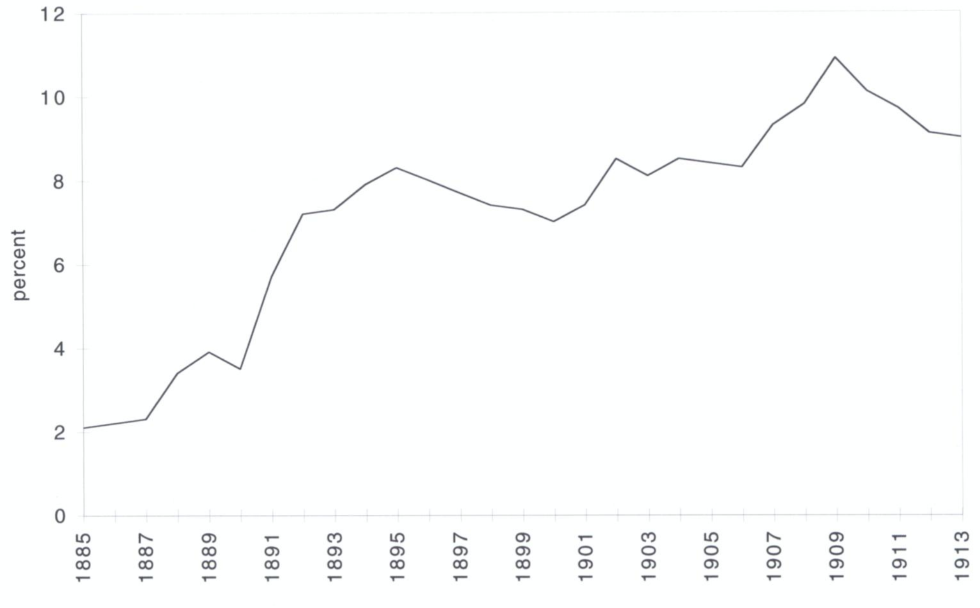

Figure 2. ***Central government debt as share of GNP.***

Sources: **Gerloff (1913, p. 521); Andic and Veverka (1963/64, Table A5).**

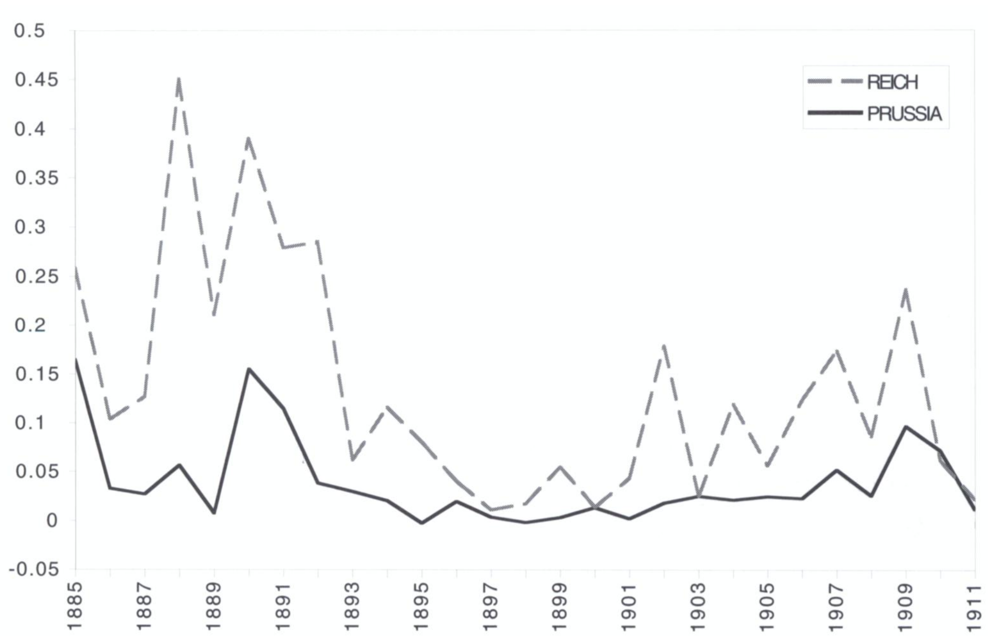

Figure 3. ***Relative debt growth in Germany.***

Note: **Growth is calculated as log(x) − log(x(−1)).**
Source: **Gerloff (1913, pp. 521–30).**

basically the heavy involvement of the Prussian state in the development of the railway system. Moreover, the changing structure of the German economy and society implied more responsibilities for the public authorities.

