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**EUROPE'S GREAT DEPRESSION:
COORDINATION FAILURE AFTER THE
FIRST WORLD WAR**

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*INTERNATIONAL TRADE AND
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ABSTRACT

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The purpose of this paper is to survey and re-interpret the extensive literature that tried to explain both the depth of the great depression in Europe and the delay of recovery as a failure to coordinate economic policies. Europe could not exploit her vast economic potential after 1918, because the war had not yet come to an end – indeed it did not end before 1945. Both, domestic and international institutions suffered from a lack of reciprocal trust and commitment, which can be clearly illustrated in the realm of monetary policy, but affected many other areas of policymaking, such as energy or migration policies. These institutions in turn affected expectations and thereby the extent to which for example expansionary policies could be effective.

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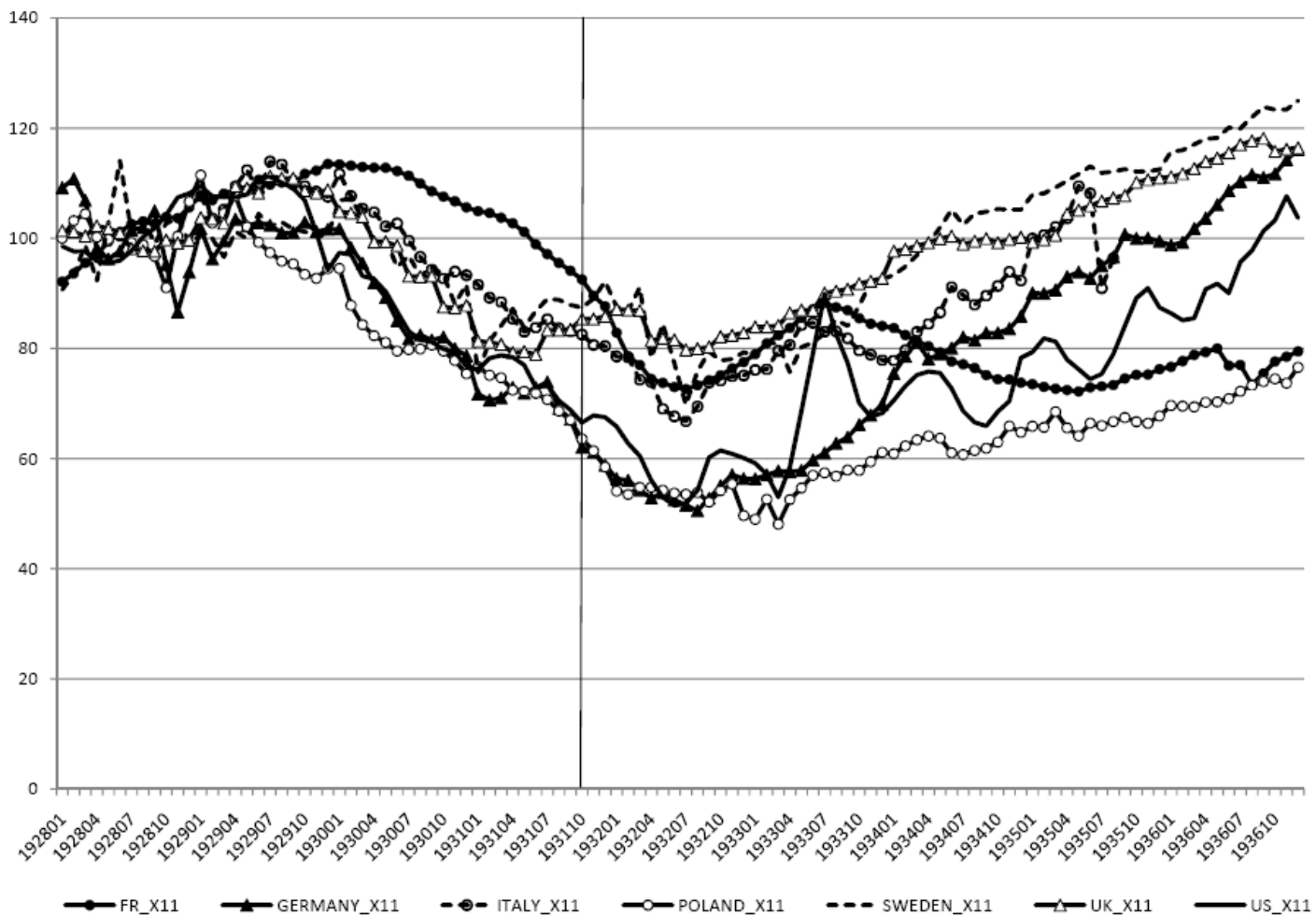
Europe's Great Depression Coordination Failure after the First World War

Nikolaus Wolf (Humboldt University Berlin and CEPR)

Introduction

The great depression remains by some margin the most devastating international economic crisis in modern time, especially if measured in terms of collapsing manufacturing output and the ensuing surge in unemployment. Moreover, recovery from the depression was slow, and it was far from universal. As shown in figure 1, manufacturing output in the US and most European economies had reached its trough around mid-1932. However, few countries regained their 1929 output-levels before 1936, some not before 1939. As a general rule, recovery followed about half a year after a country had abandoned the interwar gold-exchange standard (Eichengreen 1992, p. 393). For example, Britain and the Scandinavian countries that left the gold-standard in September or October 1931 recovered much earlier than countries that adhered to the gold-standard beyond the London conference in 1933 such as France, Italy (until 1934), or Poland (see figure 1). What is not shown in the figure, however, is the extent to which this “recovery” was driven from the mid-1930s onwards by armament programmes that foreshadowed the Second World War.

Figure 1: Manufacturing Output in Various Countries, 1928-1936 (1928=100)



Source: Wolf (2008).

The purpose of this paper is to survey and re-interpret the extensive literature that tried to explain both the depth of the crisis in Europe and the delay of recovery as a failure to coordinate economic policies. I argue that Europe's great depression was more than the result of some misguided economic policy in any particular country. Europe could not exploit her vast economic potential after 1918, because the war had not yet come to an end – indeed it did not end before 1945. Both, domestic and international institutions suffered from a lack of reciprocal trust and commitment, which can be clearly illustrated in the realm of monetary policy (Eichengreen 1992) but affected many other areas of policymaking, such as energy or migration policies. These institutions in turn affected expectations and thereby the extent to which for example expansionary policies could be effective. Put differently, not all options that would exist in a perfect environment were available to all policymakers at every time, due to serious flaws in the institutional framework that led to coordination failure. The remainder of this paper elaborates this argument in four sections. In a first section I provide a framework to think about policy coordination in general and its application to the interwar period in particular. Next, I argue that the three most fundamental obstacles to policy coordination were direct consequences of the First World War: the fragility of political institutions after 1918, the problem of war debts and reparations that remained largely unresolved until 1933, and the irritating memory of the 1920s inflation. With this background I will then proceed in section three to discuss the painfully slow process of Europe's recovery that led from the abandonment of the gold-standard to the stepwise implementation of expansionary economic policies. Section four concludes with remarks on the sustainability of these policies and implications for contemporary economic policy in Europe.

I. Economic policy coordination in the 1930s – a simple framework

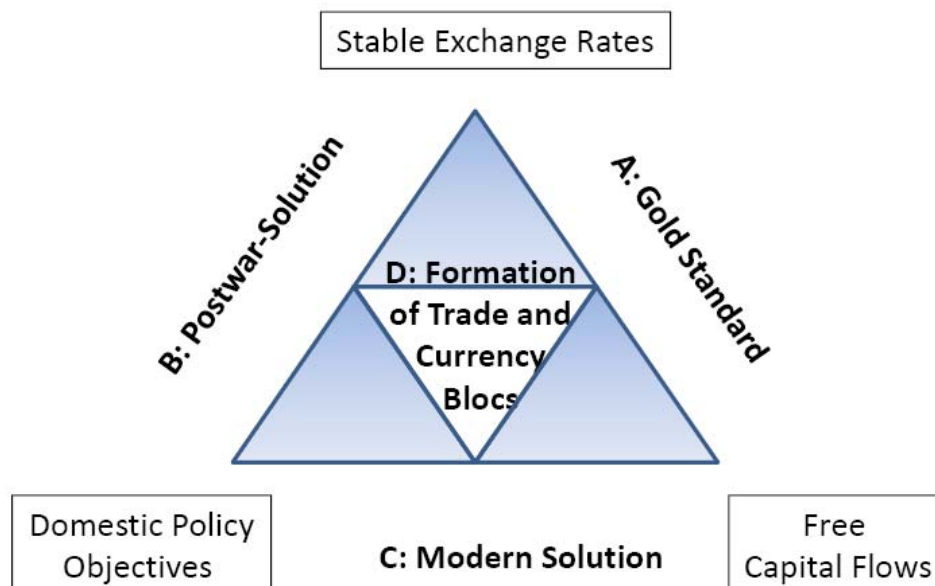
Europe emerged from the First World War economically and politically weakened. Millions had died in the trenches, from starvation or epidemics; others had survived permanently disabled or traumatised. The war had also caused unprecedented material destruction from France to Russia (Broadberry and Harrison 2005). From a long-term perspective the years 1914-18 mark the end of Europe's economic expansion and her decline relative to the rest of the world economy that continued throughout the 20th

century (Roses and Wolf 2010). An apt example to illustrate the consequences of the war is the decline of the City of London as the world's leading financial centre and the rise of New York (Cassis 2006, Cochrane 2009). However, this economic (and political) decline was far from unavoidable. Europe continued to have a vast potential for economic development and growth, driven by technological, organisational and sectoral change, by the ongoing accumulation of physical capital and by the formation and accumulation of human capital. The period saw the beginnings of mass-motorization, advances in chemical and electrical engineering, the construction of an extensive road network, the emergence of commercial aviation, and crucially the electrification of large parts of the European economy, including some of the most remote rural areas. European industry underwent a broad process of modernization, including many firms that attempted to introduce and adapt new methods of American-style standardised mass-production (Chandler 1990). The share of agriculture declined in all European economies between 1913 and 1950 with labour moving into the more productive industrial and service sectors, especially in Northern and Western Europe (Buyst and Franaszek 2010). The governments of newly created states, which had their rationale in the growing demand for political participation all aimed for a rapid economic development of their largely backward countries, and the records show rising school enrolment and numbers of students, high and in some cases rising participation rates in the labour markets joint with a steady growth of the European population. But the new technologies and methods of production were capital intensive and required extensive new network infrastructures and large markets to become profitable. Hence, in the context of Europe's political fragmentation they required more coordination of economic policies across state borders than ever before to facilitate capital flows and trade. It is this coordination that failed during the interwar years, except during a brief period from 1925-28/29. The electrification of Europe's large periphery for example was delayed until after 1945 due to difficulties to agree on technological standards across borders and due to the perceived risk of investment during the interwar years (Lagendijk 2008). The latter was largely affected by political instability and unprecedented uncertainty about monetary policies.

