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Perspectives on the Borchardt Debate

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I. Introduction

For a hypothesis or interpretation to be named after the author who first advanced it is an indication of scholarly contribution with force. This criterion provides a ready measure of major contributions to the literature on the Great Depression of the 1930s. There is the Friedman and Schwartz interpretation of the Depression's monetary causes. There is the Temin critique of Friedman and Schwartz's view. There is Kindleberger's view of the Depression as having been caused by inadequate international economic leadership on the part of the United States. But only Knut Borchardt has the honor of having two separate hypotheses named after him: one about the role of excessive real wages in the origin and course of the German slump, the other about the German government's lack of policy options.¹

One Borchardt thesis is that the 1920s saw wages run ahead of productivity. Already in 1925 Germany was suffering from a labor cost problem, hourly and weekly earnings both having risen significantly since 1913. Contributions for expanded social programs increased costs still further. Then Germany suffered a wage explosion in the second half of the twenties, eroding its international competitiveness and increasing its dependence on capital imports for payments balance. The stage was set for the slump. Once capital flows dried up in the summer of 1928, unemployment began to rise. A serious problem of competitive imbalance was revealed, plunging Germany into depression even before economic activity began to decline in other countries.

The second Borchardt thesis is that German policymakers had few options
for countering the slump. Cost reductions helped, but in a period when demand in Germany’s export markets was collapsing, additional measures were required. Raising government spending, cutting taxes, reducing interest rates, initiating expansionary open market operations — any of these steps would have endangered the gold parity of the mark. But deprecating the currency would have undermined confidence, given inflationary fears inherited from the 1920s, thereby raising interest rates and worsening the slump. It would have violated provisions of the Dawes and Young Plans, antagonizing the Allies with whom Germany was still seeking a reparations settlement. There was little, in this view, that Brüning and his colleagues could do in 1931.

Both of Borchardt’s theses have been contested. Carl-Ludwig Holtfrererich, pointing to the growth of labor productivity that accompanied the rise in wages, disputes Borchardt’s contention that Germany was pushed into the Depression by excessive wages.² He and others have challenged the notion that the Brüning Government was without options in 1931.³ Still other scholars continue meanwhile to build on Borchardt’s original positions, and Borchardt himself has refused to recant.⁴

Like many debates, this one has an inbred character. It proceeds as a discussion among specialists contesting the interpretation of a limited body of documentary evidence and statistics. At some point one must ask how much additional insight can be gleaned from ten years of German wage and balance-of-payments data.

One way of extending the data base is to enlist evidence from other times and places. Indeed, many of the issues at stake in the Borchardt debates raise obvious “compared to what” questions.⁵ If German labor costs were too high to sustain export competitiveness, then by definition they were
too high relative to those prevailing abroad. If the exceptional inflexibility of wages was responsible for the German slump, then German labor market institutions must have been even less responsive than they had been in previous periods or than they were in other countries. If the legacy of inflation less than a decade before really posed an insurmountable obstacle to devaluation and the adoption of reflationary policies, then other countries not burdened by that legacy were presumably freer to pursue these options.

In this paper I attempt to place the Borchardt debates in perspective. Like other contributors, I must admit to not being an entirely disinterested observer. My own view of the Depression stresses the role of gold standard constraints, like those which Borchardt emphasizes for Germany, in explaining the failure of countries to respond to the negative shock by pursuing reflationary monetary policies. It stresses the role of labor market rigidities, not unlike those emphasized by Borchardt for Germany, in translating the negative shock to demand into unemployment worldwide. I consequently have considerable sympathy for Borchardt's views, the applicability of which, I shall argue, transcends the particular national history that prompted him to develop them. Recently, questions have been raised about this general interpretation of the Depression. I therefore take this appreciation as an opportunity to respond to those questions and to clarify my own views.

I analyze Borchardt's thesis of a malfunctioning of the German labor market by contrasting labor market structures and outcomes in Germany and other countries in the 1920s and 1930s. I point to evidence which runs counter to the standard presumption, showing that Germany's labor market in fact adjusted relatively smoothly in the early stages of the Great Depression.
If this same labor market had in fact functioned poorly in the 'twenties, then there must have been important changes in its structure and operation which shed light on the Borchardt debate.

I then analyze Borchardt's thesis of binding constraints on policy by comparing Germany's experience with that of other countries. This suggests that all countries, not just those burdened by a legacy of reparations and hyperinflation, were significantly inhibited by the external constraint. Building on the recent literature on exchange rate escape clauses, I ask why such countries were unable to suspend the gold standard in order to initiate reflationary policies. I argue that, in contrast to the situation in the 19th century, the conditions that had allowed governments to suspend convertibility temporarily without damaging the credibility of their commitment to its maintenance were no longer present in the 1930s.

II. German Labor Markets Between the Wars

In the economist's model of the full-employment economy, a negative shock reducing labor demand should put downward pressure on wages. As unemployment rises, labor should become willing to work for less in order to price itself back into employment. The growing reserve army of the unemployed should discipline the wage demands of workers and those who bargain on their behalf.

Following the 1929 downturn this was not generally the case. In virtually every country real wages rose instead of falling. This is a central element of Keynesian interpretations of the Depression. Workers -- then as now -- negotiate over nominal, not real, wages. Hence, when the deflationary shock put downward pressure on prices and nominal wages adjusted sluggishly,
the real cost of labor rose. Profits were squeezed, and firms laid off workers by the droves. In this view, the rise in real wages was simultaneously a cause and a consequence of the severity of the Great Depression.