The high debt at all levels of government meant that the Reich had to compete against the state governments for funds. The resulting pressure on the financial markets required that German bonds paid a premium over French and British bonds, at what Neumark (1976, p. 104) described as '... a relatively high rate for stable states' (see Figure 4).[7] This holds true for a broader comparison among European states, as Flandreau *et al.* (1998, Fig. 3) show. After the turn of the century the German rates rose even above those of Italy, a country that had earlier suspended the gold standard because of its fiscal problems. Given that capital markets were relatively open, this difference can probably be attributed to risk assessments by financial markets.[8]

Thus foreign capital markets were seen as a competitor by the German government, leading to attempts to restrict capital exports (Borchardt 1976, pp. 32–3; Fishlow 1985, p. 399).[9] For instance, the government

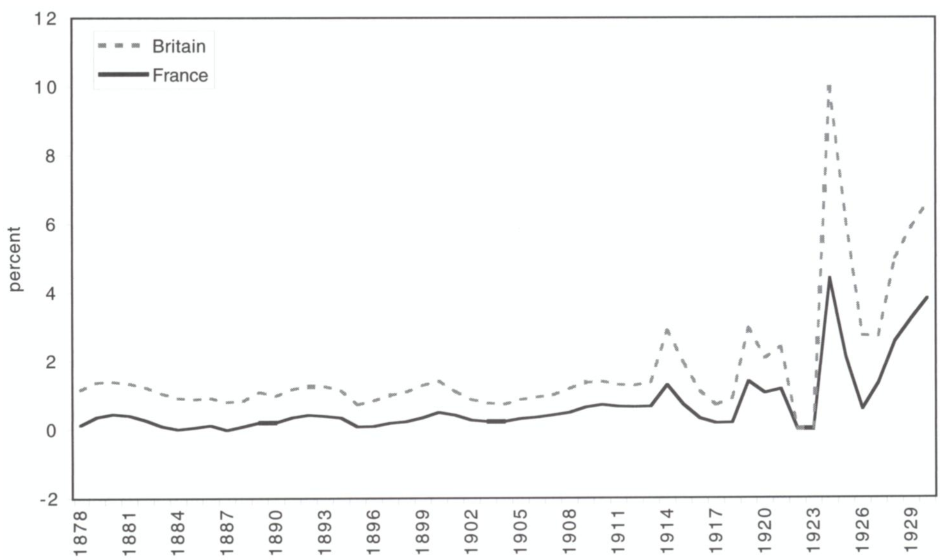

Figure 4. ***Premium of German government bonds over British and French bonds.***

Source: Homer and Sylla (1995, Tables 19, 25, 32).

[7] For an opposite view, see James (1997, p. 24).

[8] It is also remarkable that the German long-term interest rate was above those of countries with a higher debt to GDP/GNP ratio (Flandreau *et al.* 1998, Fig. 4). This would also indicate that Germany's capacity to service its debt was doubted.

[9] Von Scholz, the minister of finance, is quoted as saying in 1886 that it seemed necessary for him '... to reserve domestic capital as much as possible for domestic purposes and enterprises and to keep it serviceable for our own state credit ...'(Stern 1977, p. 424).

forbade the placement of Russian bonds on the German capital market in 1906 (Neumark 1976) and it also forbade many other placements of foreign bonds on the German market as well (Feis 1930, ch. 6). It was the general position of the government to allow foreign securities on the German market only after domestic demands were served. Therefore, Germany was the European country with the least amount of domestic savings going into foreign investment. Bloomfield (1968, p. 13) estimates that only 10 per cent of domestic saving went abroad between 1900 and 1914. But despite these measures, Berlin was still by far the biggest short-term debtor on the international capital market. By 1914 the foreign debt, which was mainly held by French banks, stood at 1bn *marks*, having doubled in only ten years (Bloomfield 1963, p. 41; Borchardt 1976, p. 33). The funds shortage forced a quite expansive credit policy upon the German Reichsbank (Kroboth 1986, p. 27), which had insufficient control over the money supply because the great private banks followed an extensive credit creation policy (Ferguson 1995, pp. 86–7).