To think about the coordination of economic policies more systematically, consider the classic "macroeconomic policy trilemma" (Obstfeld et al. 2005). Policymakers in

a small economy – which would apply to each European economy in the 20th century - have to face a choice that of the three typically desirable policies of a stable exchange rate, open capital markets and autonomous monetary policy, only two can be mutually consistent. We can add that policies that aim for exchange rate stability are tightly related to (but obviously separate from) policies that pursue price stability. When a country credibly and permanently pegs its exchange rate to some base country (or fixes it in gold), and when capital continues to be freely mobile across borders, then simple interest parity will pin down the domestic interest rate to be equal to that in the base country (or to the level in the dominant gold-standard economies). Here we take it for granted that policymakers want to engage in active macroeconomic policy over the business cycle, maybe due to their belief that with short-run rigidities in wages and prices such policies can be effective. While the trilemma is a choice between policies or political means, it will be useful to note that it can also be expressed as a choice between policy objectives, namely the objectives of Confidence, Liquidity, and Adjustment - Paul Krugman's "eternal triangle". Confidence in this context means the ability to protect the exchange rate from speculation, especially from a currency crisis. Liquidity means access to capital, basically short-term capital mobility, while Adjustment means the ability to pursue macroeconomic stabilization policies. Whether expressed as the "macroeconomic trilemma" or the "eternal triangle", policymakers in small economies have to choose one of the following *four* policy regimes as illustrated in figure 2. It is noteworthy that in any case the choices of policymakers will be interdependent. As we will see, policymakers experimented with all four options during the interwar years.

Figure 2: the “macroeconomic policy trilemma”



First policymakers can attempt to defend the exchange rate given capital mobility by adjusting monetary policy to this objective. This implies that policymakers are able and willing to sacrifice autonomous monetary policy (Option A). Alternatively, they can attempt to limit capital mobility in order to simultaneously stabilise the exchange rate and gain some room for autonomous monetary policy (Option B). Here an important issue for international policy coordination will be the level at which exchange rates are stabilised in the first place. Third, policymakers can sacrifice the stability of exchange rates to benefit from both, open capital markets and autonomous monetary policy geared towards domestic objectives (Option C). The key problem here is clearly the ability of the central bank to fight inflation. Finally, policymakers can opt for the formation of economic blocs, for example by stabilising the exchange rate with countries that have highly synchronized business cycles. Given that the members self-select into blocks in a way that they face similar shocks and share the objectives of macroeconomic policy over the business cycle, they can continue to benefit from unrestricted international capital mobility, pursue autonomous monetary policy within their economic block, and maintain stable exchange rates between each

other (Option D). Rodrik (2000) proposed to augment this “macroeconomic policy trilemma” to a “political trilemma”, where the three typically desirable policy objectives are the defence of national sovereignty (beyond a national currency), economic integration (beyond capital mobility) and democratic politics based on an unrestricted franchise, a high degree of political mobilisation and democratic political institutions (beyond autonomous monetary policy). Let us keep this in mind when discussing the options of European policymakers in the interwar period.

Both in theory and practice, monetary policy in the interwar years was dominated by the gold-standard. Governments that adhered to the gold-standard regime essentially chose Option A in this framework (Obstfeld et al. 2004), where the value of the national currency was fixed in terms of gold, gold was free to flow between countries, and the quantity of money in each country was essentially determined by the balance of payments. Central banks were expected to follow the “rules of the game” to support the adjustment of international balances of payments, not to support domestic macroeconomic policies. In a nutshell these rules provided that whenever gold flowed into a country a central bank should increase the supply of national currency, and similarly whenever gold flowed out, the central bank was expected to contract its domestic assets (Nurkse 1944, pp. 66-67). Eichengreen argued that this regime of monetary policy was not automatic but actually relied on some form of central bank cooperation. If one central bank would have unilaterally reduced the discount rate but others would have failed to follow, it would have suffered reserve losses and might have been forced to increase the bank rate in order to defend the gold parity. This is why the Bank of England as the leading central bank with plenty of resources and credibility prior to 1914, had to play a role as “conductor of the international orchestra” (Keynes 1930, p. 306) by “signalling the need for coordinated action” (Eichengreen 1992, p. 8) that others could follow. In addition, central banks overtly cooperated to increase the resources available to a central bank whenever its gold parity was under attack. Hence, the stability of the gold-standard was based on the *joint* commitment of central banks to the rules of the game (Eichengreen 1992, p.8).

The experience of prolonged economic growth with stable prices during the period of the classical gold-standard (1870-1913), suggests that this was a highly successful policy regime. After 1918, it was a near-universal aim of policymakers to replicate

this success and return to the gold-standard. It is debatable to what extent the alternatives to this option were understood (Eichengreen and Temin 2000), but deviations from Option A were generally considered risky. First, adherence to the gold-standard continued to be seen as a “good housekeeping seal of approval” and hence a precondition for access to international capital markets (Bordo et al 1999). Second and related to this, the commitment to defend the gold-parity of a currency was generally considered as the most effective mechanism to ensure price stability. But it proved extremely difficult to re-establish the gold-standard after the war. The monetary policy regime that emerged during the early 1920s and started to be in full operation around 1927 was considerably less stable for various reasons. The conference at Genoa in April 1922¹ had recommended that countries should stabilise their currencies at the rates prevailing at that time to ease the transition for countries that had experienced significant inflation during and after the war. Moreover, the conference resolution suggested to minimise the need for gold by “maintaining reserves in the form of foreign balances, such as the gold exchange standard” (quoted after Eichengreen 1984, p. 19). But the conference failed to produce an understanding on central bank cooperation, except the suggestion that the Bank of England should call a meeting of central bankers to prepare a convention on these issues. By hindsight, the conference at Genoa 1922 was a failure not at least because the U.S. refused to participate. Some countries returned to the gold-standard at parities on or close to the pre-war levels (such as Britain in 1925) which proved to put deflationary pressure on the economy. Others such as France (de facto in 1926, de jure in 1928) returned at much lower parities, which contributed to a sustained balance of payment surplus in the latter. The adoption of a gold-exchange standard increased the ratio of central bank liabilities to the gold base which increased the fragility of the system and opened new possibilities for sterilisation operations. And finally, the envisaged convention on central bank cooperation had to wait until 1936, when Britain, the USA and France signed the Tripartite Agreement. The *joint* commitment of central banks to the gold-standard and its rules of the game, had given way to a more limited

¹ The Genoa Conference was – after the failed conference at Brussels in 1920 – the second attempt to provide a framework for international cooperation after the First World War. It took place in reaction to events that challenged the Paris peace settlements and demands for their revision from Germany, Soviet Russia and the United States. Hosted by Italy’s last democratic government in 1922 from April 10 to May 19 the representatives of 34 countries convened to discuss the economic reconstruction of Europe, especially of central and eastern Europe and to improve the relationship between European capitalist regimes and Soviet Russia. See Fink (1984).

commitment of individual central banks to defend their *own* gold parity: central banks tended to sterilise inflows of gold or other international assets rather than to reinforce them by concurrent changes in domestic assets. Considering the behaviour of twenty-six central banks over the period 1922-38 Nurkse (1944, pp. 68ff.) found that in more than 60% of all cases central banks were apparently trying to offset changes between their international and domestic assets.

When this new monetary system was put to a test in 1929 it failed, and what is more, it deepened the crisis considerably. Tightening monetary conditions and a collapse in consumer spending in the US hit already weak European economies.² Especially capital importers were put between Scylla and Charybdis who in an attempt to defend their parity and access to foreign capital, put massive deflationary pressure on their economies (Wolf 2008). Real wages and real interest rates soared, resulting in mass unemployment and a sharp decline in manufacturing output and investment. The political systems in Europe in turn, especially the various new democracies that had emerged after 1918, could not tolerate these policies of monetary tightening for long (Simmons 1994). What was needed was either a coordinated reflation within the existing system (Eichengreen and Sachs 1986) or a transition to a new system within the constraints of the trilemma. What happened was that all European countries clung on to the gold-exchange standard until one after the other was forced to give it up. By 1932 the European economy had been fragmented into several currency and trade blocks that already foreshadowed the Second World War. What were the fundamental factors that prevented a coordinated response to the crisis?

II. The Shadow of World War One

In this section I will try to spell out several obstacles to international policy coordination in interwar Europe, which proved to be fatal during the years 1930-1933. All of them were more or less directly related to World War One. The war had been an inconclusive test for hegemonic power in Europe, and ended not so much with a

² The explanation for the onset of the Great Depression in the US and in Europe is still subject of debate and the literature on this is too large to be cited here. Among others see Friedman and Schwartz (1963), Temin (1976), Hamilton (1987), Romer (1990), Ohanian (2009), Ebell and Ritschl (2008) and papers in this issue.

peace but a transitional period in which states continued to fight the war and prepared to settle accounts – a “second thirty years war”. The three most important consequences of the war with implications for the coordination of economic policies were the change in character and the fragility of the new political institutions, the unsettled issues of war debts and reparations, and finally the reminiscence of the 1920s inflation, which restricted the options of monetary policy.

