NBER WORKING PAPER SERIES

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PRICE TO PAY FOR CONSERVATISM?

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Working Paper 12491
http://www.nber.org/papers/w12491

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NBER Working Paper No. 12491
August 2006
JEL No. N1, N13

## **ABSTRACT**

In this paper we examine the experience of Switzerland's devaluation in 1936. The Swiss case is of interest because Switzerland was a key member of the gold bloc, and much of the modern academic literature on the Great Depression tries to explain why Switzerland and the other gold bloc countries, France, and the Netherlands, remained on the gold standard until the bitter end. We ask the following questions: what were the issues at stake in the political debate? What was the cost to Switzerland of the delay in the franc devaluation? What would have been the costs and benefits of an earlier exchange rate policy? More specifically, what would have happened if Switzerland had either joined the British and devalued in September 1931, or followed the United States in April 1933? To answer these questions we construct a simple open economy macro model of the interwar Swiss economy. On the basis of this model we then posit counterfactual scenarios of alternative exchange rate pegs in 1931 and 1933. Our simulations clearly show a significant and large increase in real economic activity. If Switzerland had devalued with Britain in 1931, the output level in 1935 would have been some 18 per cent higher than it actually was in that year. If Switzerland had waited until 1933 to devalue, the improvement would have been about 15 per cent higher. The reasons Switzerland did not devalue earlier reflected in part a conservatism in policy making as a result of the difficulty of making exchange rate policy in a democratic setting and in part the consequence of a political economy which favored the fractionalization of different interest groups.

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## 1. Introduction

The current consensus view on the Great Depression focuses on the gold standard as the leading cause of the global slump. The gold standard has been indicted both as the medium by which shocks (primarily precipitated by US monetary policy failures) were transmitted around the world (Fisher 1936, Friedman and Schwartz 1963); and for acting as "golden fetters" – adherence to gold convertibility and the gold mentality prevented countries from following the stabilization policies needed to offset the downturn (Temin 1989, Eichengreen 1992).  A literature beginning with Choudhri and Kochin (1980),  Eichengreen and Sachs (1985), and Eichengreen( 1992) provides strong evidence that countries  which left gold and devalued their currencies, recovered more quickly than countries which did not.

The last group of countries to leave the gold standard were the gold bloc countries: France, Netherlands and Switzerland who left in September 1936, five years after the UK (with the Commonwealth and Scandinavian countries) left in September 1931 and over three years after the U.S. (together with  Canada and a number of Latin American countries) departed in April 1933. According to Eichengreen (1992), these countries endured contraction three years longer than the rest of the world.

Recent political science literature describes the political as well as the economic circumstances of countries that abandoned their gold parity in the interwar period.  There was a positive correlation between departure from gold and democracy, cabinet instability, and weak central bank independence; authoritarian regimes, those with more stable cabinets, and those with strong central bank independence were more likely to stay longer on gold (Simmons 1994).

In this paper we reexamine the experience of Switzerland in the 1930's. The Swiss case is interesting because Switzerland was a key member of the gold bloc. There was a vocal debate within Switzerland at the time on the case for and against devaluation. Proponents argued that devaluation would stimulate net exports and revitalize the economy while opponents worried about lost credibility for a country long viewed as a bastion of financial stability and probity, triggering capital flight and consequent losses to Switzerland's important banking sector.  Switzerland was a democracy, with a central bank whose board members were appointed (but could not be dismissed) by the government, and with no operational supervision from the government.

A great deal of the modern academic literature tries to explain why Switzerland (and the other gold bloc countries, France and the Netherlands) remained on the gold standard until the bitter end.[1] Can the policy preference be explained in terms of the interest of the

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[1]  Eichengreen and Sachs 1985.

4

financial sector in Switzerland, an argument originally made by analogy to Britain, where the City and its interests had driven the return to gold at an over-valued parity in the mid-1920s?[2] More recently, the explanations have shifted more to the realm of ideas, to the power of gold standard orthodoxy,[3] or to the allegedly "mythic" quality of the strong Swiss franc.[4]

We ask the following questions. What were the issues at stake in the political debate? How much if anything did the delay in the franc devaluation cost the Swiss? What would have been the costs and benefits of an earlier change in exchange rate policy? More specifically we ask what would have happened if Switzerland had joined the British and the Scandinavians and devalued in September 1931 or if not then, but when the US left gold in April 1933?

To answer these questions we construct a simple open economy macro model of the interwar Swiss economy. On the basis of this model we then posit counterfactual scenarios of alternative exchange rate pegs in 1931 and 1933. Our analysis combines both effects on the current account and the capital account. It also distinguishes the impact on trade from Switzerland's four key trading blocs. The simulations clearly show a significant and large increase in real economic activity. If Switzerland had devalued with Britain in 1931, the output level in 1935 would have been some 18 percent higher than it actually was in that year. If Switzerland had waited until 1933 to devalue, the improvement would have been about 15 percent higher.

Finally we speculate over the question why didn't Switzerland devalue early given the large welfare gains that would have ensued. Did it reflect political economy factors—that the interest groups who would have benefitted did not have the political clout to overcome the forces favoring the status quo? Did it reflect peculiarities of the Swiss democracy? Or did it reflect the fact that economic performance from 1932 to 1936 was not so bad relative to the majority's experience to warrant changing the status quo?

Section 2 contains descriptive statistics on the economic background in the 1930s. Section 3 presents the political economy of interwar Switzerland, and section 4 an historical narrative on the Swiss debate over devaluation in the 1930s. In section 5 we develop our model of the Swiss economy and our devaluation scenarios. We conclude in section 6 with a consideration of the causes of Swiss policy inertia.


## 2. Economic Background

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[2]  Arlettaz 1982.

[3]  Baumann and Halbeisen 1999; and the general interpretation of Eichengreen and Temin 2000.

[4]  Tanner 2000.

The initial response to the Great Depression varied greatly across countries. Switzerland, like some of the gold bloc countries (notably France), was affected later and less than others. To some extent, the relative favorable conditions in 1930 and 1931 reflected the impetus from strong capital inflows, which allowed for a substantial expansion of the money supply (see below) and supported production in domestically-oriented sectors. However, with their overvalued exchange rates, the gold bloc countries benefitted much less from the global recovery that started in 1993 and, in notable contrast with most other industrial economies, output and production stagnated from 1933 (Figures 1 and 2).

The effect of the depressed activity in most trading partners, the relatively strong domestic demand during 1930-31, and the real appreciation associated with the maintenance of the francs' gold parity was clearly visible in Switzerland's trade performance. The merchandise trade deficit widened both in nominal and real terms from 1930 to 1933, and then stabilized, as Swiss exports began to recover, with the economic recovery in the United States and other countries (Figure 3). In the structure and direction of trade, there was an asymmetry between exports and imports. While most exports were manufactures, imports were largely food and raw materials. Using the pre-crisis period 1925-29 as a base, the gold bloc countries were particularly important as sources of imports, while the sterling bloc and the rest of the world was relatively more important as export destinations. In the crisis period 1930-35, nominal exports to both the sterling and dollar bloc countries suffered, and nominal imports suffered less. Some caution is required, as nominal trade developments can mask volume developments because of price effects, and it is thus important to examine volume of trade as well. In volume terms, imports from gold bloc countries (some of which, such as France, had imposed extensive trade quotas) and Germany (whose currency appreciated in real terms against the Swiss franc) suffered, while imports from the sterling bloc, the dollar bloc, and the rest of the world remained robust (Figures 4 and 5).

Switzerland's exchange rate policy also affected other net foreign exchange flows (excluding changes in the SNB's net foreign assets), which were substantial owing to both service exports (notably insurance) and major capital inflows. As a result, there was a large difference between changes in reserves (gold and foreign exchange) and the merchandise trade balance throughout the 1930 (Figure 6). While other net inflows increased sharply in 1930 and early 1931 on account of speculative capital inflows, they weakened after the British departure from the gold standard in September 1931 redirected speculators' interests to other currencies that were perceived as vulnerable to devaluation, including, on at least three occasions, the Swiss franc.

Switzerland's adherence to the gold peg while its major trading partners devalued or applied currency controls was clearly reflected in bilateral real exchange rates. Against the British pound and the U.S. dollar, the real rate appreciated; and the real rate against the French franc also appreciated because of the more pronounced price deflation in France. (Figure 7).

Money markets were affected by trade and capital flow fluctuations through the specie-flow adjustment mechanism. With the large capital inflows, the monetary base expanded sharply during 1930-31 despite the widening trade balance deficit (Figure 8). Subsequently, the reversal in speculative capital flows led to a decline in the base, although it never fell below the levels observed at end-1929. The decline was only reversed with the devaluation of the franc in 1936.

## 3. Political Economy

Switzerland in the 1930s more and more felt itself to be a democracy under pressure from the powerful authoritarian regimes that surrounded it, Fascist Italy and Nazi Germany. The debate about democracy and its vulnerability affected policy-making. One of the most obvious problems of exchange rate policy in a democracy is that it cannot really be subjected to extensive public or parliamentary debate, because a broad ranging debate would inevitably trigger speculative pressures (in the absence of tight currency controls). Exchange rate alterations thus were generally handled outside the parliamentary arena: Britain, for instance, announced the suspension of the gold standard on a Sunday as a decision of the cabinet taken at an extraordinary meeting on Sunday afternoon, September 20, 1931. In Switzerland, too, the eventual decision to suspend the 1929 law specifying the rate at which the franc could be converted into gold was taken by the government, using emergency fiscal powers granted it in January 1936, and some critics subsequently challenged its constitutionality on the grounds that the January 1936 measures had been conceived of explicitly as required for the defense of the existing currency parity (Giacometti 1937). In both the British and the Swiss cases, experts in the central bank had convinced some parts of the government that there was no alternative to devaluation, but in each case the head of the central bank distanced himself from the decision. The British devaluation was undertaken when Governor Montagu Norman could not be contacted, as he was on board a transatlantic ship; and the President of the Swiss National Bank told the decisive meeting of the government that he was opposed to the step. In each case, the central bank wanted to be sure that the primary responsibility lay with the politicians.