4. Failed reform attempts before the war

Since he came to power, Bismarck had aimed to disentangle the finances of the Reich and the states and to put the finances of the Reich on more solid foundations (Stern 1977). But the adoption of the 'Franckenstein clause' can be interpreted as the final failure of his attempts. Given the desperate situation of the Reich's finances, however, several reforms were implemented which slightly increased its financial resources. The rapid increase in Reich debt led the states to sign a law in 1896 which required debt repayment, and in 1908 a law followed that specified the repayment of 3–5 per cent of the outstanding debt every year. But it was never really implemented (Neumark 1976). In addition, extraordinary one-off payments could still be covered by issuing debt, a technique extensively used later to cover war expenditure. And although, in 1904 and 1906, the so-called Stengel laws proposed an increase in indirect consumption taxes and an inheritance tax which both benefited the Reich, this could not change the basic situation either because the states obtained a share of these taxes as well. Hence, by 1906 a memorandum had recognised that another reform would be necessary in the immediate future (Gerloff 1913, p. 40).

While the parliament was able to keep control over the spending of the central government, the Reich in turn found ways to avoid its annual control. There were frequent lump-sum or multi-annual budgets which the Reichstag could not control. Moreover, there existed no independent institution to control the expenses of the government and the emperor had the final right to sanction violations of the budget law. Even though the Reichstag could restrain the centre's financial powers it could not prevent the centre acquiring large debts.

In addition and increasingly, a second conflict between different parties, representing different groups in society, came to the fore. The Left-leaning parties, the social democrats (SPD) and the liberal left (Linksliberalen) opposed increases in indirect taxation, but together with the national liberals welcomed the inheritance tax. That however was strongly opposed by the Centre (Zentrum) and the Conservatives who were able to block the inheritance tax in the general form planned.[10] It was substituted by turnover taxes. As a consequence the then chancellor Bülow had to resign. Bülow's successor Bethmann Hollweg aimed at a compromise between the Conservatives and the reform pressure from the Left. His declared aim was a conservation of the *status quo* while recognising that some reform would be inevitable.

5. States vs centre and capital vs labour

How can this unworkable system be explained? Two overlapping distributional conflicts can rationalise it. First, there was the problem of federal states which were unwilling to grant major financial powers to the Reich. The states were afraid that they would lose their independent source of revenue once a serious reform of tax allocation started (Grotewold 1906). Keeping the central power in check could best be achieved by controlling its finances via the Bundesrat. Even large Prussia feared that tax reform would undermine its strong position and was supported by other larger states such as Bavaria and Saxony in this position (Kroboth 1986, p. 30). This fear makes sense from the states' point of view because there was no provision in the constitution that would credibly commit the central power against such behaviour (Gerloff 1913, p. 512). Given the centre's history of seeking control over the states by extending the powers of the Reich, simple promises were not credible. At the same time, all states had an incentive to maximise their demands on the centre's budget. This can be understood by drawing on theoretical insights about fiscal federalism. Federal states often exhibit an excessive deficit bias as regional representatives do not internalise the external effects of their demands on the tax burden for the whole nation (see Weingast *et al.* 1981).

The tendency of the states to oppose tax reform was strongly supported by industrial interest groups. Agriculture and industry benefited from the system of indirect taxation and their strong political influence to achieve this aim is well documented (Witt 1970, Neumark 1976, Schremmer 1994). The conservatives as their representatives were very clear about their intention to oppose any changes leading to a system of direct taxation. Direct taxation should not be allowed to rest in the hands of a parliamentary body elected on equal suffrage (Witt 1987, p. 143). Instead, it was desired to keep most

[10] The inheritance tax was only applicable for second-degree relatives (*Seitenverwandte*) (Kroboth 1986, p. 30).

power with the state chamber because many of the states were still characterised by parliamentary systems with unequal suffrage. Had the tax system been changed, it was clear that the large financial needs of the central government would have required a considerable tax burden on capital. This way, however, indirect taxation put a relatively strong burden on labour.