Everywhere in Europe, the postwar situation made it necessary for societies to struggle over the distribution of income and war-debts. The fundamental issue was “whether deflation and unemployment would saddle a major share of the load on the working class, as contrasted with the rentier” (Kindleberger 1986, p. 323). But the political bargaining power of labour had dramatically increased as a result of political compromises reached during and immediately after the war. Examples include the significant extension of the franchise or the introduction of the eight hour day in many countries. Not at least, the political threat posed by the Soviet Union raised the political bargaining power of the moderate left. This undermined the prevailing solution to the macroeconomic policy trilemma under the gold-standard, to sacrifice autonomous monetary policy geared towards macroeconomic stabilisation. But when deflation in response to an outflow of gold and foreign exchange was no longer a viable option, and unilateral expansion was considered risky unless accompanied by a strict regime of exchange controls, international cooperation became more important than ever before (Eichengreen 1992, p. 10).

But the new institutional framework made it more difficult to cooperate. The new political landscape that had emerged after 1918 was significantly more democratic than prior to the war, but also less stable. To start with, there were a number of new states including Poland, the Baltic States, Czechoslovakia, and other successors of the Habsburg Empire, but also the Republic of Ireland whose borders, sovereignty and included national minorities continued to be the subject of international disputes throughout the interwar years (Wandycz 1988). A prominent example was the internationalisation of Danzig/ Gdansk and its Baltic seaport and the creation of the so-called “Polish corridor” that gave Poland access to the Baltic, but separated the German territory of Eastern Prussia from the rest of the German Empire. Polish governments made considerable efforts to use the corridor as a means of reducing the

country's economic dependency on Germany. The backbone of these efforts was the development of Gdynia as main seaport to reduce dependency on Danzig/ Gdansk, and the construction of a direct railway connection between the Upper Silesian coalfields and this new port. For both enterprises, the Polish government sought to attract foreign, especially French capital, not at least in order to create vested interests in the Corridor (see Wolf 2007). But political instability was by no means limited to the new democracies. Governments in nearly all European countries were less stable after the war than before. Table 1 shows the average duration of Cabinets for a broad selection of countries.

Table 1: Average Cabinet Duration (Years)

	1870-1913	1923-1939
Austria-Hungary	2.3	09. (Austria)
		1.5 (Hungary)
Belgium	3.3	1.3
France	1.3	0.6
Germany	1.9	1.4
Italy	1.5	1.4
Netherlands	2.3	2.1
Romania	1.3	0.7
Sweden	2.7	1.7
United Kingdom	1.7	1.3

Source: Banks and Textor (1971).

Not only had the losers of the war, such as Germany or Austria and Hungary experienced a significant increase in political tribalism and government instability after the war, but equally members of the winning coalition, notably France and Britain. This instability, accompanied in countries like Germany with an increase in the fragmentation of the acting coalition governments, impeded and delayed political decisions within countries and the coordination of policies across countries (Simmons 1994).

War debts and reparations were a second major consequence of the war with implications for international policy coordination. The war had produced a web of debts between the Allies and massive claims for reparations against the Central Powers. This and the rivalry with commercial loans impeded the recreation of international finance in the 1920s (Kindleberger 1986, p 298). Germany in particular was opposed to reparation claims, but eager to attract commercial loans. In contrast, France wanted to get rid of war debts, had only limited interest in commercial lending, but considered reparations from Germany as necessary both to rebuild the devastated provinces in the north and east, and to repay war debts to Britain and most importantly to the United States. Britain in turn was from about 1920 onwards prepared to cancel out reparations and war debt but was interested in commercial lending. Instead, the United States had little interest in reparations. Congress wanted to collect the war debts and American financiers wanted to revitalise commercial lending (Schuker 1988). Given the extent of the various claims, they significantly distorted the incentives for policymakers in domestic and international decisions. In May 1921 the Reparations Commission announced the London Schedule of Payments that amounted to a reparations bill of 132 billion gold marks, denominated in gold and payable in gold, commodities or services. Critically, this bill came in two parts. Germany would have to pay interest and amortisation on two (“A” and “B”) bond series over about 50 billion gold marks that were meant to cover the Allied war costs and debts, while the remaining “C” bonds would be issued later depending on Germany’s capacity to pay (Schuker 1988). The former sum was comparable to pre-war experience, notably to the French indemnity of 1871, the 50th anniversary of which happened to coincide with the announcement of the London Schedule and roughly in line with Keynes’ estimation of a payable maximum (Ritschl 2002, pp. 223ff.). While payment on the second part of the bill was deferred until Germany would have become sufficiently prosperous, it had far-reaching political implications. Internationally, the C-bonds served as a strategic asset in inter-allied negotiations on war-debts. Within Germany they undermined the efforts of the so-called “Weimar coalition” (the social-democrat SPD, the liberal DDP and the conservative catholic Zentrum) to stabilise the young democracy, because the extent of this claim was considered as excessive even by moderate political forces. What is possibly more important, the link of the “C” bonds to the condition of the German economy “diminished the incentive for German policymakers to put their house in order”

(Eichengreen 1992, p. 128). After the conflict of interest about the settlement of war debts and reparations, especially between France, Germany and the United States, had contributed to inflation and exchange rate instability in both France and Germany, the London Schedule was replaced by the Dawes Plan in 1924 that would stay in place right until 1929. The Dawes Plan differed from the London Schedule in several ways (Schuker 1976, pp. 180ff.). First of all, it reflected a new engagement of the U.S. in European affairs, and U.S. interest in European recovery to revitalise commercial lending. The new schedule immediately reduced the required annual payment to 1 milliard marks in 1924-25 that should rise gradually to a standard annuity of 2.5 milliard marks by 1928-29. After this, it was planned to adjust Germany's obligations according to some "index of prosperity". Together with an international loan of 800 million gold marks of foreign currency, this gave the German government some breathing space in 1924. Next, the plan avoided any definite statements about the extent of Germany's total liability, but rather proposed an arrangement that would allow "to restore confidence, (...) to facilitate a final and comprehensive agreement (...) as soon as circumstances make this possible" (Commission 1924, p. 35). Finally, it introduced a distinction between Germany's obligation to raise the specified annuity internally on one hand side and the problem of transferring the amount to the Allies on the other. To this end, the Plan devised a new Bank of Issue in Berlin, where the German government had to deposit the reparation payments and a special reparations agent. The reparations agent would then, joint with a Transfer Committee determine how much Germany could safely transfer to the Allies without causing foreign exchange difficulties. This arrangement essentially introduced a "transfer protection" that safeguarded the service of commercial over reparation debts (Schuker 1988, p. 35). After the very successful placement of the Dawes Loan, this new settlement of the reparations issue unleashed a wave of lending by the United States to Europe, especially to Germany. However, insofar as this flow of investment depended on the existence of U.S. surpluses relative to Europe and on the still pending issue of war debts and reparations, it produced a precarious equilibrium. A severe downturn of the business cycle, political tensions over the negotiations of the "final and comprehensive agreement", when the Dawes Plan would expire, or doubts about the rising debt-servicing burden in Central Europe could easily bring the system to a collapse (Eichengreen 1992, p. 152). Apparently, this is what happened when

negotiations over the Young Plan in 1929 met with a downturn of the business cycle (see section III.1).

A third consequence of the war was inflation, which in several cases turned into hyperinflation. It is not so much the inflation itself, but the memory of inflation among policymakers and markets that mattered for international economic policy in the 1930s (see section III below). The experience of inflation during the 1920s would prove to be one of the best predictors of which countries would allow their currencies to depreciate in the 1930s. Technically, prices rose everywhere in Europe after the war because output was weak, while several factors contributed to an increase in money supply. It is disputed to what extent the increase in money supply was an endogenous response to changes in demand or the result of explicit economic policies, and the answer to this will vary across countries. Let us briefly consider the cases of France, Germany and Poland. Table 2 gives the development of consumer prices 1920-1926 in France and Germany.

Table 2: Consumer Price Indices in Germany and France 1920-1926

	1920	1922	1924	1926
Germany (1914=100)	990	14602	128	141
France (1914=100)	371	315	395	560

Source: Feinstein, Temin, Toniolo (2008), p. 40.

Clearly, inflation in France never reached the extent of that in Germany (or Poland), but it was high enough to undermine public trust in the country's monetary authorities. After the war, the French expected German reparations to reconstruct the country to the extent that reconstruction expenditures in the extraordinary budget were balanced by reparation receipts that had not yet been collected (Kindleberger 1986). When German deliveries fell into arrears over the summer of 1922, French and Belgian troops occupied the Ruhr in January 1923 in order to enforce deliveries. The failure of this occupation (not at least because of the raging inflation in Germany) shifted attention back to the ability of French governments to balance the budget and

raise taxes as opposed to pursuing inflationary policies. In March 1924 it took a significant increase in taxes and an international effort with a major loan from J.P. Morgan to counter a speculative attack on the Franc (Kindleberger 1986, pp. 339-43). But this victory was short-lived. Over the year 1924 it became clear that the Banque de France had secretly increased note circulation while several governments struggled to reduce the fiscal deficit. After another 10 (!) ministers of Finance between June 1924 and July 1926, the new Poincaré government used a new American loan and a sharply deflationary budget to stabilise the Franc at around 20% of its pre-war gold parity in late 1926. With the monetary reform in June 1928 the French Franc returned at this parity also de jure on the gold standard and French monetary authorities “intended to stay there” (Mouré 2002, p. 73).

The German hyperinflation 1921-1924 was one of the most extreme cases recorded in history. The debate on it has often been described in terms of a competition between a balance-of payments school and a fiscal view, but fundamentally the origins of inflation in Germany were similar to anywhere else: there was no consensus regarding the distribution of income and tax burdens. While some progress towards such a consensus was made during 1920, this was undermined by the reparations problem. The political situation after 1919 was fragile but the “Weimar Coalition” had implemented far-reaching tax reforms in 1919 and 1920 and organised significant “interim payments” in anticipation of a formal agreement on reparations, that amounted to some 20 percent of German national income in 1921 (Eichengreen 1992, p. 129). After the Reparations Commission announced a reparations bill of 132 billion gold marks in May 1921, further tax reforms stalled. The mark depreciated dramatically, temporarily halted by a rescheduling of reparations payments in January 1922. With the occupation of the Ruhr however, the stage was set for hyperinflation. Due to the lag between tax assessment and tax collection, inflation eroded government revenues. The government started to print money on an unprecedented scale to cover expenses, and from January 1923 onwards to fund the striking miners. While it is undisputable that the mounting budget deficits led to money creation, inflation and depreciation, the fundamental cause of the budget deficit is still debated. German politicians maintained the balance-of-payments view that capital flight weakened the exchange rate, which drove up import prices and triggered domestic inflation, higher money demand and hence an increase in money supply (Bresciani-Turroni 1937, p.