In the debate that had occurred before September 1936, some interests in Switzerland might have been expected to favor a devaluation. In many countries, including the United States, the agricultural lobby had seen such a step as a way of increasing agricultural prices, and thus tackling the problem of rural indebtedness. This argument – associated with George Warren, a Cornell agricultural economist – was probably decisive in shaping Franklin Roosevelt's approach to the issue. Swiss farmers sometimes saw their interests in an analogous manner.

The hotel and tourism business had been badly affected by the world depression, and then by the imposition of currency and exchange controls by Germany's neighbors. Again, a devaluation might have made the Swiss industry more competitive.

Finally, manufacturers, particularly those in export industries, might have seen the competitiveness argument as central. The economic price of maintaining the increasingly

7

over-valued franc rate at the time was thought to lie in the effect on demand of the high price of Swiss exports, which may have cost Swiss jobs.  Trade arguments dominated most of the public discussion of exchange rate policy in Switzerland during the Great Depression, but they were complicated by commercial policies very different to those of the classic adjustment debates of the Gold Standard era: in particular, the existence of high levels of trade protection, and of quota systems and of widespread exchange control altered the assessment of trade consequences of currency changes.

Yet there was a surprisingly broad consensus for maintenance of the existing parity. In May 1933, a meeting devoted to preparing the Swiss position in advance of the London World Economic Conference produced an agreement between the SNB's President and representatives of the banking community, the business elite, farmers, but even the socialist trade unionist Max Weber, who two years later became the most outspoken proponent of devaluation. (Müller 2003, 71)

The largest and most powerful Swiss exporters at the time, pharmaceutical and chemical companies such as CIBA, engineering firms such as BBC and Sulzer, and textile machinery firms such as Rieter, as well as the highly influential business pressure group, the Vorort, very publicly expressed their hostility toward devaluation.[5]  In part, they argued that a parity change would only increase the cost of imported goods and raw materials, since important trading partners were in the gold bloc (in the west), or were subject to exchange controls (in central Europe).  Higher imported food prices might lead to higher wage demands.   Some considerations about the character of Swiss export markets also weighed powerfully.  The great Swiss exporters did not deal in price sensitive staple products, but rather in specialized exports where the demand was quite price inelastic.  Moreover, by the middle of the 1930s, a great part of Swiss trade was with Germany and other central European countries, and was managed through administered clearing agreements with artificially set exchange rates, so that a Swiss parity change relative to gold would have had little impact.  Thus paradoxically, the interests that might have been expected to demand a different policy from the government clearly and unambiguously supported the status quo, and argued that a devaluation might have contractionary rather than expansionary consequences.

The same sorts of argument about the peculiarity of the problems of the 1930s were powerful in the case the other interest groups.  If it was exchange control rather than the depression that was hurting potential tourists to Switzerland, the solution would lie in negotiating exemptions to the currency regulations.  In the negotiations preceding the Clearing Agreement that Switzerland concluded with Germany in 1934, and which provided a basis for subsequent agreements, the Schweizerische Fremdenverkehrsverband (Tourism Association) successfully pressed for an allocation to be made to German tourists who wished to go to Switzerland.   Insurance firms pressed to include insurance payments also.

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[5]   Müller 2002.

Agriculture meanwhile had been protected by tariffs. Exporters were in 1934 given a state risk guarantee. The government presented its whole negotiating strategy in the bilateral arrangements that became an increasingly prominent mechanism for regulating international payments as "Labor has priority over Capital" (*Arbeit geht vor Kapital*).

The complex process of negotiating such agreements as the 1934 Clearing Agreement encouraged interest groups to organize themselves. They in turn had an institutional pressure from their members to achieve gains that would visibly benefit their members, rather than the Swiss economy at large. For the professionals hoteliers' association, a concession on the clearing arrangements with Germany looked better than a general devaluation. The leading farmers' representative, Ernst Laur, made the reasons for his anti-devaluation stance very explicit in 1934: "We are ready to support the Federal Council in the defense of the Swiss franc, but on condition that the prices of agricultural products are stabilized or slightly raised, and that a direct assistance is granted to over-indebted farmers." (Müller 2002, p. 93) The extensive pressure group politics of the 1930s is thus an example of an Olsonian process in which particular politics result in an outcome that is collectively sub-optimal.

By contrast, there were clear interests that seemed to be mobilized against devaluation. Savers had lost substantially in the inflation of the First World War, and savers' associations had engaged in fierce polemics against the Swiss National Bank. Policy-makers were very conscious of this pressure. Soon after the British crisis of 1931, an internal document of the SNB spelt out the logic of resisting any pressure to devalue. Devaluation would increase the cost of imports, and lead to a general rise in prices. Switzerland as "a country of rentiers would suffer untold damage. This damage would not be made good by improved employment in industry, insomuch as that might occur."[6] Its report for 1931 placed much emphasis on the threat to stability and to the payments system that followed from the British devaluation.

There are clearly sometimes difficulties in defining what an interest is, and how interests map onto individual political preferences: to take an obvious example: a worker in an engineering factory might have an interest in greater exports, but as a saver he might be worried about inflation. In particular, older workers with higher savings (and less of an expected future in employment) might be expected to be more worried about security of savings than about additional exports. But in this case, joining a Savers' Association that pressed for currency stability and having a factory that was engaged in lobbying for preferential treatment in the exchange control and clearing agreements was a way of squaring the circle of potential clashes of interest. While some trade unionists, such as the socialist deputy Max Weber, eventually changed their views and were in favor of a devaluation, the majority of the socialist party remained opposed.

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[6] SNB archive 5.4/5147, March 3 1932 memorandum "Krise Wirtschaft und Banken."

One of the most visible anti-devaluation lobby groups came from the banking community, which consistently made clear its opposition to any devaluation proposal, as did many prominent figures in the Swiss banking world (Perrenoud 2002). The Swiss Bankers' Association also joined international efforts to solidify creditors' rights by the employment of a gold-clause. The major argument made in public by the bankers was that a devaluation would damage the reputation of Switzerland as a financial center, and in 1933 the leading Swiss bankers actively supported the SNB's initiative to create an Association for Stable Money: Vereinigung für gesunde Währung.

There is actually little evidence, either contemporary or subsequent, that would suggest a catastrophic impact on Switzerland or its banking system of financial flows resulting from a change in the exchange rate regime. Recent literature on the gold standard and its costs examines the effect of the gold standard and financial sector stability.[7] The financial effects of the gold standard did mark Switzerland, but they were much less commented on at the time than were the trade issues – in large part, because any degree of public discussion of the instability of the Swiss banking sector might have touched off a panic and a general crisis of confidence. Staying on the gold standard at first generated very significant capital inflows (so-called "hot money"), but at the same time also the potential for future attacks should the possibility of outflows emerge. Possible returns or outflows of flight capital posed a double threat: to the banks who held the deposits, but also to the SNB which would be required to make the conversions from francs into foreign exchange. At first the most obvious course for dealing with this problem at the SNB was to deny absolutely that there would be any parity change. Indeed, immediately after the sterling crisis in September 1931, the Swiss franc looked relatively secure, and the major speculative attacks against the remaining gold standard countries affected the U.S. and France. But it became increasingly clear that the flood of short term deposits that had moved into the Swiss financial system during the crisis years was not necessarily tied to Switzerland, and that an outflow would weaken both the banking system and the currency, or in other words provoke exactly the same combination of banking and currency crisis that had brought down central Europe in 1931. The outflow might originate in security or large scale political worries, but of course it might also be set off by worries about the stability and the credibility of Swiss policy. Policy-makers were aware of the bind that they were in: the situation was becoming increasingly fragile, but any action they might undertake held the risk of being destabilizing rather than stability-promoting.

## 4. Historical Narrative

The position of the government and the SNB shifted quite significantly between 1931 and 1936, over the course of five years' battle to defend the franc, as the extent of the vulnerability of the Swiss banking system became clearer. Policy-makers were in a bind in that a change in policy might have been desirable in order to avoid a crisis, but on the other

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[7] Bernanke and James 1991.

hand could not be justified and explained politically except in crisis circumstances.  Thus Switzerland – and the Netherlands – remained on gold until there was an obvious "crisis", generating exceptional politics and exceptional opportunities, in the aftermath of the French Popular Front victory in 1936.

In the first place, the issue of the currency regime became highly politicized in Switzerland, as elsewhere in Europe.  In particular, it was caught up in the Swiss "Kriseninitiative": the referendum pushed by the trade unions and the socialist party for an expansionary work creation program which might be expected to touch off uncertainty about the franc, which was rejected in a vote on June 2, 1935.  A significant number of Swiss economists pleaded for a more expansive credit policy: in particular Eugen Böhler of the ETH Zurich and Paul Keller (St. Gallen) presented an account of policies against the depression which they held might offer a "positive program for Switzerland".  They examined the arguments for and against devaluation and presented evidence of favorable macro-economic outcomes in countries that had left the gold standard earlier in the 1930s, although they stopped short of a direct recommendation for Switzerland.[8]  But even a policy of credit expansion might have raised the question of the sustainability of the fixed exchange rate.  The SNB was hesitant in the face of these demands, and argued that a credit expansion would only produce an illusory boom or "Scheinkonjunktur".[9]  Until the Kriseniniative failed, the left did not want to touch the devaluation issue, but afterwards it became a plausible policy option.