While agriculture and industry opposed shifts towards more democracy and more equal taxation, there were conflicts within industry and between industry and agriculture. The latter, aiming to preserve the economic structure of the Reich, favoured a system of taxation that would slow down, if not stop, the movement towards capitalism based on stock exchanges and industry. According to them, tax policy should not only cement social structures but industrial structures. Thus, the often depicted coalition between iron and rye with respect to tariffs was quite unstable with respect to taxation (Kroboth 1986, p. 39).

In conclusion, the system of taxation and redistribution created an implicit coalition between two interest groups against any changes in the fiscal and tax system, albeit with undesirable outcomes for all. Industry and state governments united in their rejection of extending the central government's power. While the first were fearful of an increased tax burden, the latter opposed any increase in the centre's power. The states themselves, however, were gradually forced to change their own tax structure toward more direct taxation (Schremmer 1994). An important change came with the Prussian tax reform of 1891 under its minister of finance, Miquel, which marked the shift to the general income tax, being followed by a wealth tax in 1893. The basic aim was to achieve a broader tax basis, a higher contribution from the high income classes and lower taxation of low incomes.[11] This process, however, was extremely slow.[12]

Besides increasing income for the states, the second reason for the gradual movement in the structure of taxation toward more direct taxes was the changing structure of the economy and a change in the employment structure. Workers in industry, craftsmen and the like felt increasingly uncomfortable with the heavily biased tax system. Even from the revolution of 1848–49, the government had begun to realise that this could be a serious danger to political stability. In the view of Grotewold (1906, p. 150), direct taxes for the Reich would help to rally the working class to the cause of the Reich. Though this failed, similar considerations gave rise to the introduction of the social security system which then also contributed to the increase in the Reich's debt (Neumark 1976, Kitchen 1978, p. 176).

[11] As one referee has pointed out, the fact that the Prussian income tax was progressive might also be an explanation for the fact that a Reich income tax was rejected. This would have hurt higher income classes particularly hard, whereas in Prussia they still had a strong position in the parliament.

[12] Saxony was the first state which shifted toward direct taxation in the 1870s. More details on the change in the budgets of the states can be found in Gerloff (1913, p. 270ff).

6. War finance and inflation

The tax reform of 1909 could solve none of the conflicts in German fiscal policy. Political interests favouring a huge funding of army and fleet conflicted with others who advocated pursuing budget stabilisation and reducing outstanding debt (Kroboth 1986, p. 19). But even the militarists were not able to get all the resources they deemed necessary for the coming war. However, the clear course towards war made it finally possible, in 1913, to achieve the Reichstag's support for enlarging the 'war chest'. Given that credit finance became increasingly difficult, it was commonly understood that a change was necessary to finance military expenses. A so-called defence contribution (*Wehrbeitrag*) and a tax on wealth increases (*Vermögenszuwachssteuer*) were agreed upon. This was the first time that taxation was clearly aimed at the high income classes. It was also agreed that the gold reserves should be increased to 230m *marks* by issuing bonds, and by the same token, a silver reserve should be built up. When war broke out, 85m *marks* of gold and 6m of silver were available (Roesler 1967, p. 23).

Still the reform was insufficient to make a sound war finance possible. The inability to solve the fiscal problems effectively might actually have hastened the outbreak of the war. Ferguson (1994) argues that the decisive factor which pushed Germany into the war in 1914 was the conviction of military and civilian leaders that it could not win the arms race against its continental neighbours. Had Germany spent more on the military and thus not experienced its strategic insecurity, the First World War might have been less likely. In comparison, the British system, with an adequate tax base, was able to cover growing social expenditures without having to surrender its military programme, and the same is true for the French and Russian fiscal systems (Ferguson 1994). Thus the Reich needed to start the war before its opponents became even stronger.

When war broke out, Germany's adversaries turned to debt finance as well. Balderston (1989), for instance, estimates that Britain's share of tax finance of war expenditures was also only 26.2 per cent (compared to Germany's 16.7). In his explanation, the crucial difference is the German inability to tap the international financial markets. One-fourth of the British debt was foreign-held; likewise France had access to foreign funds to finance the war (Haller 1976, pp. 134–5). In Germany, by contrast, the Reichsbank held three-fourths of the German government debt (Balderston 1989, p. 238). This lack of access to foreign funds is, of course, not independent of the German fiscal system. The inability of the German fiscal system to absorb large shocks must have been obvious to observers. In 1913, foreign investors began to withdraw their funds. Bloomfield (1963, p. 87) cites reports that German private funds were also moved to Switzerland for fear of higher taxes.