In work with Jeffrey Sachs considering the performance of a number of European countries starting in 1929, I attempted to document the links running from deflation to real wage increases and from there to unemployment. In no country, it appears, did wages react smoothly to the post-1929 decline in prices. The sluggish response of wages to prices aggravated unemployment virtually everywhere.

This conclusion raises as many questions as it answers. The immediate one is why wages failed to respond. As Ben Bernanke puts it, "while it is useful to know that this statistical link exists, this result begs the deeper question of how wages could have possibly failed to adjust over such a long period of time and under such adverse labor market conditions as characterized the Great Depression." For macroeconomists this is a major paradox. Incentives for wage adjustment were clearly there. Money illusion -- in other words, an inability to fully grasp that a fall in prices requiring a commensurate reduction in money wages had occurred -- may explain the sluggishness of adjustment in the Depression's early phases; it is implausible as an explanation for the economy's failure to adjust "over such a long period of time." That adjustment failed to occur must therefore reflect institutional rigidities or major market failures.

One source of information on those rigidities and failures is provided by comparisons across time and space. Looking across countries, certain national labor markets stand out -- in Europe most notably Germany's. As
Figure 1 shows, real product wages in industry (nominal wages deflated by manufacturing prices) rose by more than 15 per cent between 1929 and 1931 in the U.S., the U.K., Sweden and Japan but by less than 3 per cent in Germany. Estimates of real hourly earnings in mines, industries and transport for 15 countries confirm that between 1929 and 1931 these rose by less in Germany than in any other country (Table 1). 10

This did not reflect less of a need for adjustment, for the negative demand shock to the economy was severe. Rather, nominal wages were more successfully cut to accommodate the decline in prices in Germany than in other countries. Only Australia of the 15 countries for which ILO data exist cut money wages more quickly still (Table 2). As a producer and exporter of primary products, the prices of which fell furthest and fastest after 1929, Australia's need for adjustment was particularly pressing. In addition, there is the fact that Australian wage-setting institutions, featuring arbitration and government intervention, bore a striking resemblance to those of Germany. It is worth considering whether those institutions may have been responsible for the two countries' unusually rapid, if still inadequate, wage adjustment.

The singular behavior of wages in Germany in the early 'thirties suggests an approach to the Borchardt debate over wages in the 'twenties. Borchardt argues that the growth of wages weakened the economy's competitive position, heightening its vulnerability to deflationary pressures. Figure 2 can be read as consistent with this view so long as one is precise about the timing: while unit labor costs in the production of industrial tradables had risen by less than output prices between 1913 and 1925, wage pressure erased much of this differential by 1929. 11 Both real wages and productivity had been depressed by the hyperinflation; hence, there was a natural post-
Figure 1

Real Product Wages, 1929-1937

Unweighted average for US, UK, Japan
and Sweden

Germany

Note: all series are normalized to
100 in 1929.

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**Source:** International Labour Review 40 (1999).
**Table 2**

Nominal Hourly Earnings in Mines, Industries and Transport in Fifteen Countries, 1929-38

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**Source:** International Labour Review 40 (1939).
Figure 2

German Prices and Unit Labor Costs, 1925–29

Prices of finished goods

Unit labor costs for all industrial tradables

Note: 1913 = 100.
inflation recovery of wages, matched initially by the recovery of productivity. Starting in 1927, however, productivity no longer kept pace. This productivity slowdown would have caused even a constant rate of wage increase to inflate labor costs. But inflation was not constant: slowing productivity growth combined with mounting demand pressure to produce a modest acceleration of inflation. With memories of hyperinflation still fresh, even modest price increases were more than sufficient to provoke escalating wage demands. Moreover, compulsory unemployment insurance contributions, made in matching amounts by workers and employees, were introduced in 1927, adding further to costs.\textsuperscript{12} In other countries, in contrast, costs were declining faster than prices, widening profit margins and enhancing competitiveness.\textsuperscript{13}

Even so, as late as 1929 unit labor costs had not regained their prewar relationship to prices, as Figure 2 shows. Short-run trends may have been adverse from the viewpoint of German competitiveness and profitability, but the position would still seem to have been stronger, not weaker, than before the war. There were two wrenches in the works, however: taxes and interest rates. Higher business taxes, needed to fund social programs for war veterans and the unemployed and to mobilize reparations transfers, meant that even an improved relationship of prices to costs could leave a smaller residual for profits.\textsuperscript{14} Higher interest rates, reflecting doubts about German financial and political conditions, increased the cost of capital to business and the cost of foreign borrowing for the country. Though intertemporal comparisons of profits are problematic, Hoffmann's data suggest the existence of a profit squeeze in the second half of the 1920s.\textsuperscript{15} "The spirit of Locarno," which allowed Germany’s foreign trade links to be rebuilt, in conjunction the global expansion that fueled the demand for German exports papered over these
problems for a time. But when capital inflows dried up in 1928 and world 
trade collapsed in 1929, the chickens came home to roost.

Is it plausible that the same wage-setting institutions that were 
apparently so successful, by international standards, in adjusting to the 
shocks of the 'thirties were incapable of keeping wages in line toward the end 
of the 'twenties? There are two possible answers to this question. One is 
that there occurred important changes in the operation of these institutions 
that make it possible to reconcile the difficulties of the 'twenties, as 
interpreted by Borchardt, with the considerable adjustment that took place in 
1930-31. The other is that there were in fact no important structural or 
institutional changes over this period, in which case Borchardt's argument for 
inadequate wage discipline in 1927-29 must be rejected as inconsistent with 
the evidence for the subsequent period. It then becomes hard to resist 
Holfrerich's conclusion that arguments based on the inflexibility of German 
labor markets and consequent rise in unit labor costs in the 1920s have been 
blown out of proportion. The next part of this paper attempts to see how far 
the first of these two answers can be pushed.