45). While it can be shown that the budget would still have been in deficit in the absence of inflation, the extent of this deficit can be largely explained by reparations payments (Webb 1989, p. 37). Hence, reparations can be seen as the ultimate reason why German inflation developed into hyperinflation (Eichengreen 1992, p. 141). In turn, hyperinflation could be ended for good only because a radical change in monetary and fiscal policies in November 1923 was supported by the emergence of a new reparation regime: the Dawes plan (Webb 1988, p. 73).

The Polish experience of inflation and hyperinflation was no less dramatic. The government of the new Polish state in late 1918 faced the challenge to create a working fiscal administration and a common currency area out of the five (!) currencies that were in circulation on Polish territory while it still fought a war with the Soviet army in the eastern provinces. The Warsaw government only controlled the Polish Mark – a currency that the Germans had introduced after their occupation during the war (Trenkler and Wolf 2005). It adopted a stepwise strategy to get rid of the competing banknotes. Some months after the introduction of the Polish Mark as a parallel currency in the different areas, the other currencies were withdrawn. With the exception of Upper Silesia this aim was realised in April 1920 (Zbijewski 1931). While this quick institutional change was a remarkable success, it could not create the necessary revenues to win the ongoing war with the Red Army. However, it opened the way for the Polish government to effectively tax money holders via inflation. The data on Poland's hyperinflation is far from complete, but the general picture is clear. The money supply increased by 519 per cent between 1918 and 1919 and in the following year by another 929 per cent reaching in 1923 more than 12,000,000 per cent of the 1918 level (Trenkler and Wolf 2005, p. 202). Initial gains from seigniorage and the devaluation of the budget deficit were quickly wiped out by the costs of hyperinflation, namely the flight of capital. When Prime Minister Władysław Grabski tried to stabilise the currency in 1924, his strategy was to link the Polish currency with some foreign currency that had successfully restored the gold standard. Indeed, Grabski managed to realise this task with the help of a temporary property tax fixed in Swiss gold francs and several (small) international loans. By mid-January 1924 the nominal exchange rate had been stabilised and a new currency, the Złoty (“Golden”), was fixed to the Swiss gold franc. After a second wave of devaluations triggered by revelations about secret increases in currency circulation similar to that in France

1924-25, a new right-wing government under Marshall Piłsudski finally succeeded to stabilise the currency in late 1926. This and an American stabilization loan allowed Poland in October 1927 to join the international gold-exchange standard (Smith 1936). The Piłsudski government considered this stabilisation as one of its major achievements and was determined to defend the parity at any cost.

III. Coordination failure: Europe's reaction to the great depression 1930-1936

With the stabilisation of the Franc in 1926 and the Lira in 1927, Europe had essentially completed the reconstruction of the gold-standard. The political situation had also stabilised with the treaties of Locarno in late 1925,³ some hopes for effective disarmament, and domestic stabilisation in many European countries. But the new political and economic stability soon proved to be frail. Germany was at the brink of a recession already in 1927, as indicated by a fall in industrial investment (Temin 1971, p. 247) and orders to German machinery industry (Ritschl 2003a, p. 116). While the origins of the U. S. depression are still heavily disputed,⁴ tightening monetary conditions in the United States started to reduce foreign lending from about summer 1928 onwards. This hit European debtor countries first, which heavily depended on capital imports from America. In order to serve dollar and other foreign loans, borrowers had to shift their current account balances to surplus and tighten monetary and fiscal policies to limit domestic demand. Hence, the monetary tightening in the U.S. and elsewhere produced a deflationary shock to Europe, transmitted by adherence to the gold-standard. From mid 1929 onwards wholesale prices started their long decline. Within the framework of the macroeconomic policy trilemma (figure 2), policymakers attempted to restore external balance at the expense of macroeconomic stabilisation at home (Option A). This in turn was the key transmission mechanism that turned a bad recession into the great depression (Temin 1989, p. 38). In this

³ The Locarno treaties were signed in December 1925. The "Rhineland pact" between France, Belgium, Germany, the UK and Italy guaranteed Germany's western borders according to the treaty of Versailles. Instead, Germany signed arbitration conventions with France, Belgium, Poland and Czechoslovakia to negotiate Germany's eastern borders. Finally, France signed treaties on mutual assistance against Germany with Poland and Czechoslovakia that renewed earlier agreements. The treaties were interpreted as a step towards Franco-German reconciliation but simultaneously as a threat to the new states in Central and Eastern Europe.

⁴ See footnote 1, especially the recent work by Ebell and Ritschl (2008) and Ohanian (2009) and papers in this issue.

section I discuss, why it took so long (and so much unemployment) to find a new solution within the trilemma. It might be useful to split this discussion into two parts. First, I discuss the factors that prevented European policymakers to loosen their “golden fetters” (Eichengreen), either in terms of devaluation, by imposing capital controls or both. Second, I discuss the related but distinct question of what factors prevented policymakers in Europe to pursue expansionary policies after they had been forced to abandon the gold-standard.

III.1 The decision (not) to abandon the gold-standard

The currency crisis of 1931 deepened the crisis but also triggered a first set of effective policy responses to the worldwide depression, when several countries were forced to abandon the gold standard. Notably, there was no single European country that abandoned the gold standard as a matter of choice, in difference to the U.S. in April 1933 (Temin and Wigmore 1990, p.489). A historical narrative would start with the experience of Europe’s four largest short-term debtors Austria, Hungary, Germany and Britain. In May 1931 the Creditanstalt, Austria’s largest deposit bank, had to be rescued by the Austrian government (Schubert 1991). Given the size of this commitment, the weak position of the Austrian economy, and difficulties over the negotiation of international assistance, the crisis turned into a currency crisis of the Schilling, which then spread to Hungary. A different set of events that was ultimately linked to the issue of reparations, led in July 1931 to a crisis in Germany that looked like a “twin crisis” with a near simultaneous run on bank deposits and the currency (Schnabel 2004). When Germany was forced off gold in July 1931, attention of the markets turned to the other large weak gold currency, Sterling. From mid-July 1931 the Bank of England was losing gold at an alarming rate. In a situation of already very high unemployment, the incumbent Labour government was unable to agree on spending cuts large enough to calm the markets and fell in August 1931. The following “national government” under Ramsay MacDonald had to face the impossibility of further deflationary policies. It suspended convertibility on September 19 1931, and many European countries followed immediately.

However, there was considerable variation in the pattern of exit from the gold-exchange standard during the 1930s. France and Switzerland continued to adhere to

the gold standard for another five years until September 1936, Poland until April 1936; Italy left in 1934, while others introduced exchange controls but continued to follow deflationary policies as if they would still have been on the gold standard. This variation in exit has been the subject of several comparative studies including Wandschneider (2008) and Wolf (2008). The literature on currency crisis that distinguishes between first, second and third generation models gives a useful guidance to understand this curious pattern and to explore systematically the pressures that European countries on the gold-standard faced in the 1930s. These models are not mutually exclusive but stress different aspects of currency crisis, notably all in the framework of the macroeconomic trilemma. The canonical (“first generation”) currency crisis model by Krugman (1979) explains such crises as the outcome of a fundamental inconsistency between domestic policies - typically fiscal policies aimed at stabilising the economy during a downturn - and the attempt to maintain a fixed exchange rate. Insofar as this takes capital mobility for granted the model reflects the classic macroeconomic trilemma (figure 2). If the central bank has sufficiently large reserves, this inconsistency can be covered for some time. But there will be a point when these reserves become low enough to trigger a speculative attack that would quickly drive those reserves to zero and force an abandonment of the fixed exchange rate. Second generation models, for example Obstfeld (1986), build on this canonical model but stress that even if the development of fundamental variables is not particularly unfavourable, a currency crisis can occur due to - for example - self-fulfilling expectations, herding behaviour or contagion. The government weights the benefits from adherence to a currency peg (such as the possibility to import credibility to fight inflation) to those against the peg (such as the possibility to pursue a monetary policy according to domestic policy objectives) and these weights will change with the arrival of new information. In Obstfeld (1986), a crisis can occur when the loss arising from maintaining the current regime is considered to be at least as large as the combined loss from discretionary policy *and* the associated loss in credibility. Related to this Calvo and Reinhart (2001, 2002) have argued that developing countries are reluctant to tolerate much variation in exchange rates due to a “fear of floating” that mainly stems from a lack of credibility and the fear to lose access to capital markets. In models with coherent self-fulfilling expectations, there are multiple steady states in exchange rates and monetary policy. The arrival of “bad news” from official statistics or changes in the political conditions can move the economy from one steady state to

another. Herding models in turn are based on the idea that gathering information is costly. When the majority of participants behaves adaptively and follows big participants in their behaviour, small random shocks to the latter can have large effects. Similarly, regional linkages through trade or financial relations can cause crisis contagion, as a crisis in one region will adversely affect the macroeconomic fundamentals – or at least the perception thereof - in the second region (which is not necessarily the geographical neighbour). Finally, third generation models such as McKinnon and Huw (1996) or Krugman (1998) highlight that structural problems in the banking and financial sector can affect the probability that currency crises occur in the first place but also the character and length of the currency crisis. These models allow for the possibility of a simultaneous currency and banking crisis – a “twin crisis”. For example, in Krugman (1998), the government guarantees investments in companies for banks that are mainly branch offices of foreign banks or whose business strategy relies mainly on borrowing money in international capital markets to extend loans to domestic companies. The incentive for the government to issue guarantees comes from an attempt to attract foreign investment. However, when the government fails to regulate and control financial agents, serious problems of moral hazard can make the country prone to a banking crisis that will turn into a currency crisis as foreign funds are withdrawn. Note that such “twin crisis” could also arise without a failure to regulate banks. In the presence of rigidities, especially nominal wage-stickiness and non-contingent financial contracts, price deflation can cause significant increases in both, real wages and in real debt – Irving Fisher (1933) discussed the latter in the context for the Great Depression as “Debt Deflation” (see Bernanke 1995). While a rise in real wages would tend to increase unemployment and hence foster political pressure on monetary policy, debt deflation can trigger a wave of bankruptcies in highly indebted sectors and adversely affect private banks as their main creditors. Together this might produce a “twin crisis” with both banks and currency under pressure.