Eichengreen (1992, p. 80) however has argued that it might have been possible in principle to place much more of the German debt in the market, but that it was declared policy to protect industry and commerce from the effects of credit stringency. Loan offices were created that extended credit to small firms and traders that were rationed out of the credit market (Haller 1976, p. 122). To relax the credit constraints further, treasury bills were increasingly discounted by the Reichsbank, so that up to 1917 three-quarters of the floating debt was held by the Reichsbank, decreasing to little more than one-half afterwards (Roesler 1967, Table A10; Feldman 1993, p. 38).[13]

An increasing share of this debt was short-term, the government hoping that eventually its enemies would pay for the war once Germany had won (Alesina 1988). Winning the war was much more important that any thoughts about how to finance it (Haller 1976, p. 116). And again, it was left entirely to the central government to finance the war. By 1917 public spending had risen to more than 70 per cent of GDP and floating debt exceeded more than 5bn *marks* by the end of the war (Ferguson 1995, p. 447). States, communities and cities contributed very little. This is clear from Table 3, which shows that the debt of the states and the communities increased very little in comparison to the Reich's. Consequently, tax revenue ultimately provided a virtually negligible fraction of the expenses (Alesina 1988).

So when the war began, the government extensively used its open access to the Reichsbank's credit that willingly discounted government debt (Gerloff 1929, pp. 66–7).[14] Germany went off the gold standard which was the last barrier to inflation. The restrictions on the bank's note issue were cancelled and it was allowed to cover its issuance with loan bureau notes of the Reich and to exchange those against treasury notes (Holtfrerich 1988,

Table 3. *Structure of war debt in Germany, 1914–19 (bn marks).*

	Total amount of debt	
	1914	1919
Reich	5.02	156.1
States	16.84	22.96
Communities	7.78	21.00
Hanseatic Cities		2.23

Sources: Balderston (1989), Schremmer (1994).

[13] Feldman (1993, p. 33) shows how a campaign by government and the Reichsbank tried to persuade citizens to exchange gold for paper money at the Reichsbank. It was declared a patriotic duty to help the Reichsbank to issue more money without violating the gold reserve constraint.

[14] Support of government finance by monetary policy was in the tradition of the Reichsbank. Private business and banks had direct access to Reichsbank credit (Holtfrerich 1988, p. 109) and the government relied increasingly on Reichsbank credit from 1900 onwards (Borchardt 1976, p. 51).

p. 114). The government did not seem to detect any danger in this method of war finance. Finance minister Helfferich did not even try to change the fiscal system despite increasing financial needs.[15]

7. Reform attempts during and after the war

Eventually, there were several attempts to increase taxes during the war. Beginning in 1916 the Reichstag voted on several tax laws, pushing the system more in the direction of direct taxation. In 1916 a turnover tax was created – the so-called stamp tax; amounting to one permille of the goods' values that were transacted. In July 1918 it was raised to 0.5 per cent and changed into a comprehensive turnover tax. But its collection was made difficult by the fact that many tax inspectors were 'in the field' and thus not available for tax collection. In addition, general public resistance to this tax was feared, so that it could not be increased by too much (Williamson 1971, p. 143). Special war gain taxes (*Kriegsgewinnabgaben*) in 1916 and 1918 aimed to access gains in asset values made by private individuals and joint-stock corporations during the war years. Top rates could reach up to 80 per cent. In 1919 it was also possible to levy an extra-income tax to finance the war (*Kriegsabgabe* and *Reichsnotopfer*) (for a comprehensive chronology, see Institut Finanzen und Steuern 1956; Witt 1992). But this tax largely failed because enterprises were able to evade much of the tax incidence by manipulating their accounts (Roesler 1967, p. 165).