Before the war, only six percent of employees, concentrated in printing, 
construction, wood, paper, leather, cleaning and tailoring, had their earnings 
determined by collective contracts.16 This was not the perfectly competitive 
labor market of textbooks; norms and social conventions still mattered in the 
determination of wages. But wage and employment adjustment was clearly more 
fluid than subsequently. Prewar Germany's labor market was probably as close 
as that of any industrial economy to the ideal of atomistic competition.

All this changed with World War I. Mobilization created labor shortages 
which threatened to provoke dramatic wage increases; this increased employers'
sympathy for government intervention and for the erection of institutions to contain market pressures. The government sought to guarantee an adequate supply of labor to key sectors. Labor saw these circumstances as an opportunity to establish collective bargaining in heavy industries that had previously been closed to it. The Patriotic Auxiliary Service Law of 1916 established a wage arbitration board comprised of representatives of employers and unions, under the direction of a state-appointed chairman. Though the law was repealed following the armistice, its legacy endured. Employers and workers grew accustomed to collective bargaining. Between 1913 and the end of 1920, the number of workers covered by collective contracts rose sixfold. More than half of those covered by contracts worked under agreements with a minimum duration of at least a year, although contract duration was shortened by the hyperinflation. A decree dated 23 December 1918 prohibited the downward revision of wage schedules prior to the expiration of an agreement. 17

Significantly, only a fraction of labor contracts were national in scope. In January 1928 1.4 million workers were covered by Reich contracts, 3.4 million by district or regional agreements, and a still larger number by company- or plant-level contracts. This structure was ill-suited for coordinating economy-wide adjustments and accommodating macroeconomic shocks. Theory suggests that highly centralized and highly decentralized labor markets have the greatest capacity to accommodate shocks. 18 Highly decentralized markets can raise or lower wages through competition. If wages are too high, unemployment will result, and the competition for jobs will bid them down. In centralized markets, the same outcome can be achieved through a single centralized decision to adjust wages. Problems arise when markets are neither
highly centralized nor highly decentralized. Groups covered by collective bargaining are too large for the impact of their decisions on the labor market as a whole to be negligible but too small to have the incentive to take those impacts into account. One union's ability to secure an excessive level of compensation may provoke excess demands from other unions, because the latter have imperfect information about conditions economy-wide or because they must compete to maintain rank and file support. When the time for wage concessions comes, no regional or industrial union will be willing to move first. This would seem to be an apt characterization of the German situation in the 1920s.

Another German labor market institution was compulsory arbitration. Revolutionary agitation in 1918, a strike wave in 1920, and the turmoil incited by the hyperinflation led the government to reintroduce the wartime system of conciliation and arbitration at the end of 1923. The chairman was now drawn from the Labor Ministry rather than the War Office; otherwise arrangements were essentially the same.

These arbitration panels and their chairmen possessed considerable power. If labor and management failed to reach an agreement, the chairman was empowered to impose one. When an award was imposed, the Labor Minister had the power to declare it legally binding and to prohibit strikes and lockouts. Unions and employers still could resist awards they regarded as unacceptable, but at risk of legal consequences.

There is considerable dispute in the literature about the influence of arbitration and arbitrators. At no time in the 1920s did the share of cases heard by arbitrators that were resolved by the imposition of an award exceed 16 per cent. On the other hand, imposed awards were disproportionately used when arbitrating large contracts. And the knowledge that the arbitrator
had the power to impose an award must have permitted him to influence voluntary agreements as well. All this assumes, of course, that arbitrators were attempting to actively influence the course of bargaining; if they were simply ratifying outcomes that would have been produced by bargaining that took place without their mediation, their presence would have been largely superfluous.

In fact, there is ample evidence that the government encouraged arbitrators to actively influence the course of negotiations and that they attempted to do just that. The Labor Ministry, various authors suggest, was in thrall to organized labor. The Ministry was dominated by socialists, and the ministers of the period, Heinrich Brauns and Rudolf Wissell, were sympathetic to the union's case for increased wages. Brauns came from a Catholic tradition stressing the importance of just wages; Wissell was a trade unionist himself and one time Brandenburg State Arbitrator. Other arms of government did little to offset its influence. The Finance Ministry was no friend of industry: the 1927 increase in civil service wages of 33 per cent, negotiated under its influence, is said to have fed aggressiveness on the part of private sector unions. Anticipating that higher civil service salaries meant budget deficits, inflation and reduced purchasing power, other workers, led by those representing white collar employees and metal workers, responded in kind.

These institutional arrangements could have plausibly been responsible for the failure of German wages to accommodate economic conditions in the second half of the 1920s. The argument would be strengthened if it could be shown that such obstacles to the operation of market forces were more severe in Germany than in other countries, since the thesis is that adjustment was
less adequate in the former. There is some evidence to this effect. Already labor markets in Scandinavia were considerably more centralized. In France, in contrast, national unions were relatively weak and competitive conditions prevailed, although this was to change in the 1930s. Interestingly, there are suggestive resemblances between labor markets in Germany and in Britain, another place where wage adjustment is criticized as inadequate. The share of the British labor force covered by collective agreements was similar to that in Germany. So was the share of the labor force unionized. In Britain as in Germany, bargaining was collective but decentralized and uncoordinated. Despite a trend toward national agreements, there remained a proliferation of medium-sized craft unions, requiring an employer or employers’ association to deal with several unions simultaneously. In Britain as in Germany, there existed a system of arbitration and conciliation; in the peak year of 1929, more than a third of aggregate British wage changes were the result of arbitration. The two countries’ unemployment insurance programs, upon which workers could fall back if labor leaders overestimated the demand for labor, were among the most generous in Europe. These broad similarities in labor market structure, accompanied by similar complaints of inadequate adjustment, support the conclusion that Germany’s labor market problems were institutional in nature.