Some critics of official policy went beyond the demand for credit expansion, and saw an alteration of the exchange rate as a possible policy tool.  This position was supported by some manufacturers, particularly in export industries which might gain markets as a result of increased competitiveness following devaluation.  It may also have had the support of some parts of the financial community, concerned about financial stability issues.  But no supporter wanted to make this case very publicly, for fear of being accused of national betrayal. Former Bundesrat Edmund Schulthess, the president of the newly created Federal Banking Commission, in particular was outspoken about the desirability of a parity change, since he thought it impossible to maintain the old exchange rate.  Until he resigned from the Federal government in spring 1935, he had been a strong proponent of adjusting prices and costs in Switzerland to the world level, a downward correction of some 20 percent, if necessary by administrative action.  But when out of government, he saw the hopelessness of this course and was now bitterly attacked as an exponent of "devaluation propaganda".[10]  Similarly, in the management of the SNB, Paul Rossy, the deputy head of the II. Departement who had

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[8]  Böhler and Keller 1935;  see also Allgoewer 2003, Chapter 7.

[9]  See the discussion in the Bankausschuss, February 4, 1936 (SNB archive).

[10]  SNB archive, Bankausschuss, July 22, 1936 ("Abwertungspropaganda").

been seconded to government service, was forced out of the bank in October 1935 for being too sympathetic to the idea of a devaluation.[11]

The main argument made by the SNB shifted to the idea that a devaluation would be a breach of property rights. In April 1936, in a letter addressed to the economic Department, the SNB Direktorium, it explained that: "The currency is a means of the economy, but not a means for economic policy as it is the standard by which all economic goods are valued.... Not only the short term contract, but an order that spans decades must be protected from arbitrary change of the standard of value. The state would be the first to suffer from the abandonment of the principles of property rights."[12]

The SNB actually took an increasingly ambiguous approach to the devaluation issue. In public, it presented itself as the unflinching defender of orthodoxy and of the old exchange rate. In late 1935, it agreed to participate in a press service organized by the Swiss central office for the promotion of trade (Schweizerische Zentrale für Handelsförderung) in order to push opinion pieces in newspapers on the money and capital markets, but above all on exchange rate issues.[13] At the same time, the Banque de France engaged in a massive and costly propaganda campaign to drum up support for the gold standard. In private, however, the SNB's leading officials were quite skeptical, above all because they did not believe that the government had the political nerve to implement the fiscal deflation that would be needed to convince the markets that Switzerland really intended to stay on gold.

In April 1936, Vice-President Charles Schnyder produced a note for the directorate, in which he explained that "Swiss circles in Paris, London and New York believe that Switzerland, with its high standard of living and its democratic form of government, which blocks quick and positive action, will not be able to withstand the general pressure."[14] By May, after the collapse of the Flandin ministry in France, the directorate discussed a likely crisis of the French franc, which would turn the speculative pressure onto Switzerland. Deflation in France had produced a "radicalization of the masses" and was likely to do so also in other countries.[15] At this point, an internal paper in the SNB argued that it might be

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[11] BoE OV63/24, November 29, 1937, memorandum: Swiss National Bank Presidency.

[12] SNB archive, 2.3/2244, April 2, 1936: Letter of SNB to Eidgenössische Volkswirtschaftdepartement: "Die Währung ist wohl ein Mittel der Wirtschaft, soll aber kein solches der Wirtschaftspolitik sein, sie ist ein Massstab, nach dem alle Wirtschaftsgüter bewertet werden.... Nicht nur der kurzfristige Vertrag, sondern auch Jahrzehnte umspannende Ordnungen müssen geschützt werden vor willkürlichen Änderungen des Wertverhältnisses. Der Staat wäre der erste, der die Preisgabe der Grundsätze von Treu und Glauben zu spüren bekäme."

[13] SNB archive, Direktorium, October 8, 1935.

[14] SNB archive 2244, April 21 1936, Note of Charles Schnyder.

[15] SNB archive, Direktorium, May 7/8, 1936.

possible to consider the dollar, the Netherlands Guilder and the Belgian franc as "gold currencies" (*Golddevisen*) that might be used in calculating the gold cover ratio of SNB notes and in making payments in gold.[16] The SNB also told other central banks it would be likely to follow France. The Bank of England was informed by the Vice-President Schnyder von Wartensee, that if France devalued, "they would certainly devalue, and that as to method and measure the Government would be guided mainly by the National Bank." The only disagreements concerned what rate to fix the new value at: while Ernst Weber, the head of the III Departement, wanted a 40 percent devaluation whatever France did, Schnyder argued that the Swiss should follow the French course.[17] On June 2, 1936, the SNB's directors met the Finanzdelegation (i.e. Finance Ministry staff) of the federal government in a dramatic session; and they wrote in the aftermath of the meeting that it had become clear that because of the power of the economic interests in blocking the deflation of wages and salaries and fiscal cuts, it had become clear that the government could not act decisively. In their letter, the directors made it clear that the SNB would continue to defend the franc, but they also pointed out that their defense would primarily be to the advantage of "those circles who use the gold reserve of the SNB to convert francs into foreign exchange, and at the expense of those who are faithful to the national currency."[18]

The outcome of the meeting on June 2 was a decree on the protection of the national currency (June 19, 1936), imposing penalties for speculation against the Swiss franc, but like most such decrees in the 1930s it failed to have much effect, and indeed probably only increased the nervousness of depositors in and outside Switzerland. Such measures could easily be interpreted as a sign that a devaluation was imminent.

In June 1936, an internal document of the SNB presented a sort of balance sheet of the pros and cons of devaluation. The alteration of the franc parity might be expected to produce: "an end of hoarding, the repatriation of capital invested abroad and in foreign securities, greater fluidity of the capital market, a revival of export industry, and an adjustment to foreign economic conditions." But there would be dangers: "uncertainty of economic and financial developments. A disadvantaging of creditors to the advantage of debtors, a partial destruction of savings, a general rise in prices, fights to raise wages, a radicalization of the political development, and a breakdown of morality." [19]

By the end of September, a major speculative attack developed against the French franc. It was clear that given the past record of the shift of speculation from one country to

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[16]   SNB 3140, May 31, 1935: Anregungen des Vorstehers des II. Departements an das Direkorium für den Fall eines Abgangs Frankreichs von der Goldwährung.

[17]   BoE OV 63/24, May 12, 1936 CFC [Conolly] Note on a conversation with M. Schnyder von Wartensee.

[18]   SNB archive 2.3/2244, June 16 1936, SNB to Bundesrat.

[19]   SNB archive 2.3/2244, June 5, 1936: Fragen der Abwertung.

another that if there were to be a French devaluation, there would immediately be enormous pressure on the remaining gold standard countries, i.e. the Netherlands and Switzerland. The Bank Council met on Friday, September 25, but did almost nothing. In fact, the SNB directors tried to shut down as much as possible any discussion of the exchange rate issue, because exactly this discussion was being conducted by the Swiss Finance Ministry. On Thursday, September 24, Bachmann had been summoned to a meeting in the Finanzdepartement attended also by the French Economics Minister Spinasse, who had flown to Basel from Paris and who announced that on Friday, the French government would accept a motion to devalue the French franc by around 30 percent. The SNB Direktorium on Friday morning voted to maintain the Swiss currency despite the French devaluation. On Saturday, the Bundesrat met and asked Bachmann whether the current parity could be maintained. Bachmann said that he could not exclude the possibility of being forced into a later devaluation, and with that the Swiss government agreed to a devaluation of the Swiss franc. The decree established new bands within which the Swiss franc could move (with the franc being valued at between 190 and 205 milligrams of fine gold), rather than determining a new parity.[20] Bachmann, however, reported to the Bank of England that he had been consistent in his opposition to devaluation.[21]

The devaluation was followed by a rapid recovery of the Swiss financial system. Indeed, already at the Bank Council meeting of September 28, which considered the devaluation, Vice-President Ernst Weber reported that the big banks had said that the decision was correct.[22] The share prices of the major banks rose very rapidly (and more rapidly than other Swiss share prices, which also rebounded after the devaluation): in the month after the devaluation, the share price of the Bankverein increased by 50 percent, that of the Credit Suisse by 43 percent and that of the Bankgesellschaft by 47 percent.[23] The General Manager of the Bankverein (Swiss Bank Corporation) even wrote to a leading British financial official that "There is no doubt that the Federal Council took the right course in joining the movement for a monetary re-alignment with the leading currencies."[24]

## 5. Model Simulations

To ascertain the impact of alternative devaluation scenarios for the Swiss economy, we adapt the McCallum-Nelson (2001) open-economy model to the Swiss experience in the 1930s. The micro-based monetary macroeconomic model incorporates a specie-flow monetary adjustment channel under a gold peg, unlike modern versions of the model where interest

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[20]  See the account by Bachmann given to the Bankauschuss, September 28, 1936.

[21]  BoE OV 63/2, October 12, 1936 CAG [Gunston] note.

[22]  Bankauschuss September 28, 1936: Weber.

[23]  Bebié 1939 ; Heer 1937 ; Perrenoud 2002.

[24]  BoE OV 63/2, October 2, 1936 Golay to Sir Otto Niemeyer.

rate rules typically define the nominal anchor. The model is also extended to incorporate trade with several partners. There is a small open economy foundation, with partner country variables taken as given. The model has the following main components (see Appendix I for the full model).