Several of these factors were at play during the 1930s, and their variation over time and across countries can explain the pattern of Europe’s long exit from the gold-standard that was not complete before autumn 1936 (Wolf 2008, pp. 391-95). Table 3 shows the results from a discrete-time survival model that explains the timing of exit

from the gold-standard for a panel of eight European countries based on monthly data 1928-1936.

Table 3: Discrete Time Survival Models, January 1928 - December 1936

(Binary dependent variable = 1 in the month of exit; robust standard errors in parentheses, bold letters indicate significance at 10% or better)

	Logit	Logit
<i>Baseline Hazard: constant</i>	18.455 (0.779)	-26.891 (-0.195)
<i>Baseline Hazard: months on gold</i>	1.607 (2.303)	3.770 (0.529)
<i>Baseline Hazard: months on gold X Debtor</i>		1.988 (4.400)
<i>Whole28</i>	-2.039 (-1.786)	-2.821 (-1.987)
<i>Banking</i>	-0.387 (-2.865)	-1.003 (-0.223)
<i>Banking X Debtor</i>		-1.092 (-1.775)
<i>Devalhist</i>	0.520 (2.297)	-1.012 (-0.691)
<i>Cover</i>	-8.152 (-2.194)	-10.399 (-2.198)
<i>Indep</i>	10.526 (2.684)	8.557 (1.447)
<i>Polity</i>	3.103 (2.025)	0.681 (1.811)
<i>Int France</i>	-10.719 (-2.191)	-9.518 (-1.634)
<i>Tradegold</i>	-3.426 (-2.482)	-2.044 (-1.560)
<i># of Obs.</i>	484	484
<i>McFadden R2</i>	0.811	0.860

Source: Wolf (2008).

A key factor for European capital importers was the tightening of monetary policy in the U.S. as the main capital exporting country, which changed macroeconomic fundamentals in debtor countries and put pressure on their gold and foreign exchange reserves (Eichengreen 1992). Spiralling deficits and declining reserves forced one after the other off gold. As the deflationary pressures grew stronger (captured by indices of wholesale prices with 1928 = 100, *Whole28*), countries abandoned the gold standard. Clearly, the lower the cover ratio (of gold and foreign exchange relative to M1), the earlier a country had to leave. Note that several circumstances probably “conditioned” the fundamentals in some countries during the 1920s, which are not directly captured in this comparative analysis. Examples include the return to gold in the 1920s at unsustainable parities – too low in France but too high in Britain (Keynes 1925, Redmond 1982, Sicsic 1992), the particular role of reparations for the German

crisis (Ritschl 2002), and growing current account deficits due to exogenous changes in the structure of world trade after the war (Svensnilson 1954) may all have weakened fundamentals of European economies over the course of the 1920s and hastened the collapse of the gold-standard. We will come back to some of these factors further below.

Beyond fundamentals, expectations and beliefs of both governments and market participants played a significant role for monetary policy during the 1930s crisis akin to second generation models. We saw earlier that policymakers all over Europe were eager to re-establish the gold standard after 1918 in an attempt to increase the credibility of monetary policy (Bordo et al. 1999). However, both policymakers and their electorates differed in their adhesion to gold-standard orthodoxy (their “mentality”) that can be explained by differences in their own recent experience. Everywhere in Europe, but especially in countries which suffered a hyperinflation or a significant depreciation of their currencies relative to the pre-war parities, prevailed the opinion that only adherence to gold could ensure price stability (Straumann 2010). This can be captured by the parity at which a country resumed the gold standard in the mid-1920s, expressed as a percentage of its pre-war parity (*devalhist* that varying from 0 to 100). The positive and significant coefficient on this variable indicates that countries, which returned to gold below their pre-war parity due to strong inflation in the 1920s, were less prone to exit gold, *ceteris paribus*. Column 2 in table 3 shows that this actually mattered only for capital importers. This suggests that it was indeed a “fear of floating” that prevented these countries to leave gold (see also Wandschneider 2008).

Earlier I argued that the stability and character of domestic institutions mattered for the course of the great depression. For example, the perceived risk of expansionary monetary policies to produce hyperinflation may be smaller the less directly a government can affect monetary policy (Kydland and Prescott 1977). Table 3 indeed shows that as a rule countries with more independent central banks (captured by *Indep* where a high value indicates high independence) were prone to exit the gold-standard earlier. More importantly, table 3 bears out that the political system prevailing in a country strongly affected a country’s choice of monetary policy. The extension of the

franchise (James 2001) and political instability (Eichengreen and Simmons 1995) apparently weakened the ability of governments to commit to the rules of the gold standard. Authoritarian regimes had tools at hand to defend the gold standard and successfully suppress any political quest for expansionary full employment policies that arose under the trilemma. This ability to defend the gold standard at home is measured here by *polity*, which reflects a combined score on a democracy variable (0-10) and an autocracy variable (0-10) based on Marshall and Jaggers (2005). As shown in the table above, and highlighted in the historical literature, less democratic governments such as Italy or Poland stayed longer on gold, *ceteris paribus*. For example, the French democracy faced significantly lower pressures to leave the gold standard in the early 1930s due to much higher gold and foreign exchange reserves and a belated onset of deflation.

Yet another set of arguments can be linked to the idea of contagion in second generation models: the degree of economic integration between country pairs differed widely during the interwar years. For example, the crisis of the Austrian Credit-Anstalt in May 1931 is typically seen as the immediate trigger for the Hungarian crisis that led to the exit from gold (see Ellis 1939, p. 88) and many argued that there were elements of contagion from Austria into the German banking system (Born 1967, Schnabel 2004). In contrast, spill-over effects into Italy were apparently limited, which is partly explained by government intervention (Feinstein et al. 1997) and partly by a more limited degree of financial integration. Similarly, exchange rate stabilization may have dominated other monetary policy goals in the presence of tight trade relations. For example countries which traded intensively with the UK might have had stronger incentives to follow Britain off gold in 1931 than others, while integration with France may have had the opposite effect (Ritschl and Wolf 2010). Straumann and Woitek (2009) argue that the monetary policy pursued by the Swedish Riksbank - which has been praised as a predecessor of modern inflation targeting (Svensson 1995, Fregert and Jonung 2004) - can be largely explained by the attempt to stabilize the exchange rate with sterling. Table 3 clearly shows that the exit decision of major trading partners could force a country to leave as well. Adherence of the major trading partner to gold (*tradegold*), and beyond this the level of trade integration with France in 1928 (*Int_France*) induced countries to stay longer on the gold standard (on the latter see Wolf 2008, p. 397).

Finally, it can be shown that the occurrence of a banking crisis affected the course of the currency crisis of 1931, even after taking all the other elements into account as suggested in third generation models. This is captured by a simple monthly index of bank deposits, again indexed to 1928 = 100 (*banking*). While this is arguably a rough proxy – ignoring for example any “structural” weaknesses of a country’s banking sector - it should reflect any banking crisis serious enough to threaten the currency of a country. Notably, banking crisis occurred and therefore mattered only in debtor countries (see table 3, column 2). This last finding leads us back to the historical narrative of the beginning of this section and the key impediments for international cooperation during the currency crisis of 1931: instable institutions, war debts and reparations, and the memory of hyperinflation.

The reparations problem had always a domestic and an international dimension, which developed over time. The already fragile Weimar Republic had been further destabilised with a significant rise in unemployment during the winter 1928/29. A centre-left coalition government fought against communists and an increasingly well-organised right. The best part of 1929 had been dominated by a public referendum against the Young Plan and in fact any form of further reparations. This referendum clearly failed in December 1929 but it had helped to focus the disparate parties of the right with Hitler’s NSDAP as the new rising force (Schulze 1982, p. 311). On the international dimension, the reparation settlement under the Dawes Plan of 1924 had allowed significant net-capital inflows from the U.S. to Germany between 1924 and 1928, not at least due to a “transfer protection” clause by which commercial debt had been made de facto senior to reparation debt (Schuker 1988, pp. 47-53). Under the new Young Plan the reparations annuity was marked down but the “transfer protection” had been removed (see section II above). This needs to be seen in the context of the Mellon-Bérenger accord of 1926, which committed France to a schedule for the repayment of her inter-allied war debts with the United States. However, the agreement was not ratified before July 22 1929, due to a dispute over a “safeguard” clause that would have made payments contingent on the receipt of German reparations (Rhodes 1969, p. 802). German government officials, industrialists and economists alike realised that this new schedule limited Germany’s access to foreign credit not only during the crisis but even more so in good times

(Ritschl 2002, p. 130). From March 1930 onwards Germany had no government with a stable parliamentary majority any more, but a series of cabinets that ruled either by presidential decree or by ad hoc majorities. The September election in 1930 showed a massive radicalisation of the electorate, when (based on a voter turnout of 82%) only two major parties could increase the share of their votes: the communists from 10.6% to 13.1% and the Nazis from 2.6 % in 1928 to a spectacular 18.3%. In this situation the government under Heinrich Brüning relied more than ever on tangible success in the international arena to secure political support at home. And it was pushed by the environment around President Hindenburg to look for exactly this. The three most important elements on the foreign policy agenda were therefore revisionist in nature: to end reparations, to lift restrictions on Germany's market access to Eastern and South-Eastern Europe, and to remove restrictions on Germany's military capacity. In March 1931 the German and Austrian governments announced a preliminary agreement to form customs union (Orde 1980, p. 52) that was considered as a serious threat in Czechoslovakia and caused a political confrontation with France. When the Austrian government attempted to secure an international loan in the wake of the deepening crisis of the Creditanstalt in May 1931 the French demanded a renunciation of the customs union. Negotiations over an international loan required more than two weeks that intensified the run on the Schilling. The loan that was finally arranged at the end of May 1931 was exhausted within five days (Kindleberger 1986, p. 361). Due to the still significant reserves of the Austrian Nationalbank this process continued for several weeks until September 1931 when the country was forced to introduce exchange controls and hence left the gold standard (Eichengreen 1992, p. 269).