Why then did things turn out differently in 1930-31, when Germany proved more successful than other industrial countries in adjusting wages to the deflationary shock? Although only small changes had taken place in German labor market institutions since 1927-29, these changes had significant effects. Moreover, the policy context within which arbitrators and arbitration operated had been fundamentally transformed. The right of the
chairman of an arbitration panel to impose an award was abolished by court ruling in January 1929. This solved the problem of capture at a stroke. More importantly, government set a very different tone for labor negotiations. Whereas the Kohler public-sector settlement in 1927 had put upward pressure on private-sector wages, from 1930 the government's influence was reversed. Once the Great Coalition under Mueller was succeeded by Brüning's minority government, arbitration was used not to accommodate labor's demand for a just wage but to push labor costs down in step with prices. Brüning pressed the Labor Ministry to see that the chairmen of arbitration panels acted on the need for wage reductions. Guidelines for arbitrators now instructed them to encourage wage cuts. Unions and employers might resist, as they did in the winter of 1930-31, but the climate for bargaining was clearly very different than in previous years. Brüning used his emergency powers to reduce civil service pay as a way of attempting to cut into the coordination problem. In the same way that civil service salaries led industrial wages up in 1927, now they led them down. With less success Brüning brought together unions and employers in an effort to reach agreement on parallel reductions in wages and prices and restore the economy's international competitiveness.

Thus, it may be possible to reconcile the rigidity of German labor markets in the 'twenties with the relatively rapid adjustment of wages to the post-1929 slump on the grounds that subtle changes in arbitration, reinforced by drastic changes in administrative guidance, allowed a seemingly static set of wage-setting institutions to function very differently before and after 1929. Admittedly, the capsule account here provides but suggestive evidence. Readers will have to judge whether it shifts the burden of proof back toward those who would argue that German labor markets functioned smoothly in the
'twenties.

More generally, it remains to be seen whether introducing institutions and administrative guidance into economic analyses of wage dynamics in the 1930s will resolve the question of "how wages could have possibly failed to adjust over such a long period of time and under such adverse labor markets conditions as characterized the Great Depression." Doing so may not be sufficient to resolve this paradox, but it surely is necessary.

III. The Gold Standard and the Scope for Reflationary Policy

The changing role of the government in the labor market is evidence that it was by no means passive in the face of the Depression. But the kind of dramatic monetary and fiscal actions needed to stem the rise in unemployment were not forthcoming -- at least before Hitler assumed power, market mechanisms were suppressed, and expansionary policies served the needs of rearmament, not democracy. The lack of concerted action was not limited to Germany. Few countries took more than timid reflationary steps before 1932. Only those which were prepared to abandon their gold standard parities were able to sustain those initiatives.

This observation has led to the development of a theory linking the gold standard to the Depression. Its essence is that the gold standard was a binding constraint on the pursuit of countercyclical policies on a scale sufficient to offset the Depression. A reduction in the central bank discount rate, open market purchases, or an increase in public spending -- any of these options would have stimulated net commodity imports, encouraged capital outflows and led to a loss of international reserves. Unless the expansionary initiative was abandoned quickly, a balance-of-payments crisis ensued, and
gold convertibility at the prevailing exchange rate was threatened. The U.S. ran up against this danger when the Federal Reserve, under Congressional pressure, initiated expansionary open market operations in 1932. France courted it in 1934-35 when the Flandin and Laval Governments attempted to run budget deficits financed by central bank credit. In both instances the consequences were predictable. Reserves flowed out, the exchange rate weakened, and balance-of-payments problems mounted. Policymakers were forced to choose between the reflation and gold convertibility. They opted for the later, abandoning expansionary policies in order to stem reserve losses. Before suspending the gold standard, in other words, countries suffering the effects of the deflationary shock had little capacity to offset it.²⁹

The same problem arose when the authorities were confronted with financial crises. Central banks raised their discount rates and pumped liquidity into the banking system. In all too many cases, however, that liquidity leaked back out even faster than it was injected. Rediscounting for the banks when the ratio of gold reserves to monetary liabilities was low signalled that the authorities attached a higher priority to the condition of the banking system than to the currency's convertibility into gold. Fearing devaluation, depositors shifted into foreign exchange. In the worst case scenario, lender-of-last-resort intervention actually encouraged the liquidation of deposits and worsened capital flight.

Thus, a point emphasized by Borchardt, that Brüning possessed very limited fiscal and monetary policy options so long as he sought to maintain the free convertibility of reichsmarks into gold, is quite general; it was not limited to the German case. But Germany provides an excellent illustration of the phenomenon.³⁰
In Germany, the obstacles to the pursuit of an expansionary fiscal policy were particularly difficult to surmount. The idea that the government should have responded to the Depression by cutting taxes and increasing public spending is sometimes dismissed as a Keynesian anachronism; notwithstanding Can Lloyd George Do It? there existed no accepted argument for deficit spending. This may overstate the point; as Holtfrerich has observed, many in Weimar Germany grasped the intuition and urged the initiation of expansionary budgetary measures. But if the intuition was straightforward, the implementation was not. Germany's decentralized fiscal structure devolved considerable responsibility to state and local governments. These had already borrowed extensively in the 1920s, and the post-1929 decline in output and prices saddled them with heavy debts. Any one land had a limited capacity to take on additional debt, since mobile factors of production could flee to neighboring jurisdictions to avoid the higher taxes that would be required to service it in the future.