- *Aggregate demand* behavior is modeled along standard lines. Demand depends positively on past income (for a fraction of liquidity-constrained consumers/firms), on expected future income (for a fraction of forward-looking consumers/firms), foreign income, and the real exchange rate (defined as foreign prices in Swiss francs over domestic prices). It depends negatively on expected real interest rates.
- *Aggregate supply* depends negatively on the real exchange rate, reflecting the assumption that all imports are imports of intermediate goods, which, in turn, are a factor of production. Everything else being equal, a real devaluation/depreciation reduces potential output through its adverse effects on factor prices. *Import demand*, therefore, depends positively on domestic output and negatively on the real exchange rate.
- The *demand for base money* depends positively on prices and income and negatively on the nominal interest rate.
- The *supply of base money* is given by the overall balance in the balance of payments (the specie-flow mechanism). The latter depends on the merchandise trade balance, which is endogenous in the mode, and other net inflows, which are exogenous.
- *Inflation* is determined by a hybrid Philips curve along the lines of Fuhrer and Moore (1995), where both expected future inflation and lagged inflation enter. In addition, inflation depends positively on the output gap, which is modeled as the difference between aggregate demand and supply (current output is determined by aggregate demand only. In medium-term equilibrium, aggregate demand must equal aggregate supply). With the specie-flow mechanism, there is price level stationarity for a given gold parity of the Swiss franc.

The model also includes a number of shocks. Given the primary purpose of policy simulations, the model includes shocks for all behavioral equations. In particular, there are an aggregate demand shock, an aggregate supply shock, a money demand shock, and a money supply shock (which is essentially the unexplained part in the balance of payments). In addition, there are also foreign demand shocks.

For the calibration, a number of simplifying assumptions were made to keep the model simple:
- The world is divided into four regions for exports and imports: the gold bloc (ex Switzerland); Germany; the Sterling bloc; and a Dollar bloc (including the rest of the world).
- Output and price developments are approximated by developments in the center country for each bloc.

- Breakdown of exports and imports into prices and quantities with: wholesale prices.
- Stationarity is achieved by defining all variables relative to their 1929 levels.

In general, the parameters used by McCallum and Nelson (op. cit.) were used in the model calibration, with two important exceptions.[25] First, shares, such as the steady state ratio of exports to GDP, determined using Swiss data for the late 1920s. Second, demand and price elasticities for real exports were estimated using Swiss data for the 1920s and the 1930s. Specifically, exports equations and an import equation were estimated using data from 1925 to 1938, the period for which data are available. The export equations were specified with real export to region j as the dependent variable, and output in that region and the real exchange rate vis-à-vis that region as explanatory variables.[26] In view of the short data sample, the data were pooled to obtain more reliable estimates.[27] The equations were estimated in log differences, although results obtained in levels are qualitatively similar.[28] The results are shown in Table 1. To account for the fact that exports to Germany were subject to foreign exchange controls from 1931, results from a panel excluding exports to Germany are also shown.

**Table 1: Export Demand: Income and Price Elasticities**
(Panel OLS estimates; robust standard errors in parenthesis; 1925-38)

|  | Income Elasticity | Price Elasticity | $R^2$ | Number of observations |
|---|---|---|---|---|
| Four regions | 1.292 (0.355) | 0.869 (0.307) | 0.316 | 51 |
| Three regions (excluding Germany) | 1.051 (0.371) | 0.965 (0.445) | 0.291 | 39 |

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[25]  The parameter values are reported in Appendix I.

[26]  This is equation (2) in Appendix I.

[27]  The model assumes identical income and price elasticities for each region.

[28] Preliminary tests suggest the presence of significant individual effects in the data in levels but not in first differences.

Overall, the empirical evidence does not support elasticity pessimism on the export side. On the contrary, merchandise exports appear to have been quite price sensitive. On the import side, the small number of observations seriously limits the scope for estimating elasticities, given the specification of import demand. For this reason, the price elasticity was calculated using the ratio of the average log change in real imports over the average log change in relative prices over 1925-38, imposing a unit income elasticity. This yields a value of 0.632 (for the price of domestic output relative to imports). Hence, overall, the empirical evidence at the aggregate level suggests that the Marshall-Lerner condition was met, implying that one of the preconditions for a devaluation to improve the trade balance was in place. (In the simulations, the estimated and calculated elasticities were rounded to the closest 0.05.)

The model was solved and simulated using standard methods (see Appendix I for details). The simulations were performed in two steps.

- In a first step, the model was solved and simulated for 1930-38 with all shocks set to zero in every period. The differences between actual and simulated values were then used to calculate the shocks. In other words, the shocks were set to replicate actual values and policy choices.

- In a second step, the model was solved for alternative policy scenarios. In particular, two counterfactual devaluation scenarios were explored.
    - ***Sterling scenario.*** In this scenario, it was assumed that the Swiss National Bank unexpectedly switched from a gold peg to a peg against the Sterling after the UK went off gold. For simplicity, it was assumed that the Swiss Franc-Sterling rate remained at its average 1931 level throughout 1938. Exchange rates against the other currencies (French franc, the mark, and the U.S. dollar were calculated using actual cross-rates).
    - ***Dollar scenario.*** In this scenario, it was assumed that the Swiss National Bank unexpectedly switched from a gold peg to a peg against the dollar after the US went off gold. For simplicity, it was assumed that the Swiss Franc-Dollar rate remained at its average 1932 level throughout 1938. Exchange rates against the other currencies (French franc, the mark, and the pound sterling were calculated using actual cross-rates).

A basic assumption underlying the counterfactual simulations is that the change in policy regime was unexpected and that the new regime was perceived as credible/durable by actors in the private sector.

*Simulation results*

A first set of counterfactual policy simulations is based on the basic McCallum-Nelson parameters (op. cit.) with estimated trade elasticities, as discussed above. The

counterfactual devaluation scenarios clearly suggest that an earlier devaluation would have stimulated output relative to the actual path (Figure 9) and brought about an earlier turnaround from deflation to inflation (the graphs show price level deviations, not inflation). The peg to the pound would have alleviated the downturn in economic activity. The peg to the dollar would have been pro-cyclical in the sense of amplifying the recovery owing to the turnaround in the United States in 1933.

To examine whether the German situation would have reduced the benefits of a devaluation, we also ran a counterfactual simulation based on a version of the model where exports to Germany are exogenous, thereby unaffected by a devaluation (or other measures taken by the Swiss authorities). The results suggest that making exports to Germany exogenous does not substantially change the result. Earlier devaluation would still have yielded large output gains compared to the actual path.

As noted above, Switzerland benefited from substantial other net inflows of foreign exchange and gold. Some of these flows must have been capital flows, and in 1931, a good part of these flows was speculative in nature, as investors elsewhere sought to secure the real value of their assets. An earlier devaluation may have adversely affected such flows. In particular, some of the earlier inflows may have reversed. Assuming that the Swiss National Bank would have refrained from sterilized foreign exchange interventions, a reduction in capital flows would have reduced the benefits of an earlier devaluation through the specie-flow mechanism. Smaller net inflows would have reduced the increase in money supply or even reduced the level of the money supply, both of which would have led to relatively higher interest rates for the same output growth rates. Therefore, if a devaluation had been accompanied by a capital flow reversal, this would have offset some of the gains from higher net exports, as the higher interest rates would have led to some offsetting reduction in domestic demand.

To examine the implications of such an adverse capital flow scenario, Figure10, shows the results of a dollar peg counterfactual simulation where other foreign exchange and gold inflows recorded in 1931 would have reversed within the year of the devaluation (against gold/French franc). Subsequently, these flows would have remained at their 1929 average, which, compared to the baseline, is equivalent to a substantial permanent reduction in net inflows. The results show that the devaluation benefits would have been delayed by one year because of the immediate large capital flow reversal. Moreover, the output path is below that of the baseline for the entire post-devaluation period for the reasons discussed above. Nevertheless, over time, the benefits of earlier devaluation would still have been substantial despite lower other inflows after the year in which the earlier devaluation would have taken place.

Robustness analysis suggests that only a combination of very low export demand price elasticities and very adverse devaluation effects on other foreign exchange/gold inflows would have reduced the benefits of an earlier switch to a Sterling or Dollar peg to such an extent that such a policy choice would have been counterproductive.