Given that tax revenue was so low and that the Reichsbank discounted government debt, inflation was the logical consequence. It started during the war, had a first peak in the winter of 1919–20 and slowed between spring 1920 and spring 1921. In the summer of 1921, a dramatic leap upward followed that continued through to summer 1922, when hyper-inflation started. There was a brief period of relative stabilisation in the early months of 1923 before the *mark* collapsed in the autumn of 1923.[16]

Thus, the impossibility of reforming the tax system can be seen as one major contributor to inflation after the war. A coalition government was formed which was, however, threatened from both sides of the political spectrum. The old nationalists, the army and the aristocracy stood against the communists. The government was not able to impose a serious fiscal reform, and the situation became even worse through the imposition of large reparations on Germany. Table 4 describes the development of government finances after the war. The main reason for the impasse in the fiscal situation was that the old conflict over the distribution of tax liabilities con-

[15] 'War taxes after the war' was a widely held opinion at the time (Gerloff 1929, p. 59).

[16] There are many accounts of the Geman inflation. See, among others, the recent studies by Feldman (1993), Ferguson (1995), Webb (1989) and the classic accounts by Bresicani-Turroni (1937) and Holtfrerich (1980).

Table 4. *Revenue and expenditure of the Reich (m gold marks).*

	Revenue			Expenditure					
	Taxes	Debt	Other	Repayment of debt	Interest payments	Railroad	Reparations	Other	Total
1920	4,090.8	7,041.9	132.9	821.7	291	842.2		2,769.5	11,265.6
1921	5,235.7	6,627.4	100.5	1,039.5	811.6	1,114.4		8,998.1	11,963.6
1922	3,529.1	6,384.5	51.4	81.0	344.4	1,685.5	3,600.0	4,254.1	9,965.0
1923	1,496.1	11,836.5	180.6	n.a.	931.0	3,725.0	895.7	6,696.2	13,513.2

Source: Reparationskommission (1924, p. 30).
Notes: Converted via the CPI, figures are for fiscal years (April–March). 'Total' refers to whole year; 'Other' data is a summation of monthly figures of which not all are available.

tinued. The Socialists, supported by the democratic parties, pressed for a capital levy on large incomes, citing war profiteering by those classes. The parties on the Right, supported by the Nationalists, opposed this vehemently. They proposed that all workers work two extra hours daily and advocated increased sales taxation and less public spending on social programmes (Eichengreen 1992, p. 142). The government was too weak to impose fiscal burdens on either group.[17]

This fiscal deadlock was supported by the fact that all groups could always point to the reparations as the most important fiscal problem. Germany did its best to convince the allies that it was indeed unable to pay. Without entering into the large debate about German reparations to its former enemies, it is clear that these were planned to be very high in comparison to what Germany would actually be able to pay (for a detailed discussion, see Keynes 1919 and Webb 1989).[18] Instead of the 2,000m *marks* of annual reparations that were demanded, Germany would have been able to pay 200–300m with a stable budget (Webb 1986, pp. 62–3). Alternatively, a tax surcharge (of about 20 per cent on all taxes) should have been enough. But this was not possible because those in the higher income brackets resisted such an increase, because the taxes were not indexed to inflation (see below), and because the French were not willing to give Germany enough time to prepare such a tax increase. The public resistance to the high reparations had another negative impact on tax collection in Germany. It became almost a patriotic duty not to pay taxes that would benefit the enemy (Epstein 1959, p. 389).

The inability to increase taxes led to inflation which in turn was not only the result of distributional struggles but created further distributional conflicts (Keynes 1921, pp. 28–9).[19] Debtors benefited at the expense of creditors, unskilled workers benefited at the expense of skilled workers, producers of capital goods had an advantage *vis-à-vis* producers of consumer goods because of the flight towards real values. The beneficiaries of inflation had no incentive to consent to an end to the war of attrition (Eichengreen 1992, p. 144). To mediate distributional conflict, social security payments expanded rapidly, thereby underpinning the social peace being

[17] Haller (1976, pp. 139–41) estimates that the overall tax burden would have had to increase to 35 per cent of GNP in comparison to around 12 per cent before the war to achieve stabilisation with taxes. Obviously, to implement such a strong increase would have required a politically strong government.

[18] France is usually seen as the main driving force behind the huge demands to compensate for the lost war of 1870–71, even deliberately overestimating the damages by the Germans (Keynes 1919, p. 81ff). However, according to Trachtenberg (1980, pp. 40–41) when France filed its demands, it was implicitly assumed that those would never be paid in full. It speculated to gain financial assistance from the US for its later agreement to a more moderate sum.