The Reich faced similar problems. Hyperinflation had all but wiped out investments in bonds, and revalorization provided investors minimal compensation for their losses. Investors in bonds subsequently demanded a risk premium; throughout the 'twenties the Reich encountered difficulty in placing its debt at interest rates comparable to those prevailing in other countries. It had nonetheless incurred considerable debts, which rendered further borrowing problematic. If the Reich now attempted to increase its borrowing in the face of declining tax revenues, investors might take fright. The decline in bond prices and upward pressure on interest rates might be so severe as to depress rather than stimulate the economy.

Any hint of inflation exacerbated these dangers. And the gold standard
was the only credible guarantee against inflation. The slightest suggestion that gold convertibility might be abandoned, allowing inflation to recommence, provoked a flight out of government bonds and rising interest rates.

The preservation of convertibility could not be taken for granted. The Depression in Germany had been accompanied not just by rising unemployment and fiscal strains but by mounting balance-of-payments pressures. These were a corollary of the reparations problem. As late as 1930 Germany's trade balance was in surplus. But a very sizeable surplus was required to fund reparations transfers. Since the mid-1920s the gap had been filled by short-term capital transfers attracted by high interest rates. But mounting debt burdens and political uncertainty rendered those high nominal returns progressively less attractive. The fall of the Mueller Government in March 1930, Brüning's decision to dissolve the Reichstag in July, and -- above all -- Nazi gains in the elections of September unsettled investors, causing capital imports to taper off.34 Following the election, the Reichsbank quickly lost $250 million in gold and foreign exchange reserves.

This put the Reichsbank between a rock and a hard place. On the one hand it wished to cut interest rates to encourage investment and stimulate demand. By the end of 1930 unemployment among trade unionists (even excluding those on short time) had risen to an alarming 33.7 per cent.35 A declining price level meant that a given nominal rate of interest implied an even higher real rate, rendering borrowing for investment purposes prohibitive and making interest rate cuts imperative. On the other hand the Reichsbank had to raise rates to attract financial capital or at least to stem its flight, since a continued hemorrhage of reserves implied the death knell for gold convertibility. So long as the central bank's priority was defense of the
gold standard, aggressive interest rate cuts were precluded.

On this depressed situation the German banking crisis was superimposed. The great banks, with a tradition of lending to industry, had extended many such loans in the 1920s. Often the security was nothing more than shares of the indebted firm. In addition, many banks had invested directly in the shares of the same companies. The decline in share values starting in 1929 thus had a double impact on the banks.

Already in 1930 several German banks were forced to acknowledge that they had suffered extensive capital losses. There were rumors that their published accounts understated the extent of the problem. Against this background the failure of the Credit-Anstalt, a German-style bank based in Vienna, had devastating effects. Brüning’s renewed call for reparations concessions, which raised the possibility of a diplomatic impasse, did not reassure Germany’s creditors. The withdrawal of foreign deposits from German banks accelerated in its wake.36

Its liquidity declining, the German banking system was placed at risk. Having confined itself previously to reassuring statements, the Reichsbank now responded in June and July by rediscounting half of the bills in the portfolios of the six large Berlin banks. Figure 3 confirms that the central bank discounted freely at first: for much of June there was no gap between the official rate and the day-to-day interbank rate.37 But as the policy continued, the Reichsbank suffered a mounting reserve losses and a decline in its gold cover ratio. Giving the banks cash for bills would by itself have raised the ratio of central bank liabilities to international reserves. But freely extending further credit raised questions about the Reichsbank’s commitment to the gold standard, prompting capital flight and further eroding
Figure 3
Reichsbank Discount Rate and Day-to-Day Money Rate, 1929–31

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DAILY XXXX DISCOUNT
the level of reserves. The faster the Reichsbank injected liquidity, the faster it leaked back out: in the first half of June, the Reichsbank lost RM 630 million of gold, or more than a quarter of the total with which it began the month. Its gold standard statutes mandated a minimum legal reserve of 40 per cent; by June 21st its free reserves effectively been exhausted.38

Forced to choose between defending the gold standard and defending the banking system, the Reichsbank opted for the former. It rationed credit, restricting discounts to selected high quality bills. As Balderston puts it, "On 15th June Hans Luther had still spoken strongly against restriction [of credit]; what changed his mind a week later may have been that he considered the alternative, namely, permitting foreign reserves to fall below the statutory 40 % minimum, to be even worse."39 The policy of restriction was applied immediately to the provincial banks and after fortnight to the great banks as well. The gap between the daily interbank rate and the official discount rate, which had previously disappeared, opened up again.40

Predictably, a full-fledged financial panic erupted in July, sparked by a run on the Danat-Bank due to the collapse of the Nordwolle textile firm in which it was invested. The Reichsbank, still bound by its gold standard statute, had little capacity to respond, leaving the government no choice but to declare a bank holiday. The banks were allowed to reopen only following the imposition of exchange controls to prevent capital flight and make the injection of liquidity feasible.