**6. Conclusion**

Switzerland would have benefited from leaving the gold standard, either with the UK in 1931, or with the United States in 1933, even allowing for some effect of a devaluation in reducing capital inflows to Switzerland in the first part of the 1930s. Switzerland, however, did not devalue until the French step of September 1936 made the choice unavoidable (because it was clear that any French move would be followed by massive speculative pressure against the Swiss franc). The conservatism in policy was in part the result of difficulty of making exchange rate policy in a democratic setting. It was in part also a consequence of a political economy which favored the sectionalization or fractionalization of interest groups and made them see attractions in particular compensations, such as export subsidies, trade quotas and tariffs, and privileged access to foreign exchange under clearing agreements. These outcomes were less desirable in terms of a general good, but they corresponded to the way in which interests were defined in the political climate of the 1930s. In the end, one of the ways in which economic liberals (most of whom were strong believers in stable currencies) convinced themselves in September 1936 that devaluation was acceptable was that they saw that it was a less unattractive alternative than the massive expansion of state interventionism and *étatisme*.[29]
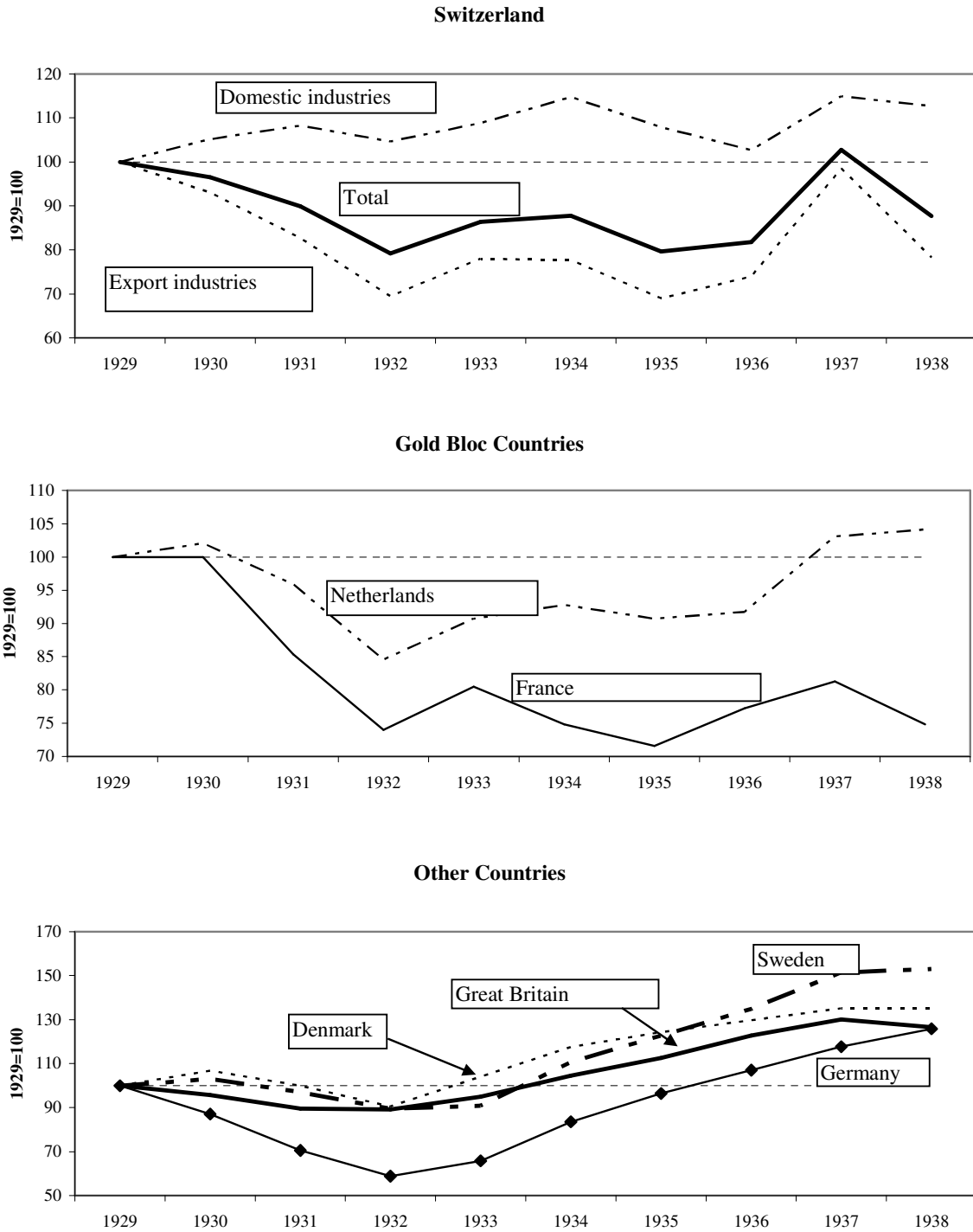
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[29]   This was the position of Hans Sulzer, President of the leading business association or *Vorort*.

Figure 1. Real GDP in the 1930s

**Switzerland**



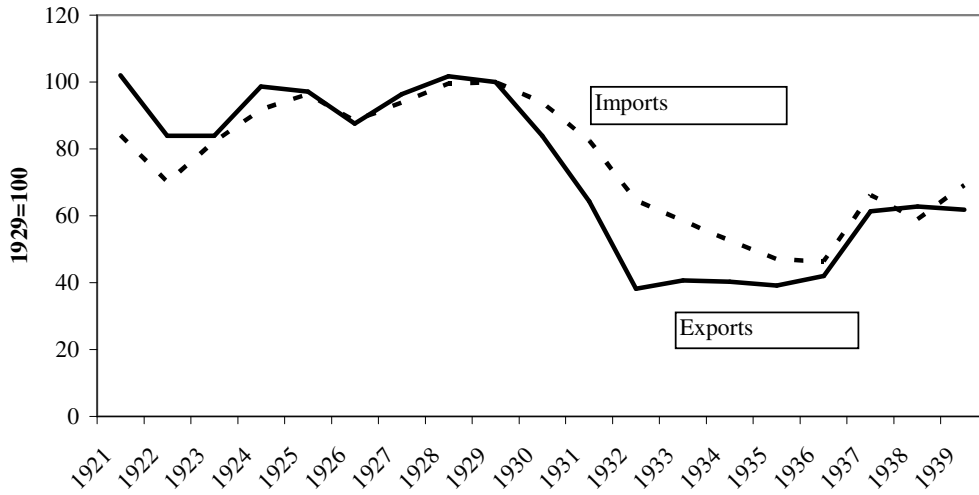**Gold Bloc Countries**



**Other Countries**
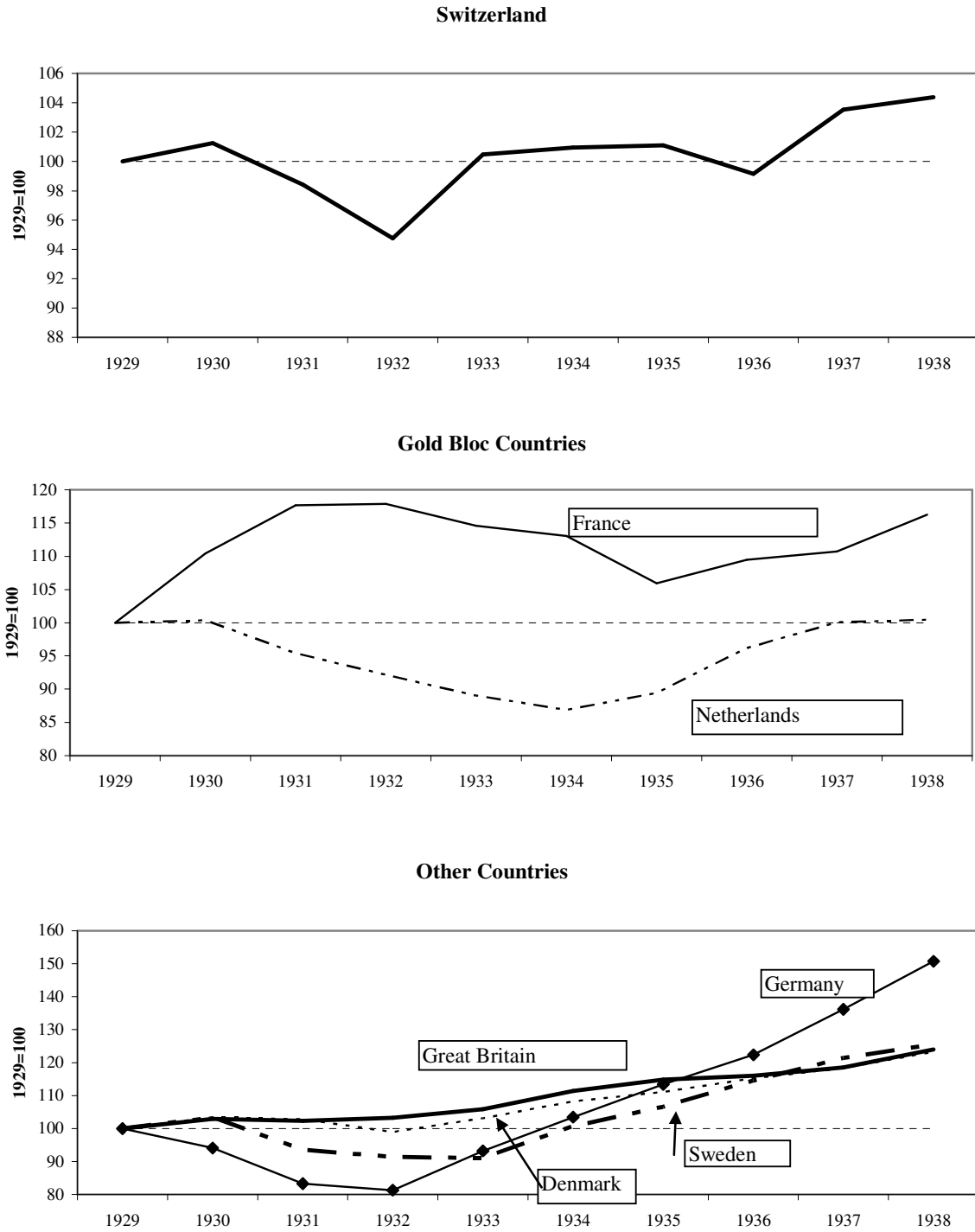


Source: Bordo et al. (1998)

Figure 2. Industrial Production in the 1930s

**Switzerland**



**Gold Bloc Countries**
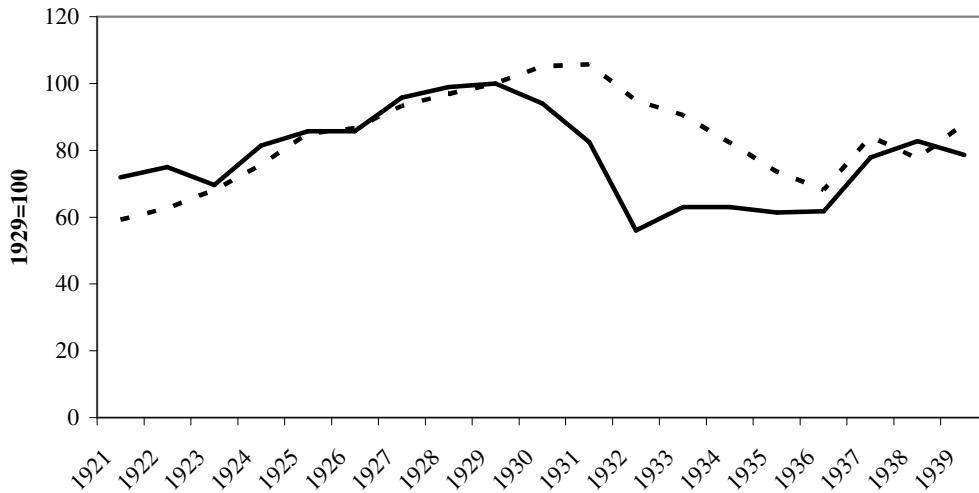


**Other Countries**



Sources: David (1985), and Mitchell (2003).