[19] See Ferguson (1995, ch. 1) for a summary of the literature discussing the distributional consequences of the inflation.

eroded by the effects of inflation.[20] Even industrialists were willing to contribute, viewing these expenses as an insurance premium for social peace (Feldman 1993, p. 849).

Although the constitution of the Weimar republic, adopted in 1920, introduced fiscal centralism, the war of attrition could not be solved and inflation returned as the subsidiary source of government revenue. In March 1920 the Reichstag passed a Reich income tax law, prepared by finance minister Erzberger. Existing taxes were to be increased and new taxes were created such as an inheritance tax, property tax and, most importantly, an income tax. Only then did income tax became the most important source of revenue for the Reich (Holtfrereich 1980, p. 134). It was planned that the final relation between indirect and direct taxes should be 35 to 65 per cent (Witt 1987, pp. 146–7). The main characteristics of these reforms were the following: they (1) shifted exclusive competence for all kind of taxes to the central government, (2) compelled the centre to create a coherent legal framework for all taxes and the management of public finances, (3) gave the central power the right to claim all taxes falling on income, property, inheritance, consumption and excise, leaving only the right to claim taxes on real estate to lower level governments. This, of course, implied that subsequently state and local governments would be entitled to receive funds from the centre. The fact that the Reich had the exclusive right to set the main taxes implied that it had to channel a large part of its revenues back to the states – see Table 5 for the states' share of tax revenues.

This reform should have provided the solution to the fiscal problem. By shifting exclusive tax power to the central government, the dependence on the states should have disappeared and a fiscal stabilisation should have been possible. In the end, however, one must conclude that Erzberger's tax reform was not successful. In 1920 tax revenues increased by more than 20

Table 5. *Share of taxes allocated to the states (percentage of total).*

Type of tax	1920	1921	1922	1923	1924	1925	1926–33
Income and Corporate	66.6	75	75	75	90	75	75
Turnover	15[a]	15	15	25[b]	20	35	30[c]
Automobile			50	50	96	96	96
Realty transfer	50	50	50	96	96	96	96
Inheritance	20	20	20	20	–	–	–
Horse racing	–	–	50	50	96	96	96

Source: Institut Finanzen und Steuern (1956, p. 55).
Notes: [a] 10 per cent to states, 5 per cent to communities; [b] 10 per cent to states, 15 to communities; [c] shared between states and communities.

[20] While in 1913 19.3 per cent of all expenditures went to social programmes, in 1925–26 they reached 37.4 per cent and even 40.3 per cent in 1929–30.

per cent but then fell again in 1921–22 (Webb 1989, Figures 2.3–2.5). This happened although expenditures declined between 1920 and 1922, rising again in 1923 because of the Ruhr occupation (Witt 1987, pp. 147–8) (see Table 4).

The reason for this failure is again the fiscal system. Not the deficiency of the system *per se*, as before the war. That was changed with the Erzberger reform of 1920, but this time the execution of the new system was defective and could not lead to a real stabilisation. Indirect taxes, for instance, were mainly (specific) taxes on quantities, not values, which in a situation of rising prices meant that real revenue fell since tax rates would not compensate for inflation. The same problem showed up in direct taxes such as taxes on income, corporate profits and capital gains. Thus, although nominal tax rates were very high in the high income brackets, it was commonly known and accepted that the actual tax burden would be much lower.

Probably worse was the system of tax assessment. Because the tax assessment had to be unified across all states, this required an extensive process of co-ordination and change in the individual states' systems which formerly had been independent. Given the inflationary environment, the delay of tax revenue let the budget deficit increase and gave an incentive for taxpayers to try to delay every single step of income declaration and payment of taxes due. Also, with regard to direct taxes the planned allocation was radically different from the *de facto* distribution. The higher income brackets (5 per cent of the taxpayers) almost never contributed the intended 70 per cent of tax revenue (Witt 1987, p. 151). The reason is to be found in the complexities of the assessment system. Because unification and equalisation of the tax system in all states was such a time-consuming process, a withholding tax of 10 per cent was levied on all wage and salary earners (to be subject to a later *ex post* assessment as well) whereas income from property, industry or capital ownership would be assessed later and was thus eroded in real value through the delay.