The crisis in Austria worsened an already precarious situation in Germany (see Temin 1971, Voth 2003). German financial institutions showed increasing signs of distress. August 1929 saw the collapse of FAVAG, Germany's second largest insurance company followed by a stock market crash and several bank failures, but with little effect on the currency (Schnabel 2004, p. 846). With the effects of the American depression spreading, and German creditworthiness in decline⁵ the Young loan in

⁵ There was actually one successful major international loan to Germany after the Young loan of June 1930, organised by Lee, Higginson and even with French participation, see Ferguson and Temin (2003), FN 67. However, the circumstances of this loan were rather particular and included not at least

June 1930 gave briefly some breathing space, before the political radicalisation with the September elections triggered a significant wave of capital flight. Great branch banks such as Deutsche Bank, Danatbank and Dresdner Bank experienced large withdrawals of foreign (but not domestic) deposits between June 1930 and March 1931 (Schnabel 2004, p. 851). This was clearly related to their deteriorating liquidity positions but combined with mounting doubts by investors about the Reichsbank's ability to support these banks with foreign exchange in times of a crisis. In May 1931 this long heralded crisis had apparently arrived. It was in this situation that the Brüning government attempted to use the crisis and its very limited room for manoeuvre as an opportunity to get rid of reparations once and for all. According to his confidant, state-secretary Hans Schäffer of the Finance Ministry, Brüning was convinced that the issue of reparations could not be resolved once the world economy started to recover.⁶ His policy in 1931 can be described as an explicit effort to signal to the Allies that German goodwill was ultimately futile without far-reaching concessions on reparations. Without doubt, this policy involved great risks. But the same applied to potential alternatives as we will see in section III.2. As described earlier, any signal of political "goodwill" during the crisis of 1931 essentially amounted to the announcement of radically deflationary policies. On the eve of a visit to the British prime minister, the cabinet had decided on another bundle of deflationary measures on an unprecedented scale that appeared to be unacceptable to the majority of the German parliament (Schulz 1992, pp. 357). During Brüning's stay in Britain, on 6th June 1931 the government published a carefully drafted statement that announced the deflationary measures together with a dramatic appeal that the German people had now reached the limit of its ability to suffer and needed relief from the burden of reparation (Schulz 1992, p. 382). The ensuing run on the Reichsmark came to a halt when several parties, including the moderate left, decided not to overturn the new budget on 16 June (Winkler 1993, p. 413) and president Hoover proposed a moratorium on war debts and reparations on 20 June to gain time for international negotiations. However, France showed strong resistance against the moratorium until 7 July. In the meantime, news spread about massive losses of Nordwolle, a textile company, which sparked a run on its main creditors, Danatbank

French demands for additional securities and further fiscal tightening in Germany; see James (1985), pp. 121ff. and Ritschl (2002), pp. 133-37.

⁶ See the letter by Hans Schäffer to Hans Staudinger, 12. July 1952, cf. Schulze (1982), p. 351.

and Dresdner Bank (Kindleberger 1986, p. 363). The remainder was a repetition of the events in Austria, but now in the setting of a “twin crisis” (Schnabel). International efforts to halt the run on the Reichsmark and support the Reichsbank in her attempt to bail out the banks were too little too late, largely due to disputes about reparations and Germany’s ability to continue deflation. Between August and September Germany imposed increasingly stringent exchange controls and hence defected from the gold standard (Eichengreen 1992, p. 276). As described earlier, the crisis spread to Britain and forced a series of other countries off gold. While this in principle opened the way for recovery, that way was only reluctantly taken.

III.2 The decision (not) to pursue expansionary policies

The purpose of this section is to discuss the factors that prevented policymakers in Europe to pursue expansionary policies after they had been forced to abandon the gold-standard. Within the trilemma (figure 2) the wave of exit from gold in autumn 1931 that included Austria, Britain, Czechoslovakia, Germany, Hungary and all of Scandinavia, should have allowed policymakers to implement policies of fiscal and monetary expansion in order to stabilise their economies. As we will see, this was done only very reluctantly from about summer 1932 onwards; as a rule policies did not become strongly expansionary before 1935. In the following I will briefly describe three factors at work and focus on the experience in Britain, Germany, France and Poland: a continued fear of inflation in memory of the early 1920s, constraints stemming from international disputes over the final settlement of war debts and reparations, and finally rearmament. In terms of the “eternal triangle”, I argue that governments continued to fear another collapse of the currency (confidence). This was exacerbated by political factors that affected short-run capital flows, namely tensions over war debts and reparations until 1933, to be followed by fears of another war after the rise of Hitler (liquidity). Together, this contributed to a fragmentation of Europe into currency and trade blocs (or option “D” in figure 2), where the reluctance to pursue expansionary policies was finally broken by rearmament programmes roughly along the lines of these blocs (adjustment). Figure 3 shows the development of wholesale prices (1928 = 100) for various parts of Europe.

Figure 3: Wholesale Prices in Various Countries, 1928-1936 (1928=100)



Source: Wolf (2008).

Britain suspended gold convertibility and introduced a system of a managed float that allowed a significant devaluation of sterling (Howson 1980). A group of countries that followed Britain off gold in September and October 1931 (with several currencies pegged to sterling) started to recover from about mid-1932 onwards. Recovery in the U.S. in turn was related to Roosevelt's decision to leave the gold standard in April 1933 together with the announcement and implementation of a whole set of new economic policies, the "new deal" (see Fishback 2010, this issue). Another group of countries tried to follow France in her policy of strict adherence to the gold-standard without imposing exchange controls and at prevailing parities, including Belgium, Czechoslovakia, Italy, the Netherlands, Poland (with Danzig), and Switzerland. All of them experienced a continued deflation, and further economic decline (see figures 1 and 3). Finally, there was a group of "exchange control countries", including Germany, Austria, Hungary and several other Central and Eastern European countries that had openly introduced exchange controls to limit further capital losses, but did not devalue. Instead, they introduced a complex web of clearing agreements to manage trade on a bilateral basis at increasingly inappropriate exchange rates (Nurkse 1944, pp.162-189). To some extent, membership in the "gold bloc", "exchange control bloc" and even the "sterling bloc" that emerged around Britain was as much a signal of strategic political orientation as of actual economic policy, which can help to explain why these blocs had little effect on trade (Ritschl and Wolf 2010). Czechoslovakia for example introduced exchange controls in October 1931 but continued to consider itself a member of the gold-bloc until early 1934 (Ellis 1939, p. 36).

After Britain had to suspend convertibility in September 1931, the Bank of England increased the bank rate to 6.5% accompanied by discussions about the course of future monetary policy. These discussions were "strongly coloured at the beginning by fears of a dangerous inflation" (Sayers 1976, p. 418). Even more so, officials at the Treasury continued the tight fiscal policy stance they had followed during the depression. Fiscal policy did not become expansionary before the extension of Britain's rearmament programme in 1937/ 38 (Middleton 1981, Thomas 1983). What caused the recovery visible in price and output data then was the combined effect of devaluation in 1931 and a monetary expansion that started in early 1932. According to Broadberry (1986), the competitive gain of devaluation and growth impulse was

particularly large in 1932. Given devaluation elsewhere and a significant reorientation of trade in the wake of a universal rise of trade barriers in terms of tariffs, quotas and exchange controls, the effective exchange rate increased from 1933 onwards (Cairncross and Eichengreen 1983², p. 92). From late February 1932 onwards, the Bank of England started a stepwise reduction of the bank rate. This new policy of “cheap money” was introduced despite a fear of inflation partly in the hope of a domestic economic recovery. For another part it was done to reduce the cost of government debt service and help to balance the budget, which was considered crucial to regain confidence in the markets (Howson 1975, p. 89). The consequent recovery was visible but not spectacular, at least in terms of unemployment rates that never consistently fell below 10% (Thomas 1988, p. 99). The experience in other countries of the “sterling bloc” was similar. In a broader perspective Britain and countries dependent on trade with Britain moved towards the last option of the trilemma: they continued to maintain relatively stable exchange rates between each other, benefitted from some limited degree of capital mobility, and could still pursue “autonomous” monetary policy within their economic block that was essentially managed by Britain.

The case of Germany’s belated recovery has attracted considerable attention in the literature, not at least because German economic policy during and after the crisis of July 1931 apparently contributed to the rise of the NSDAP (Komlos and Stoegbauer 2004). I will not attempt to summarise the vast literature but present a perspective on recent and ongoing research. Let us start with some data. Chancellor Brüning was dismissed in late May 1932; after the von Papen government, Hitler was appointed Chancellor in late January 1933. The data on manufacturing output (figure 1) shows that the crisis in Germany had reached its low point in July 1932, roughly coinciding with the conference at Lausanne that ended reparations. Orders to German machine builders started to increase in autumn 1932 (Buchheim 2008, p. 384) and the German Institut für Konjunkturforschung declared on 21 December 1932 that the German economy showed clear signs of recovery (IfK 1932, p. 151). But similar to the experience elsewhere this recovery was slow and could result in a reduction in unemployment only with a significant time lag and from an extraordinary level of German unemployment above 40% in 1932 (Galenson and Zellner 1957).

The focus of the still ongoing debate is on the assessment of Brüning's economic policy between June 1931 and May 1932. Following the logic of the monetary policy trilemma, Germany should have been able to pursue expansionary policies after it had been forced to abandon the gold-standard, similar to Britain (from February 1932 onwards). In contrast, the German government continued its deflationary policy after the summer 1931, accompanied by political turmoil and heated discussions about the appropriate course of economic policy (see Borchardt 1979, 1990). In 15/16 September 1931, several leading German economists discussed the available policy options, including Colm, Eucken, and Roepke (Borchardt and Schoetz 1987). The explicit aim of the meeting, convened by the Reichsbank and the Friedrich-List society, was to discuss a stimulation of the economy, which was considered to be necessary to reduce mass unemployment. The discussion focussed on the feasibility of a credit expansion to fund public labour programmes as suggested by Wilhelm Lautenbach, a high-ranking official at the Economics ministry. In summary, the economists warned against any expansionary policy without international consent. Once the international constraints were removed, they recommended implementing expansionary policies without further delay. This paradox double-strategy was apparently also the one followed by Brüning, who prepared in early 1932 several expansionary programmes that were implemented by his successors von Papen and Hitler (Ritschl 2002, pp. 172-176, Buchheim 2008, p. 391). But the crucial negotiations on reparations (and related to this war-debts) following the Hoover moratorium of June 1931 were delayed, not at least by elections in France and the United States, while unemployment and support for the NSDAP rose in Germany. When reparations were finally cancelled at Lausanne in early July 1932 (still subject to U.S. consent on a reduction of war-debts), Brüning had already been forced to resign and Hitler was within reach of power.