Figure 3. Foreign Trade Performance

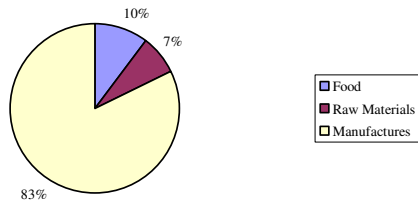**Merchandise Exports and Imports**
**(Nominal)**



**Merchandise Exports and Imports**
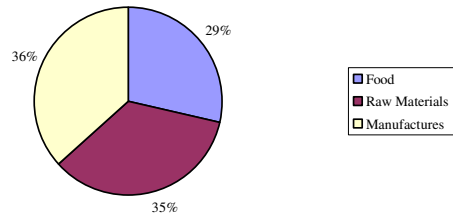**(In constant wholesale prices)**



Sources: Swiss Historical Statistics; Statistical Office.

Figure 4. Switzerland: Trade Structure
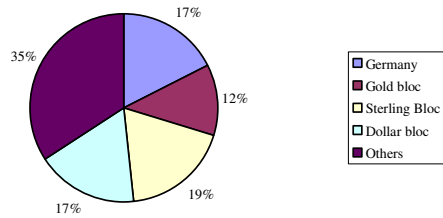(Averages of 1925-29; in percent of total)
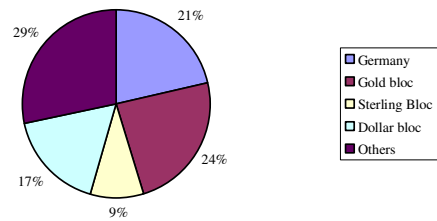
**Exports by type**
(Average 1925-1929)



10%
7%
83%

Food
Raw Materials
Manufactures

**Imports by type**



29%
36%
35%

Food
Raw Materials
Manufactures

**Exports by Destination**



17%
35%
12%
17%
19%

Germany
Gold bloc
Sterling Bloc
Dollar bloc
Others

**Imports by Source**
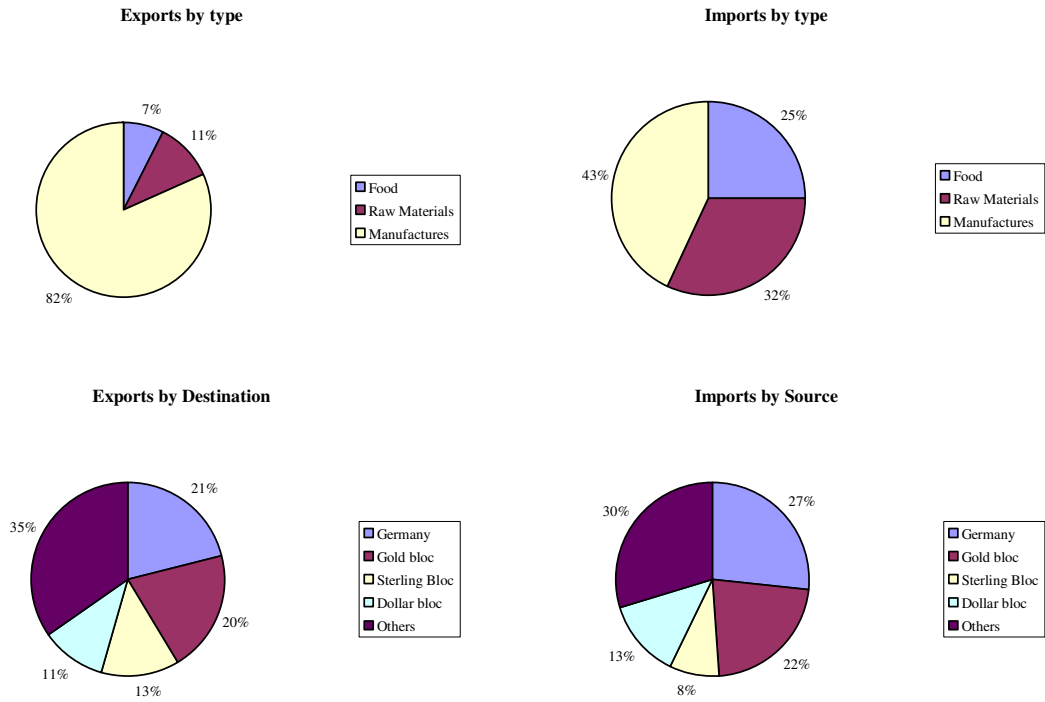


21%
29%
24%
17%
9%

Germany
Gold bloc
Sterling Bloc
Dollar bloc
Others

Source: Swiss Historical Statistics; Statistisches Jahrbuch der Schweiz.

Figure 5. Switzerland: Trade Structure
(Averages of 1934-35; in percent of total)

**Exports by type**



Food
Raw Materials
Manufactures

7%
11%
82%

**Imports by type**



Food
Raw Materials
Manufactures

25%
32%
43%

**Exports by Destination**



Germany
Gold bloc
Sterling Bloc
Dollar bloc
Others

21%
20%
13%
11%
35%

**Imports by Source**



Germany
Gold bloc
Sterling Bloc
Dollar bloc
Others

27%
22%
8%
13%
30%

Source: Swiss Historical Statistics; Statistisches Jahrbuch der Schweiz.

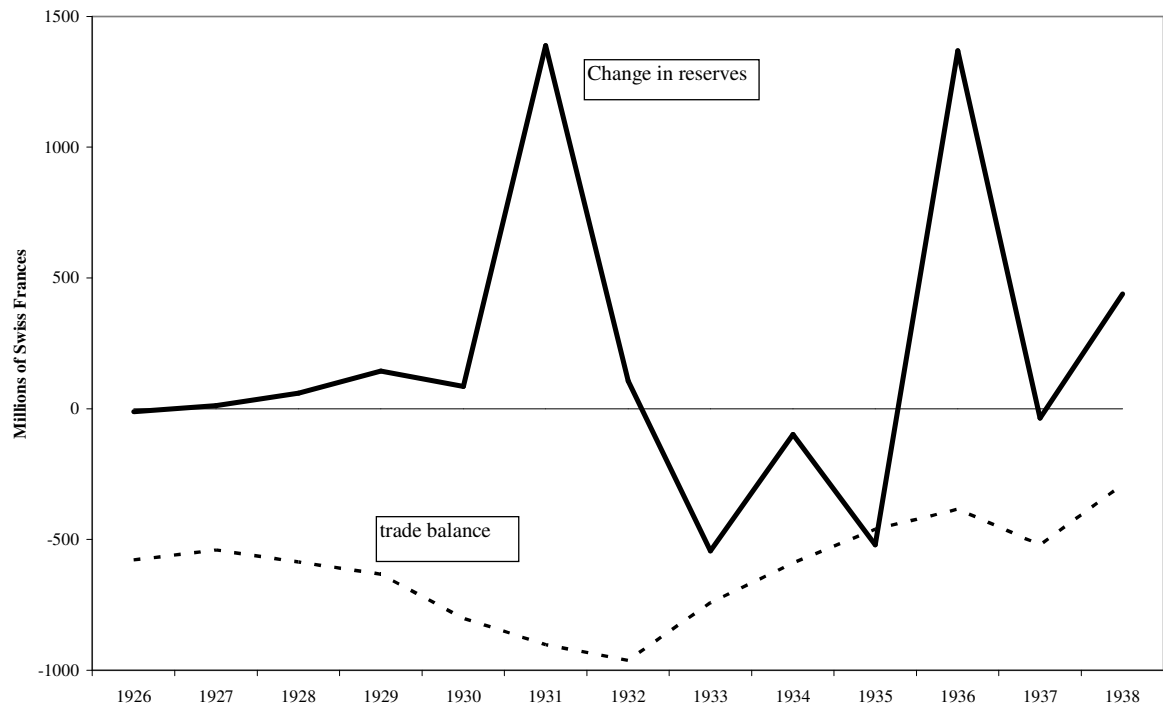**Figure 6. Merchandise Trade Balance and Change in Reserves**