The crisis in the banking system reinforced the deflationary pressure operating on the economy. Exchange controls were not water tight, nor could they prevent an internal drain. The banks continued to suffer deposit withdrawals through the end of the year. Already in a weakened state, they
sought to reduce their advances, restricting the provision of credit to industry and trade. Government paper crowded out commercial bills. The rate for discounts of commercial bills, which was traditionally at or below the central bank discount rate, rose 30 to 40 basis points above the official rate in 1931-32.41

A question raised by this episode is why Bagehot's rule did not suffice. It instructed central banks to lend freely in response to an internal drain while raising their discount rates to stem an external drain. Why did raising interest rates to high levels while providing liquidity to the banks not reassure depositors that the injection of funds was temporary? If commercial banks could only borrow at penalty rates, they presumably would repay as soon as they had the ability. Depositors should have been confident that the increase in central bank liabilities was temporary.42 If it became necessary for the authorities to violate the statute mandating a 40 per cent gold cover or even to suspend convertibility and allow the currency to depreciate temporarily, this should not have alarmed depositors either.43 It had not been uncommon for central banks to take these steps prior to World War I. Even the Bank of England, the anchor of the gold standard system, had done so on occasion. The gold standard had always been understood as a contingent rule that might be suspended under exceptional circumstances.44 Why then was it so difficult to invoke that contingency in the crisis of 1931?

Recent work on exchange-rate escape clauses sheds light on the preconditions for the effective operation of a contingent international monetary rule. It emphasizes that fixed rates can be allowed to float temporarily without undermining the authorities' commitment to exchange rate stability if and only if the authorities' commitment to the maintenance of
stability is credible and if temporary deviations are initiated in response to exceptional shocks that are both independently verifiable and not initiated by the authorities themselves.\textsuperscript{45} If these conditions are met, market participants, when they see the exchange rate weakening, will expect the authorities to support it. Traders will purchase it in anticipation of that intervention, strengthening the rate without the need for governmental action. In the event of an exceptional shock, the authorities will be able to alter the exchange rate without undermining the credibility of their commitment to defending it under unexceptional circumstances.

If the contingencies triggering exceptional exchange rate changes are not both independently verifiable and clearly exogenous with respect to the authorities’ actions, however, the escape clause may lack credibility. Market participants will dismiss the central bank’s assurances that the depreciation is temporary and reversible, since no readily observable, exogenous shock triggering the escape clause has occurred. They may suspect that the authorities are manipulating the rate under cover of their contingent rule, manufacturing the disturbance or claiming that it has occurred when it really has not. Movement in the exchange rate may give rise to expectations of further movement in the same direction rather than to expectations of its reversal. Thus, the government may find itself unable to resort to the exchange-rate escape clause, whatever the circumstances, without damaging its credibility.

Before World War I, the contingencies under which convertibility might be suspended temporarily were both public information and clearly not of the authorities’ own making.\textsuperscript{46} Only independently-verifiable, exogenous disturbances like the Anglo-Irish harvest failures of 1846-47 or the Baring
Crisis of 1890 might lead governments to contemplate this possibility. In the countries at the core of the system, the possibility that they might announce an unverifiable disturbance when one did not exist or manipulate policy so as to produce it was inconceivable. The commitment to gold convertibility was the very cornerstone of policy. Other economic objectives, such as reducing unemployment, were not seen as the responsibility of the monetary authorities. Indeed, so long as there was no properly articulated theory of the relationship between central bank policy and the economy, observers could disagree about whether the level of interest rates was aggravating unemployment, which neutralized the pressure that might have otherwise been brought for a modification of monetary policy. The credibility of governments' commitment to convertibility was enhanced by the fact that those who suffered most from unemployment were in no position to make their objections felt. In most countries, the right to vote was limited to men of property (women being denied the vote virtually everywhere). Labor parties representing working men were still in their formative years. The working man at risk of unemployment when the central bank raised interest rates had little opportunity to voice his objections, much less to expel from office the government and central bankers responsible for the policy.

Fiscal rules further buttressed the credibility of the exchange rate commitment. Public spending ratios were low. Budgets were balanced. Disputes over fiscal policy rarely threatened to produce imbalances of a sort that might destabilize the exchange-rate commitment. Governments "generally abided by a balanced budget objective, which could be regarded, in effect, as representing the required fiscal constraint on national policies."47

For these reasons, then, a negative disturbance to a country's balance
of payments did not weaken the exchange rate to the point where painfully large interest rate increases had to be undertaken. Instead, weakness of the exchange rate was countered by capital inflows prompted by the expectation that the authorities would eventually do what was needed to stabilize it. And when a truly exceptional shock intervened, it was possible to suspend convertibility temporarily without damaging the credibility of the commitment to gold.

After World War I, this situation was transformed. The war overturned prewar fiscal conventions, increasing public spending, stimulating the creation of new social programs, and redistributing tax burdens. It was no longer clear that governments would take whatever fiscal steps were required for the maintenance of exchange rate stability. In many countries, failure to agree on the composition of spending cuts allowed deficits, inflation and exchange-rate depreciation to persist. Although deficits had been reduced by the mid-'twenties, fiscal gaps remained. If the lending which made possible their financing suddenly dried up, it might become necessary to rely on monetization, even if the latter threatened currency stability. The politicization of monetary policy and compromises of central bank independence that had occurred during and after the war made this danger all the more pressing.

This was precisely the sort of policy-induced exchange-rate instability that could undermine the effectiveness of the escape clause. Rightly concerned that any compromise of legal provisions regarding the minimum gold cover might be regarded as evidence of inadequate fiscal and monetary discipline rather than unfavorable exogenous shocks, the authorities hesitated to violate those provisions even temporarily. Violating the cover ratio,
rather than being regarded like before the war as an exceptional response to an exceptional circumstance, was now cited as proof that the government no longer committed to convertibility. The high discount rates that accompanied the provision of domestic credit no longer attracted capital inflows in anticipation of the capital gains that would follow when the currency recovered; now they were dismissed as inadequate compensation for the capital losses that would follow from the currency's permanent loss of value. Governments consequently found themselves unable to resort to temporary suspensions of gold cover and convertibility provisions as they had before the war.