The delay in the implementation of the government's proposals and the beginning of an inflow of funds (August 1919 and August 1920) forced the Reich once more to increase its floating debt by 53 bn *marks* (Witt 1987, p. 147). Moreover, the Reichsbank conducted an expansive monetary policy because it was concerned about the external value of the *mark*. The Erzberger reform in its first stage in 1920 had a positive influence on the value of the *mark* because it created expectations of a stabilisation. However, to avoid too strong an appreciation of the *mark*, which would make exports harder and thus also undermine the ability to pay reparations, the Reichsbank loosened monetary policy (Webb 1989, p. 53).

Because the Reichsbank conducted a passive monetary policy, the rate of inflation was actually determined by the public's expectations about future fiscal policy. The government constantly issued new debt and the public decided how much it was willing to hold. The rest was willingly discounted by the Reichsbank. In this sense, one might argue that 'the primal cause of the money growth and the whole inflation was the growth of government debt' (Webb 1985, p. 490).

The consequence of this inflationary finance of the budget deficits was an almost complete default on the outstanding debt. By 1922 the real value of the debt was only 5 per cent of its value in 1919 (see Alesina 1988). Only a credible change in the government, its strong political position and the *de facto* independence of the Reichsbank in 1923 were finally able to stop inflation.[21] In August 1923 the Stresemann government took power and was subsequently able to pass an 'enabling law' which empowered the government to rule by decree when the national interest required. The political stabilisation was finally able to overcome the deadlock and to change fiscal course.[22]

8. Conclusion

This article has argued that the German system of public finances exhibited most inconsistent characteristics. The organisation of state finances gave rise to an inherent fiscal deficit on the side of the central power and thus almost inevitably led to the default after World War I. In a sense, the war of attrition described in the literature as being one major cause of the German hyper-inflation of 1923 and the default on war debt can be seen as a consequence of distributional conflicts dating back much longer, to which after the war other factors were added. Although the central government's need to have its own and sufficient sources of finance had already been recognised in discussions about the German republic in 1848, once the Reich was created it was not possible to solve the several and overlapping distributional conflicts to achieve a consistent and sustainable fiscal system. While initially the conflict between centre and states was important, over time the conflict between different interest groups gained importance, especially after the war. The opposing parties were not able to overcome these conflicts, and thus ultimately had to suffer the consequences of a system whose reform they opposed. This extended even after the war when the celebrated Erzberger tax reform was unable to solve the distributional conflict. While the design of the system was improved, its execution was initially as defective as before. Only the devastating effects of the hyper-inflation ensured that a different course for public finances than debt discounting by the central bank would be chosen.

Beyond this historical analysis, there is another and broader conclusion

[21] Legally the Reichsbank obtained independence in 1922, but only with the appointment of a new president, Hjalmar Schacht, a strong supporter of the gold standard, in November 1923, did independence became effective.

[22] For a detailed discussion of the period between 1923 and 1932, see Balderston (1993).

that is particularly relevant for European unification. Inasmuch as tasks and responsibilities are transferred to the European level, member states must also ensure that the centre has the financial resources to fulfil those tasks. The German example has made clear that any other solution is unsustainable. But like the German states that were reluctant to transfer fiscal power to the centre, it is likely that the member states of the EU will be reluctant to grant more fiscal powers to the Commission (James 1997, p. 32). The impossibility of increasing EU central finances could become a problem if it were not possible to constrain the growing demands for funds channelled through Brussels. The extension of the EU to countries from eastern Europe, the reluctance of the southern member states to see their cohesion and structural funds decline to make finance available for newcomers, and the unwillingness of important pressure groups to see their funds reduced (most notably the agrarian lobby) at least remind one of what was going on in Germany between unification and default. National conflicts are reminiscent of the conflict between centre and states and are magnified by distributional struggles between interest groups. Although there are many differences, the future fiscal challenges for the EU could lead to a serious fiscal problem. The German example somewhat turns on its head many of the theories in the literature which fear a bail-out of the states by the centre and expresses support for smaller states. The present analysis suggests that instead, the central power itself could run into serious fiscal problems.

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