**Figure 7. Bilateral Real Exchange Rates**
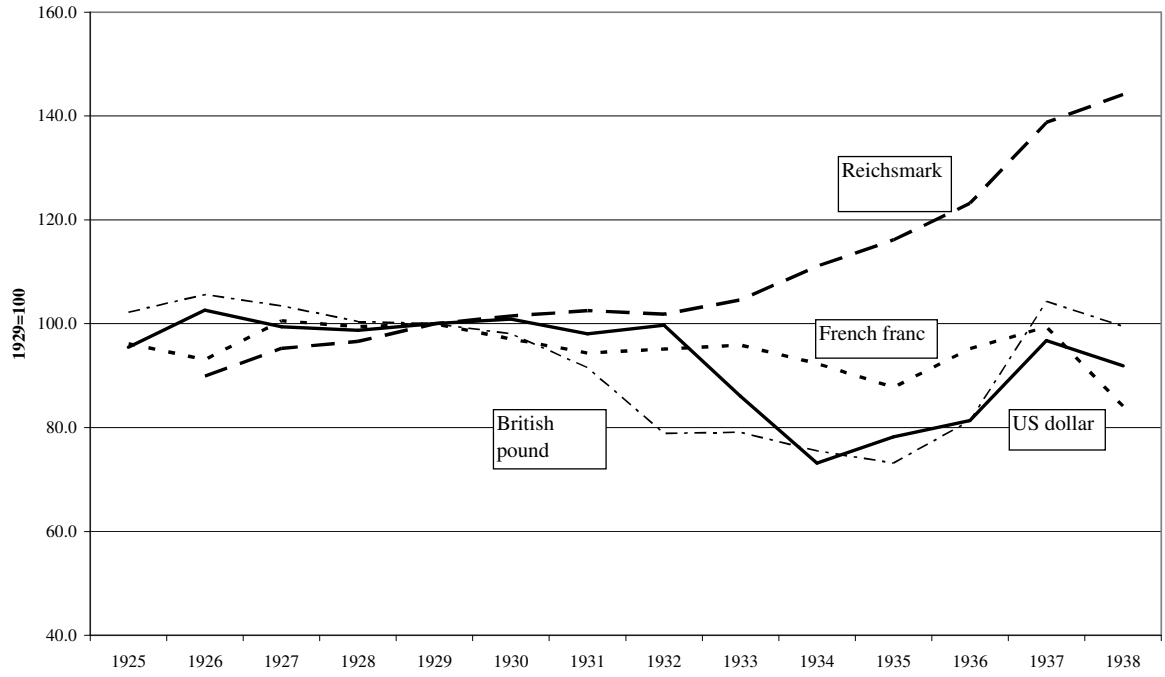(Swiss Francs per unit of foreign currency; WPI-based)

**Figure 8. Monetary Base**
(Year-end values)

Figure 9. Actuals and Counterfactual Simulations
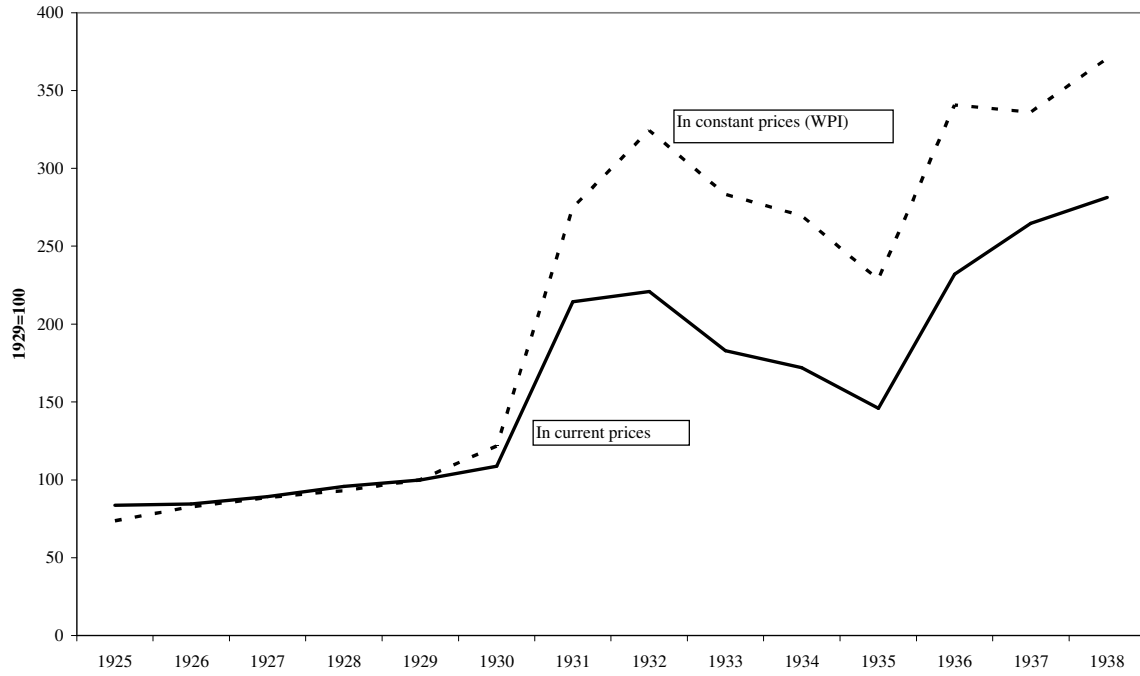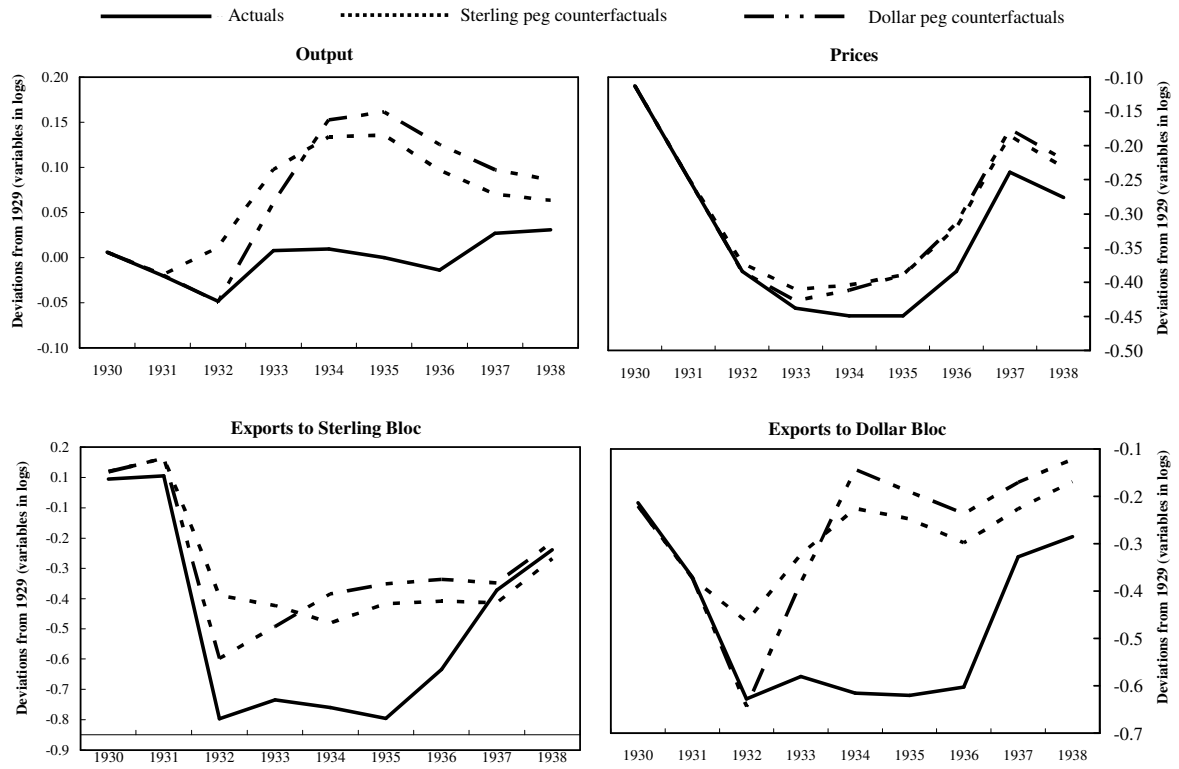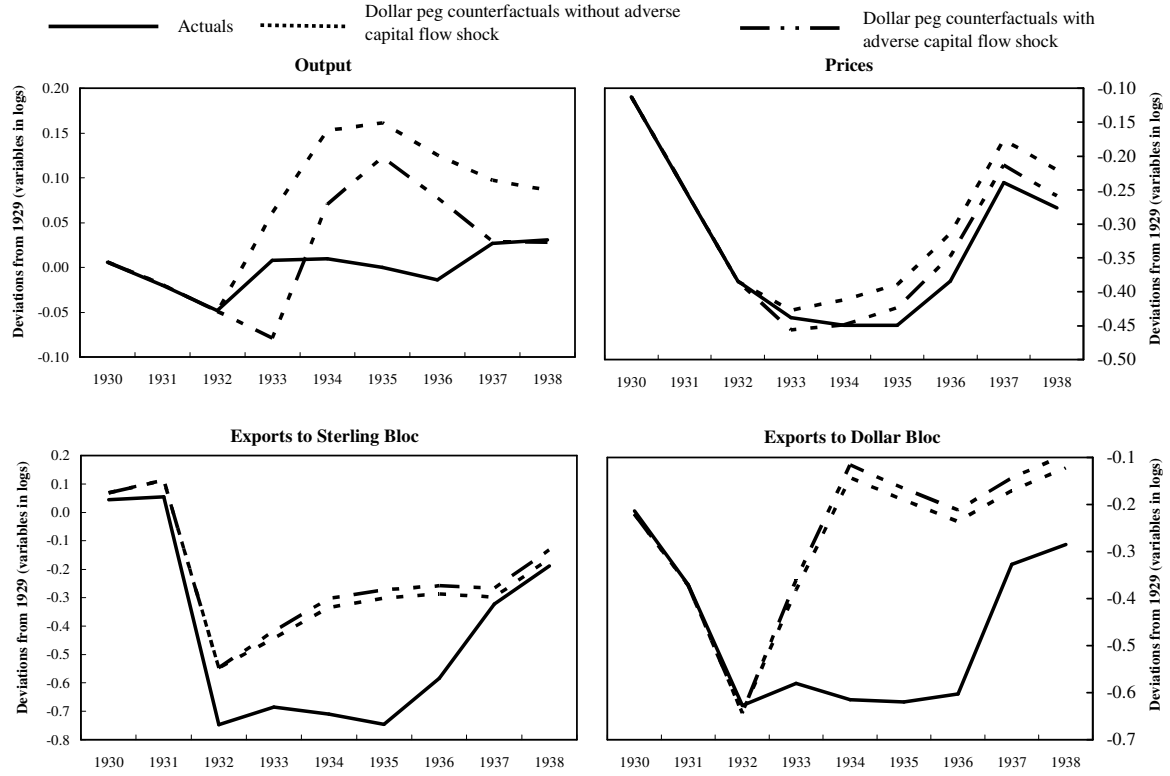
——— Actuals      ·········· Sterling peg counterfactuals      — · · — Dollar peg counterfactuals



Source: Authors' calculations.