While the phenomenon was general, it was especially evident in Germany. The country's budgetary problem was conspicuous, and the association of budget deficits with inflation had been burned into investors' consciousness by the hyperinflation. "Many observers saw 1931 as a case of the collapse of public finance rather than an isolated banking upset." While various interest groups mouthed familiar platitudes about the need for fiscal rectitude, none were willing to make sacrifices. The Social Democrats opposed all cuts in unemployment benefits. The military objected to cuts in defense spending. Agriculture demanded subsidies to offset the collapse of farm prices. Even the Reich Association of German Industry, while emphasizing the need for orderly finances, pressed for cuts on corporate taxes in 1931.

Under these circumstances, anything less than complete and total adherence to the provisions of the gold standard rekindled fears that deficits might be allowed to reignite inflation. The markets had no confidence that an abridgement of Germany's gold standard would be temporary. The German Bank Law may have authorized the General Council of the Reichsbank to reduce the
cover ratio to less than 40 per cent if the central bank paid a tax on the deficiency. But as Reichsbank head Hans Luther told Brüning's ministers on June 15th, the psychological effect of breaching the 40 per cent cover requirement "would be absolutely fearful." Hans Schaffer, the State Secretary, argued that to infract the 40 per cent limit "would have been to precipitate a massive flight from the mark." 51

Moreover, the German authorities had a special problem in arguing that the disturbance in response to which they were breaching that limit was not of their own making (as would have been necessary to avoid damaging their credibility). Among Brüning's highest priorities was a final reparations settlement. 52 The weaker Germany's balance-of-payments position, the stronger his case that realism required concessions of the Allies. Hence Brüning was suspected of pursuing policies that made Germany appear to be in dire straits. As he put it in his memoirs, "We were able to turn our economic sickness into a weapon." 53 What more visible indicator of the nation's inability to make reparations transfers than inadequate gold and foreign exchange reserves? What more obvious variables to manipulate than the cover ratio and the exchange rate?

The Allies had not been blind to this moral hazard problem. The Hague Agreements had required that "any proposal which may affect the provisions...[of the Bank Law] must be submitted by the German Government to the Board of Directors of the Bank for International Settlements." The cover ratio and the quantity of notes in circulation had to be reported to the Reparations Commissioner daily. Chapter 8 of the Experts' Report attached to the Young Plan, which had the same legal status as the Plan itself, stated that "The German government undertakes for purposes of these stipulations as
for the general purposes of the plan that the Reichsmark is and shall remain exchangeable into gold or foreign currency in accordance with Section 31 of the present Reichsbank Act."54 Allowing the cover ratio to decline to the point where the mark might begin to float would violate an international treaty and conceivably subject Germany to the sort of military consequences experienced in 1923.55 Foreign central bankers, led by George Harrison of the Federal Reserve Bank of New York, insisted on the sanctity of the provisions of Germany's gold standard, conditioning even modest support on the Reichsbank's strict adherence.

Clearly, then, major obstacles stood in the way of depreciating the currency and reducing the cover ratio below the critical 40 per cent threshold as prerequisites for initiating reflationary policies and containing the banking crisis. Countries other than Germany might free themselves from these constraints by abandoning the gold standard. In the German case, however, the Hague Treaty and powerful memories of hyperinflation precluded even that option. The imposition of exchange control was a compromise between completely abandoning the gold standard, as in Britain, and maintaining the status quo, as in France. It slowed capital flight, which allowed the cover ratio to slip below 40 per cent without provoking a destabilizing flow of funds across Germany's borders. However, the consequent damage to the government's credibility encouraged the continued liquidation of deposits and forced the banks to further restrict credit to industry and trade. Draconian control and not normal countercyclical policy ultimately pushed Germany out of the Depression.
IV. Conclusion

Borchardt's theses should not be viewed as evidence of the powerlessness of government to influence the course of economic events. Rather, they demonstrate the importance of institutions and their historical context for economic policy options and outcomes. In the 'twenties it was labor market institutions and associated policies that slowed the adjustment of production costs to the imperatives of internal and external balance. In the 'thirties it was gold standard institutions and the consequent policies that inhibited the government's efforts to deal with the consequences. Both sets of institutions were legacies of prior historical experience. That other countries suffered similar problems confirms the presence of deep-seated historical forces at work. The growth of unionization, collective bargaining and compulsory arbitration had supplanted decentralized labor markets without constructing a coherent alternative capable of dealing with major shocks. Changes in the policymaking environment removed the prerequisites for a smoothly-functioning gold standard without removing the gold standard itself or putting a viable alternative in its place.

While these problems were pervasive in the 1920s and 1930s, nowhere were they more prominent than in Germany. There the tendency for new labor market institutions to supersede old structures was particularly pronounced. The inflexible gold standard was cemented in not just by the difficulties of suspending temporarily without damaging credibility but also by a web of international treaties. These changes in labor and financial markets were themselves legacies of Germany's status as a defeated power and of the social unrest, reparations disputes and inflationary chaos that this status entailed.
For Germany it is hard to dispute Temin's point that the Depression was essentially a phase in a two-decade-long war.\textsuperscript{56}
Endnotes


6. Eichengreen, Barry, *Golden Fetters: The Gold Standard and the Great Depression, 1919-1939*, New York, 1992. Labor market rigidities are only one of the factors on which I lay weight when analyzing the propagation of the Great Depression. Another leading contributor was the collapse of financial institutions and markets. Similarly, the gold standard constraint was only one impediment to the pursuit of effective reflationary initiatives; the absence of a coherent model of the operation of the economy also hindered the formulation of an effective response.
7. Economists have spilled much ink over whether real wage reductions are good or bad for countering a recession. In general -- as with many questions in economics -- the answer is ambiguous, or, to be more precise, model specific. Wage cuts reduce production costs, stimulating supply, but also depress workers' spending, depressing demand. In an open economy, where the excess of domestic supply over domestic demand can be exported to foreign markets, the positive supply effect dominates. Evidence that this is the relevant case for the 1930s can be found in the references cited in footnote 8.