Hence, the question is whether expansionary economic policies could have succeeded prior to the summer of 1932. The perceived risks of unilateral monetary or fiscal expansion ranged from another uncontrollable inflation, renewed pressures by the Allies such as another occupation of the Ruhr, to forced autarky. Holtfrerich (1982, 1990, 1996) and Temin (1989) argued that none of the alternative could have been more risky than the policy pursued: "even a certain amount of chaos on the way to recovery might well have been preferable to (...) the rise of Hitler" (Temin 1989, p.

73). While this is certainly true by hindsight, it can hardly do justice to the historical circumstances. First, the international risks of unilateral steps taken by Germany in 1932 were indeed considerable. The government must have weighted the risks based on the experience of the Ruhr occupation ten years earlier, which was followed by the dramatic collapse of the Mark. Second, expansionary policy would have been the remedy within our framework of the macroeconomic policy trilemma. But from the perspective of spring 1932 it was far from obvious that any type of expansionary policy would have produced a significant and quick reduction in unemployment. If anything, German economists and policymakers were more optimistic in that respect than most of their European counterparts in Britain – Keynes notwithstanding - and certainly France.⁷ Related to this, all parts of Germany's economy that supported the Weimar democracy (the moderate left, centre, and liberals) had an interest in Germany's re-integration into world markets. In contrast, both the traditional and the extreme right argued for protectionism or outright autarky. This helps to explain how Brüning could find a (silent) majority for many of his deflationary measures for so long, even among the moderate left. It also suggests a reason why an initially limited fiscal expansion under a right-wing alliance was so surprisingly effective, and why a Brüning government may not have done it: because German expansionary policy in 1932 under the prevailing reparations settlement essentially implied autarky, only the far-right could provide a credible regime change comparable to that in the U.S. (Eggertsson 2008, see also Temin 1989, pp. 112-117). This is an area for further research that would have to go beyond the framework of the macroeconomic trilemma.

Let us finally consider the case of Germany's largest neighbours, France in the West and Poland in the East. Both countries are of interest here, because both adhered to the gold-standard and deflationary policies until 1936 but under strikingly different circumstances. France was a creditor country, Poland a debtor. France was clearly under less pressure to leave the gold-exchange standard in the early 1930s than any other European country (and probably in the world), while Poland experienced the deepest and longest decline of industrial production in Europe. After Britain's exit from gold in 1931, France continued to attract gold; the cover ratio remained steadily

⁷ Recent studies cast doubts on the effects of fiscal expansion in Germany after 1933 (Ritschl 2003b, Weder 2006).

high until December 1935. Similarly, after the US devaluation in 1933, this did not immediately weaken the French position. However, it became increasingly clear that France had lost any competitive advantage that it may have had due to an initially “undervalued” currency. As argued by Paul Reynaud in his “devaluation” speech to the Chamber of Deputies in June 1934, France and the Gold Bloc had become the most expensive countries in the world. And further price domestic deflation apparently hindered recovery as the contrast with countries that had devalued showed (see Mouré 1988, p. 487). Indeed, while industrial production started to recover from the depression in most countries in late 1932, this recovery came to a halt in France in mid 1933, just after the US had left gold. On the other hand, French unemployment was slowly rising but still markedly below the European average, gold reserves stayed high and the financial sector seemed to be resilient. For example, the index of bank deposits (1928 = 100) mentioned above (section III.1) still stood at 95.6 in 1934. While there is evidence that some pressure to leave gold was build up over the year 1935, and many signs indicate changes in the public opinion, a real change occurred only in late 1935: the cover ratio started to decline between December 1935 and January 1936, and bank deposits started to be withdrawn. After the Front Populaire, which rejected further deflation (at least in the election programme) had won the elections in May 1936, these pressures increased very sharply with the index of bank deposits declining from 84.5 in April 1936 to 77.8 in July 1936, and the cover ratio plummeting over the same time from 80.3 to 65.2. In addition to this, military considerations may have contributed to France’s abandonment of gold in 1936 as recently argued by Hallwood et al (2007). German rearmament under Hitler was carefully observed throughout Europe. The massive rise in German military spending from 1934 onwards, the reintroduction of conscription in March 1935, but especially the reoccupation of the Rhineland in March 1936 put pressure on French military spending. According to Einzig (1937) the government refused a general mobilization called for by the military because of its budgetary implications. Hallwood et al. (2007) argue that this growing inconsistency between the need to increase military spending and fiscal discipline under the gold-standard added to the problem of overvaluation und undermined the credibility of French adherence to gold. They show that short-term interest rates and yield gaps (short term relative to long term rates) in France relative to Switzerland reacted to German militarisation. When the government announced a new 21 billion franc rearmament program in early

September, partly in response to the lengthening of German military service in late August, capital outflow accelerated. Bank of France reserves were again falling sharply, and France finally devalued on 25 September 1936 (Frankenstein 1982).

Poland is a closely related case, which has been so far largely neglected in the literature. The country was the only debtor country that joined the Gold-Bloc in 1933 and stands out in comparison to all her neighbours, especially Czechoslovakia and Hungary. As I argue in Wolf (2008), this adherence to gold and the late decision to exit and start an expansionary policy in 1936 was tightly related to Poland's relations with France and military considerations. The Piłsudski regime that ruled Poland since May 1926 was predominantly concerned with strategies to defend the independence and territorial integrity of the new Polish state against foreign aggression (especially from Germany and the USSR, see Wandycz 1988). The perceived risk that leaving the gold standard can produce monetary instability was in part due to the Polish experience of hyperinflation until 1923 followed by a second inflation in 1925-26 (as for example argued in the earlier Polish literature, see Knakiewicz 1967). But in difference to other Central-European countries that experienced a hyperinflation in the 1920s (such as Austria or Hungary), the Polish government was afraid of an additional cost of leaving gold: loosing access to „friendly” capital in terms of the political system of Versailles. For example, in August 1931 (!) the Polish chargé d'affaires Muehlstein discussed in Paris the possibilities to replace the influence of German banks in Upper Silesia by French capital. “As long as the situation was normal, the fight with the German banks was very difficult, but now, when the German *krach* had undermined their authority, it would just be a political sin not to use this opportunity and not to try to replace the German capital by French capital”.⁸ At the same time, the question of how to finance the urgent modernization of the Polish army came up again because the depression started to produce growing budget deficits and because the government feared the growing political instability in Germany. After a Polish attempt in July 1929 to negotiate a new French armament credit over 1.5 billion Francs had failed, renewed efforts to at least get the final instalment of the 1921 credit – frozen since Locarno - succeeded in February 1931. The deliveries were scheduled for May 1931 until December 1933 (Ciałowicz 1970,

⁸ Own translation from a Letter of Muehlstein to Polish Foreign Minister Zaleski, August 8, 1931, cited after Landau and Tomaszewski (1964), p. 315.

p. 162f). After this, the Polish side immediately attempted to discuss a new armament credit via ambassador Chłapowski in Paris. When this failed, Piłsudski sent a special envoy Targowski to Paris in November 1931 to explore chances for private armament credits (*ibidem*, p. 164) followed by an official request of the Polish General Staff about the price for a large delivery of heavy weapons. In this political environment of 1931 it is hardly surprising that Poland followed neither Germany (still her largest trading partner) nor later Britain off gold. In addition to a possible risk of inflation, the Polish government feared to lose access to French capital when it felt to need it most. Polish monetary policy apparently hinged to a large degree on the strategic considerations of the authoritarian regime. This is supported by a private memorandum of late 1935 by W. M. Zawadzki, an eminent Polish economist, founding member of the Econometric Society, who served as Minister of Finance between 1931 and 1935 (Landau and Tomaszewski 1965). In this he recapitulated his monetary policy. Importantly, this memorandum was never meant for publication (see Landau and Tomaszewski 1965). Zawadzki stressed that his monetary policy was based on two principles: first, to finance the military (!) budget of the Polish state to which the whole economy must be adapted, and related to his second, to stick to the gold exchange standard. He describes his motivation for the latter as threefold: first, to gain access to foreign capital. Second, to avoid domestic turmoil after a destabilization of the currency that could undermine the authority of the regime. And finally third, Zawadzki mentions the fact that a devaluation of the Złoty would “automatically decrease the military budget”, because it would decrease its purchasing power abroad.⁹ In addition, he was positively convinced that it was possible to overcome the crisis by a downward adjustment of prices,¹⁰ and pursued this policy until his demission in October 1935. Among the several effects of the death of Marshall Piłsudski in May 1935 was the political comeback of Kwiatkowski, “father of the harbour of Gdynia” who stood for the idea to reduce the economic dependency on German trade. In October 1935 Kwiatkowski replaced Zawadzki as minister of finance, and in December 1935 the Cabinet decided on a 4-year investment plan, that merged older plans for “big-push” industrialization with plans for setting up a large-scale Polish armament industry to be concentrated in the

⁹ Zawadzki (1935), reprinted in Landau and Tomaszewski (1965), pp. 127-151, here especially page 134.

¹⁰ *Ibidem*, p. 132.