Figure 10. Actuals and Counterfactual Simulations With an Adverse Capital Flow Shock



Source: Authors' calculations.

## APPENDIX: MODIFIED AND EXTENDED MCCALLUM-NELSON MODEL

The small open economy monetary model by McCallum and Nelson (2001) is a small-scale macroeconomic model with microeconomic foundations. For the purpose of this paper, it also has the attractive feature that all imports are imports of intermediate inputs. A devaluation would therefore negatively affect potential and actual output, as opponents of devaluation feared at the time. In the simple set-up of the model, this also implies that the domestic producer price is equivalent to the consumer price.

For the purpose of this paper, the model had to be modified and extended. Regarding modifications, the model now includes a money demand and money supply equation rather than a simple interest rate rule. This was necessary to allow for the specie-flow adjustment mechanism under the gold pegging of the Swiss to operate. Moreover, the simple Calvo-type inflation equation used by McCallum and Nelson was replaced by a Fuhrer-Moore (1995)-type inflation equation, which includes both forward and backward inflation rather than just expected inflation. This replacement helped to improve the fit of the model. Regarding extension, the model includes trade relations with several partners. In the following exposition, small letter variables denote variables in logarithms. Table A1 lists all the variables.

### *Aggregate Demand*

Consumption function (fraction $\psi$ of consumers is forward-looking, fraction $1-\psi$ is liquidity-constrained).

$$c_t = \psi[E_t c_{t+1} + \gamma_0 + \gamma_1(R_t - E_t\Delta p_{t+1})] + (1-\psi)\chi y_{t-1} + q_t \tag{1}$$

Export function (exports to destination $i$)
$$x_{i,t} = y_{i,t}^* + \sigma_i\left(s_{i,t} + p_{i,t}^* - p_t\right) \tag{2}$$

Output identity (all imports are assumed to be intermediate inputs. They affect production decision and equilibrium output, see below)

$$y_t = \omega_1 c_t + \sum_{i=1} \omega_i x_{i,t} \tag{3}$$

In view of data problems (lack of consumption series), eqs. (1.1) and (1.3) are simplified into the following IS equation:

$$y_t = \omega_1\psi E_t y_{t+1} + \omega_1\psi\gamma_0 + \omega_1\psi\gamma_1(R_t - E_t\Delta p_{t+1}) + \omega_1(1-\psi)\chi y_{t-1} + \sum_{i=1}\omega_i x_{i,t} + \omega_1 q_t \tag{4}$$

**Table A1. List of variables**

| Variable | Description |
| --- | --- |
| $C_t$ | Consumption |
| $Y_t$ | Real GDP |
| $X_{i,t}$ | Exports to destination $i$ |
| $M_{i,t}$ | Imports from source $i$ |
| $M_t$ | Total imports |
| $P_t^M$ | Import price |
| $P_{i,t}^M$ | Price of imports from source $i$ |
| $P_{i,t}^*$ | Producer price in source/destination $i$ |
| $Y_{i,t}^*$ | Real GDP in source/destination $i$ |
| $P_t$ | Domestic producer price |
| $\bar{Y}_t$ | Natural rate of output |
| $H_t$ | High-powered money |
| $R_t$ | Swiss franc interest rate |
| $S_{1,t}$ | Swiss francs per French Franc |
| $S_{i,t}$ | Swiss franc per unit of currency of source/destination $i$ |
| $R_t^*$ | French franc interest rate |

*Imports*

Imports from source $i$

$$m_{i,t} = \ln \varphi_i + \eta \left( p_{i,t}^M - p_t^M \right) + m_t \tag{5}$$

Definition of import prices

$$p_{i,t}^M = s_{i,t} + p_{i,t}^* \tag{6}$$

Definition of aggregate import prices

$$P_t^M = \left( \sum_{i=1} \varphi_i P_{i,t}^{M(1-\eta)} \right)^{\frac{1}{1-\eta}} \tag{7}$$

31

Determination of total imports

$$m_t = y_t + \sigma\left(p_t - p_t^m\right) \tag{8}$$

**Natural rate of output and domestic price dynamics**

$$\bar{y}_t = \rho_0 + \left[\frac{\sigma\alpha}{1-\alpha}\right]\left(p_t - p_t^M\right) + a_t \tag{9}$$

**Inflation dynamics, Fuhrer-Moore style**

$$\Delta p_t = \beta \mathrm{E}_t \Delta p_{t+1} + \beta \Delta p_{t-1} + \mu(y_t - \bar{y}_t) \tag{10}$$

**Money**

Demand for high-powered money (including a money demand shock)

$$h_t^d = p_t + \kappa y_t + \lambda R_t + \nu_t \tag{11}$$

Change in high-powered money (specie-flow mechanism), reflecting changes in the trade balance and a shock encompassing other current transactions (net) and capital flows.

$$\Delta H_t^S = P_t \sum_{i=1} X_{i,t} - P_t^M M_t + \Upsilon_t \tag{12}$$

Stock-flow equation for high-powered money

$$H_t^S = \Delta H_{t-1}^S + H_{t-1}^S \tag{13}$$

Money market equilibrium

$$H_t^S = H_t^d \tag{14}$$

**Exchange rates**

A. Exchange rate against the gold bloc (French Franc is assumed to be the anchor currency)

$$s_{1,t} = s_{1,t-1} + \zeta_t \tag{15}$$

B. Other exchange rates

$$s_{i,t} = s_{1,t} - s_{i,t}^{F} \tag{16}$$

**Solution**

The model can be expressed in the following standard form for linear rational expectation models:

$$A E_t x_{t+1} = B x_t + C z_t \tag{17}$$

where the vector of endogenous variables $x_t$ includes the "free variables" included in the vector $w_t$ and the pre-determined variables included in the vector $k_t$, and where the vector $z_t$ includes the exogenous variables.

The solution to this type of model can be expressed in the following state space form (e.g., McCallum, 2002, or King and Watson, 1998).

$$w_t = D k_t + N z_t \tag{18}$$
$$k_{t+1} = P k_t + Q z_t \tag{19}$$

where *D, N, P, and Q* denote coefficient matrices.

**Simulations**

The parameters used in the calibration are listed in Table A2.

*Baseline*

Te model is first solved assuming that the shocks subsumed in the vector $z_t$ are zero, so that $z_t = 0$, . Subsequently, assuming that the vector of exogenous variables follows the process:

$$z_t = \bar{z}_t + \Xi_t \tag{20}$$

the shocks can be determined so as to replicate the actual values for the endogenous variables in $y_t$:

$$\Xi_t = N^{-1} \left( y_t - M k_t - N \bar{z}_t \right) \tag{21}$$

**Table A2. List of coefficients**

| Coefficient | Description | Calibration |
|---|---|---|
| $\omega_1$ | Consumption and investment share in output | 0.798 |
| $\omega_2$ | Share of exports to gold bloc in output | 0.029 |
| $\omega_3$ | Share of exports to Germany in output | 0.034 |
| $\omega_4$ | Share of exports to sterling bloc | 0.034 |
| $\omega_5$ | Share of exports to dollar bloc and ROW | 0.105 |
| $\psi$ | Share of liquidity constrained households and firms | 0.5 |
| $\gamma_0$ | Constant | 0 |
| $\gamma_1$ | Interest elasticity of demand | -0.25 |
| $\beta$ | Discount factor in inflation equation | 0.5 |
| $\mu$ | Output gap coefficient in inflation equation | 0.12 |
| $\sigma$ | Elasticity of substitution between labor and materials (imports) in production in Switzerland | 0.65 |
| $\sigma_1$ | Price Elasticity for exports to the gold bloc | 0.85 |
| $\sigma_2$ | Price Elasticity for exports to Germany | 0.85 |
| $\sigma_3$ | Price Elasticity for exports to the sterling bloc | 0.85 |
| $\sigma_4$ | Price Elasticity for exports to the dollar bloc | 0.85 |
| $\alpha$ | Share of materials (imports) in production | 0.33 |
| $\varphi_1$ | Share of gold bloc imports | 0.234 |
| $\varphi_2$ | Share of German imports | 0.256 |
| $\varphi_3$ | Share of sterling bloc imports | 0.075 |
| $\varphi_4$ | Share of dollar bloc imports | 0.435 |
| $\eta$ | Elasticity of substitution between imports | 0.33 |
| $\kappa$ | Income elasticity of money demand | 1 |
| $\lambda$ | Interest elasticity of money demand | -1.2 |

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