10. These data are from Eichengreen, Barry and T.J. Hatton, "Interwar Unemployment in International Perspective: An Overview," in Barry Eichengreen and T.J. Hatton (eds), Interwar Unemployment in International Perspective, Dordrecht, the Netherlands, 1988, pp.1-50. Most of these data were originally assembled by the International Labour Organisation.

11. This figure is drawn from data in Balderston, Origins and Course, measuring unit wage costs in the production of all industrial tradables and the wholesale price index for all finished goods.


14. Social spending as a share of all public expenditure more than doubled between 1913 and 1929/30. Feldman, Gerald, "Weimar from Inflation to Depression: Experiment or Gamble?" in Gerald Feldman with Elisabeth Muller-Luckner (eds), Die Nachwirkungen der Inflation auf die deutsche Geschichte 1924-1933, Munich, 1985, p.394. This observation about the importance of
and foreign investors. I thank Gerald Feldman for sharing with me this document.


36. James, German Slump, pp.182-187 argues that domestic residents initiated the liquidation of deposits, foreigners only joining in at a later stage. Balderston, Origins and Crisis, analyzes the composition of deposit withdrawals bank by bank, concluding that in the spring of 1931 domestic and foreign deposits contributed equally to the crisis.

37. Interbank rates generally exceed the official discount rate because commercial banks incur an additional implicit cost in terms of good will when borrowing from the central bank. These data are drawn from International Conference of Economic Services, International Abstract, and Tinbergen, Jan, International Abstract of Economic Statistics 1930-1936, The Hague, 1936.

38. In its statement of June 23rd, the Reichsbank had managed to conform to the letter of its gold standard law only by virtue of a $5 million overnight deposit from the Bank of England. At the end of the following week reserves remained just above the statutory minimum of 40 per cent of eligible liabilities.


40. This was not the first time that the Reichsbank had rationed credit. As is evident from the gap between official and daily interest rates in 1929, the central bank had resorted to the same expedient that year. See Madden, John T. and Marcus Nadler, The International Money Markets, New York, 1935, p.384.

41. Tinbergen, International Abstract, p.8. These statements are based on annual data. An exception to the generalization that rates on commercial bills were below the official discount rate was 1929, which, as mentioned above, was another period of credit rationing.

42. It is always possible to argue that the Reichsbank failed to raise its interest rate early and aggressively enough. But it moved aggressively by the standards of other central banks: whereas the Bank of England, also confronted with a balance-of-payments crisis, raised its discount rate from 2 1/2 per cent in June to 4 1/2 per cent in July and 6 per cent in September, the Reichsbank raised its rate from 5 per cent in May to 7 per cent in June, 10 per cent in July and 15 per cent in August. Of course, the actions of the Bank of England do not provide an ideal measure of a central bank following Bagehot's rule, for it was criticized for failing to raise Bank rate quickly.
enough and failed to successfully defend the British gold standard. See Cairncross, Alec and Barry Eichengreen, Sterling in Decline, Oxford, 1983, chapter 3. But comparisons with the actions of the Federal Reserve System in the final months of 1931 and with those of other central banks defending gold convertibility would all lead to the same conclusion.


46. This and following statements apply to countries like Britain, France and Germany at the core of the gold standard system. Circumstances were different elsewhere, where the preconditions for the effective operation of a contingent exchange-rate rule were not present. For discussion, see de Cecco, Marcello, The International Gold Standard: Money and Empire, London, 1984 (second edn), or Fishlow, Albert, "Conditionality and Willingness to Pay: Some Parallels from the 1890s," in Barry Eichengreen and Peter Lindert (eds), The International Debt Crisis in Historical Perspective, Cambridge, Massachusetts, 1989, pp. 86-105.


48. This point is made in Eschweiler, Bernhard and Michael Bordo, "Rules, Discretion and Central Bank Independence: The German Experience 1880-1989," in Pierre Siklos (ed.), Varieties of Monetary Reform (Boston, 1993). The United States is probably the only country for which it can be said that convertibility was reestablished after a relatively short suspension. But even there the authorities hesitated to suspend until after four years of Depression and the complete collapse of the banking system. Revealingly, convertibility, when restored after nine months of floating, was at a significantly depreciated rate.

49. See James, German Slump, and Maier, Charles, Recasting Bourgeois Europe: Stability in France, Germany and Italy in the Decade After World War I, Princeton, 1975.

50. James, German Slump, pp. 304-305.

52. For discussion of this point, see Kolb, Eberhard, *The Weimar Republic*, London, 1988, p.115 and *passim*.


55. Borchardt suggests that the German authorities may not have been entirely unhappy about these arrangements: such a sanction was just the sort of binding precommitment that would have been desired by a central bank seeking to reestablish its credibility in the wake of a hyperinflation. Borchardt, Knut, "A Decade of Debate About Brüning's Economic Policy," in Jurgen Baron von Kruegner (ed.), *Economic Crisis and Political Collapse: The Weimar Republic 1924-1933*, New York, 1990, p.109.

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