“Security Triangle” formed by Vistula and San (see Strobel 1975, Landau and Tomaszewski 1999). In the meantime the economic pressure to finally release the “golden fetters” had increased sharply, with a large decline in Poland’s reserves from mid-1935 onwards, mainly due to the imposition of new exchange restrictions in Germany and elsewhere. Poland’s membership in the Gold-Bloc had become a mere façade without any economic foundations. The time to act finally came in March 1936 with the remilitarization of the Rhineland, when Germany de facto cancelled the treaty of Locarno: a major threat to Poland. Poland signalled her preparation to support France in an armed conflict in the spirit of the 1921 convention, but France did not react (Ciałowicz 1970, p. 216f). Moreover, the changing political climate in France, with an expected success of Blum’s Front Populaire questioned the future of the gold bloc altogether (Mouré 2002, p. 209ff.). On April 9th, 1936 a National Defence Fund was set up by presidential decree to be equipped with 1 billion Złoty over the period 1937-40 in order to finance the modernization of Poland’s army (Krzyżanowski 1976, p. 146), apparently in anticipation of a radical change in monetary policy. Only two weeks later, on April 26th another presidential decree introduced exchange controls, and thereby ended Poland’s adherence to the gold-exchange standard. The half-official Monthly Bulletin of the state-owned Bank Gospodarstwa Krajowego (BGK), published in French, defended this step as follows: “Therefore, the introduction of exchange controls was not directly determined by economic difficulties. The Polish government saw itself forced to this radical step in the first place in order to fight the currency speculation, which has developed recently and to stop the tendencies of hoarding, encouraged mainly by events from the domain of international politics. The aggravation of the political situation in Europe and the threat of war had a negative impact on all countries and in the first place on the members of the Gold Bloc (...).” (BGK 1936, p. 2). Hence, the final decision to leave the gold-standard and pursue expansionary policies in Germany’s neighbours France and Poland was apparently affected not only by increasing economic pressures on the remaining members of the Gold-Bloc as implied by devaluations elsewhere, but also by pressures to increase military spending.

IV. Conclusion and some Implications for European economic policy

By 1936 the European economy had apparently recovered from the great depression as indicated by raising prices, increasing industrial production and falling levels of unemployment. After an extremely painful and uncoordinated adjustment process the U.S. and European economies had freed themselves from their “golden fetters” and had embarked on more expansionary monetary and in some cases also fiscal policies. The Tripartite Agreement, reached between Britain, France, and the United States in late 1936 highlighted again the need for cooperation between central banks, and even institutionalised some consultation process under the Gold Agreement Act of October 1936. But cooperation was not regarded as an objective in itself, rather an instrument to avoid negative effects of domestic policies as the Tripartite Agreement had its origins in an effort to avoid another round of competitive devaluations in the wake of the collapsing Gold Bloc. Internal balance was explicitly recognised as the ultimate objective of policy, with the maintenance of international stability as “basically a useful ancillary target” (Eichengreen 1984, p. 44). Moreover, the new economic order foreshadowed in several ways the system of the time after 1945. Exchange rates between the U.S. dollar, sterling and franc were quite stable after 1936 with the Dollar emerging as de facto international reserve currency, given its strong gold backing. However, with the U.S. devaluation in April 1933 it was clear that the gold-parity of the dollar was in principle adjustable to changing economic conditions (Eichengreen 1984). Importantly, the Tripartite Agreement had also a political dimension, insofar as the raising threat from German rearmament facilitated negotiations between France, Britain and the United States (Sayers 1976, p. 476, Oye 1985, p. 193). The significant role of rearmament for the dynamics of European growth in the late 1930s cast serious doubts on the sustainability of this recovery altogether. While GDP returned to long-run trends after the depression, it can be argued that the European economy lacked a political consensus in the late 1930s, given Nazi-Germany’s aggressive preparations for another military confrontation. From this perspective, we might say that the great depression had its fundamental origins in the First World War and ended only with the Second World War.

The interwar period provides some general lessons for economic policy, many of which have been spelled out already in Temin (1989) but also in other contributions in

this issue. Here I just want to highlight some general aspects and one more specific “lesson” for the conduct of economic policy in contemporary Europe. On a general level, an analysis of the great depressions shows that economic models actually matter (Temin 1989, pp. 86-87). Policymakers and market participants alike only gradually discovered the various options that were available under the constraints of the monetary policy trilemma during the crisis: the limits of deflationary policies, the possibilities of fiscal and monetary expansion, but also ways to control capital flows. The fact that no government in the world dared to pursue expansionary economic policies before spring 1932 suggests that gold-standard orthodoxy mattered. However, it would be misleading to think that expansionary policies had not been considered before Keynes published his *General Theory* in 1936. Rather, these options were not pursued, because the risks of unilateral action were long considered too high – maybe rightly so, and multilateral action seemed impossible. Put differently, not all options that would exist in a perfect environment were available to all policymakers at every time, due to a serious lack of institutional stability. Europe could not exploit her vast economic potential after 1918, because the war had not yet come to an end. Both, domestic and international institutions suffered from a lack of reciprocal trust and commitment, which can be clearly illustrated in the realm of monetary policy but affected many other areas of policymaking. These institutions in turn affected expectations and thereby the extent to which for example expansionary policies could be effective. Hence, the second general lesson is that an international coordination of economic policies can be crucial another great depression. A third quite general “lesson” from the interwar years is that failure to deal with an economic crisis can have political side-effects that may prove to be far more damaging than the crisis itself. The rise of the NSDAP to power in 1933 made it hard to avoid the Second World War in 1939.

Finally, the interwar years provide some useful insights for the conduct of economic policy in Europe today. The period can be seen as the (failed) attempt by European policymakers to simultaneously pursue the objectives of liquidity, confidence, and adjustment or alternatively the policies of stable exchange rates, free capital flows and macroeconomic stabilisation. The brief period between 1924 and 1929 – the “golden twenties” - suggested that it would be possible to have it all: exchange rates stabilised at the new gold-parities, Europe received significant capital-inflows from the U.S.,

and inflation and unemployment seemed to be under control. The great depression proved that this was an illusion. The system of 1929 was based on a fragile institutional framework, including domestic institutions that limited the tolerance for domestic adjustment (that is unemployment) and the interim-settlement of reparations and war-debts with the Dawes-Plan in conjunction with the un-ratified Mellon-Bérenger accord of 1926. Crucially, Europe's brief prosperity in the 1920s depended on the continued inflow of capital from the U.S. that had forged ahead of Europe in terms of productivity. The U.S. had a large trade surplus with Europe, and Europe in turn provided ample scope for profitable but risky investment. When the U.S. as the core of the system suffered a crisis, something had to give – exchange rate stability, capital mobility, or macroeconomic stabilisation. In this situation of interdependence and “fear of floating”, only a strong and institutionalised adjustment mechanism would have prevented the initial downturn to become the great depression. If central banks and governments would have been able to coordinate a change in gold-parities or the introduction of capital controls, the crisis might have been contained earlier (e.g. Eichengreen and Sachs 1985).

This has striking similarities with the situation of the Eurozone today. The process of modern European integration and interdependence reached a new level with the introduction of a common currency in 1999. The combination of fixed exchange rates under a common monetary policy and open capital markets imply that macroeconomic stabilisation policies, especially fiscal policies need to be coordinated between member states. The need for such coordination is exacerbated by the extent of structural imbalances within the Eurozone, where a strong core with high levels of productivity runs long-run current account surpluses with a predominantly weak periphery. This in turn tends to produce both opportunities and risks for core and periphery. The core has access to an enlarged market with profitable investment opportunities, while the periphery has access to the capital it needs to catch up. Among the systematic risks are asset “bubbles”, government debt crises or combinations of them in the periphery that may emerge when expectations about the growth prospects in the periphery become overly optimistic. In striking contrast to other currency unions with this level of structural imbalances however, the Eurozone is a monetary union without being a political union - and given European history, such a political union is actually difficult to imagine. In consequence, the Eurozone

was created without adjustment mechanisms such as (large scale) fiscal transfers or a sufficient degree of labour mobility, which is still limited by prevailing institutional differences and language barriers. This particular combination - structural imbalances with a common monetary authority but uncoordinated fiscal policies and high capital mobility - is inherently unstable as it depends on the maintenance of lending to the periphery. This fundamental instability rather than any misconduct of economic policies makes the Eurozone prone to economic crisis.

The experience of the interwar period suggests that the Eurozone needs some institutionalised and automatic adjustment mechanism that is readily available in time of a business cycle downturn. Otherwise, political tensions over appropriate stabilization policies – whether rooted in election cycles, history or elsewhere - will not only delay recovery but can lead to contagion effects and turn a limited downturn into a major crisis. Therefore, the recent introduction of the European Stabilization Mechanism (ECFIN 2010) by the European Union in May 2010 seems to be well founded. However, the implementation of such an automatic adjustment mechanism can go wrong. The design of a currency union without a strong institutionalised adjustment mechanism has always been justified by arguments of moral hazard. The Stability and Growth Pact of 1997 and its followers were meant to ensure that governments would not build up unsustainable levels of debt that could undermine the stability of the common currency. Clearly, in difference to the gold-standard currencies the stability of the Euro as a common currency is not so much threatened by a change in its external value but by the distributional and hence political consequences of uncoordinated fiscal policies. It can be argued that the European Stabilization Mechanism increases the risk of moral hazard, hence the risk that governments use this as an insurance to create excessive deficits and debt levels (Sinn 2010). Given that the Euro is a political project between surplus and deficit countries, this needs to be addressed to ensure political support in all parts of the Eurozone. But it would be misleading to argue that the Euro-crisis of 2009/ 10 had its origins in a general profligacy of national governments. With the exception of Greece it was private rather than government debt that reached unsustainable level in the wake of an asset bubble, which in turn triggered an increase in government debt (De Grauwe 2010).

The key issue therefore seems to be a political one. European integration involves both opportunities and risks for both core and periphery. The historical experience of the interwar period and the following post-war growth spurt strongly suggests that a political consensus to foster economic integration between European countries is a precondition for growth (Roses and Wolf 2010). And as such it has no viable (peaceful) alternative, especially not for the core. The European Stabilization Mechanism might provide the adjustment mechanism that was needed and it still needs to be complemented by some form of binding budgetary rules. But more importantly, policymakers have to convince their constituencies that the process of European integration with all its far-reaching implications is beneficial in the long-run. Otherwise doubts about the political sustainability of the European Stabilization Mechanism will always tend to undermine the Eurozone's precarious economic equilibrium.

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