



**CEPII**

**CENTRE  
D'ÉTUDES PROSPECTIVES  
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INTERNATIONALES**

No 1996 – 06  
June

## France in the Early Depression of the Thirties

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## RÉSUMÉ

Cet article montre que la politique économique n'a pas été menée consciemment en France de 1928 à 1933 en fonction d'objectifs internes, mais selon deux doctrines : « l'équilibre budgétaire » et « la stabilisation des conditions du crédit ». Cette dernière visait à maintenir constant le coût du crédit et à fournir les liquidités correspondantes au secteur bancaire et aux entreprises. La Banque de France devait lutter contre la « monnaie gérée ». Cette doctrine est intermédiaire entre la « doctrine des effets réels » et la théorie wicksellienne du taux d'intérêt. Après la crise de change de 1926, les autorités ne voulurent pas s'affranchir de ces deux principes.

Jusqu'à l'entrée tardive de la France dans la dépression en 1931, ces doctrines se traduisirent par une politique fiscale restrictive et une politique monétaire neutre. Ce policy-mix, lancé par Poincaré en 1926, s'avéra utile pour lutter contre l'inflation et favoriser la croissance, parce qu'il induisit une appréciation du taux de change réel et parce qu'il permit en conséquence de réduire le coût du travail et d'augmenter le pouvoir d'achat des salaires simultanément : double extension de l'offre de biens et de travail..

Mais cette politique était « inconsciente » de sorte que les doctrines ne changèrent pas après l'entrée dans la dépression en 1931. L'incertitude sur la valeur du franc en or, les conflits d'objectifs entre autorités monétaires et budgétaires et la défiance devant la valeur de la dette publique (provenant sans doute de l'expérience inflationniste des années 1920-1926) s'exprimèrent par une prime de risque sur le taux d'intérêt à long terme. Simultanément, les déficits budgétaires n'étaient pas désirés et le gouvernement tenta constamment de les réduire : cela envoya de mauvais signaux au secteur privé concernant la demande de biens. Ainsi, ce n'est pas un mauvais fonctionnement du Gold Standard qui provoqua l'afflux d'or en France et aurait exporté la dépression à l'étranger, mais plutôt une mauvaise compréhension du policy-mix. Deux leçons peuvent être tirées de cette période. Selon la première, la coordination aurait amélioré la situation. Mais il aurait fallu reconnaître que jusqu'à la fin de 1930, la France était au plein emploi, que les Etats-Unis et la Grande Bretagne n'y étaient pas, que les politiques de change et budgétaire étaient plus efficaces que la politique monétaire et que cette dernière devait gérer le trade-off : taux d'intérêt réel et dette publique. La deuxième leçon est que pour se coordonner les pays doivent avoir une certaine liberté qui, dans un régime d'étalon-or et donc de change fixe, lorsqu'un pays fait face à des fuites de capitaux, est interdite : il y a un biais déflationniste du système. Avant 1931, la France devait mener une politique monétaire neutre associée à une restriction fiscale, parce que l'appréciation du taux de change réel permettait une extension de l'offre, limitait l'inflation et correspondait à une politique de plein emploi ; après 1931, lorsqu'elle fut en dépression keynésienne, elle aurait dû mener une politique monétaire expansionniste, visant à baisser le taux d'intérêt réel, que les doctrines de politique économique de l'époque interdisaient.

## **SUMMARY**

During the inter-war period, between 1926 and 1933, economic policy in France was not managed consciously according to some internal targets, but rather by two doctrines : « the balanced budget doctrine » and « the stabilisation of credit conditions doctrine ». The latter aimed basically at maintaining the nominal cost of credit constant and at providing liquidities to the banking sector and to firms. The Bank of France said it had to fight against « managed money ». This assertion can be understood as a mix of the « real bill doctrine », which suggest discounting only bills corresponding to real operations, and to the Wicksellian theory of the interest rate, the long term interest rate being determined by the short term one, to which a risk premium for inflation, exchange rate depreciation and illiquidity is added. After the exchange rate crisis in 1926, the economic authorities did not want to diverge from these two principles.

Until the late entry of France into the Depression of 1931, these doctrines expressed themselves through a restrictive fiscal policy and a neutral monetary policy, which was actually expansionist if one looks at real interest rates. The policy-mix chosen proved effective in fighting inflation and boosting growth, because it induced an appreciation of the real exchange rate and because, as a consequence, it allowed labour costs to decrease and the purchasing power of wages to increase : double extension of supply.

But this policy was « unconscious », so that the doctrines did not change after the entry into depression in 1931. The uncertainty about the gold value of the franc, the target conflicts between the monetary and fiscal authorities and the mistrust of the value of the public debt (because of the 1920-1926 inflationary experience and despite the fact that the gold/central money ratios were far greater than the 35% official percentage required) expressed themselves in the risk premium on long term interest rates. At the same time, the budget deficits were not desired, and the government tried constantly to reduce them, and this sent wrong signals to the private sector about depressed aggregate demand for goods. So it was not a special and mal-functioning Gold Standard in France which induced the gold inflow in France, and exported Depression abroad. Rather it was a misunderstanding of the efficiency of fiscal policy compared with monetary policy. Two lessons can be drawn from this period. The first is that coordination might have improved the situation. But, it should have been recognised that, until the end of 1930, France was at full employment, as was not the case of the US and the UK, that exchange rate and fiscal policies were more efficient than monetary policy. Lastly it should have been recognised that monetary policy should also to be pegged to the real interest rate (GDP growth) and the public debt trade-off. The second lessons is that the coordination of economic policy requires some freedom. This freedom is not allowed in a Gold Standard regime when a country faces capital outflows : the system has a deflationary bias. Before 1931, France had to implement a restrictive fiscal policy and a rather neutral monetary policy, while the US and the UK had to launch expansionist fiscal and monetary policies. The opposite was true during the 1931-1933 period, when France should have adopted an expansionary monetary policy, lowering the real interest rate. But these coordinated policies are difficult to use when they are constrained by prudential ratios like the Gold Standard gold to money ratios.

## *France in the Early Depression of the Thirties*

Pierre Villa<sup>1</sup>

### INTRODUCTION

The responsibility and influence of the French economy during the Great Depression is hard to appraise, because France entered the depression late and because many of its adjustments seem at first glance to be specific. One is thus tempted to invoke the particularity of the French case. On the other hand, some contemporaries and some economists, like A. Sauvy, frequently invoke the misunderstanding of economics by the contemporary policy makers, their focus on monetary and financial aspects, in order to explain the deepening and the lengthening of the depression in France. Such criticisms have been reinforced by Anglo-Saxon conceptions, especially British ones, which professed firstly that France implemented a restrictive monetary policy, as of 1928, in order to accumulate gold reserves as a political pressure means, which could be used in the so-called reparations question, and secondly that France did not succeed in accommodating the depression, after 1930, through an expansionist monetary policy using open-market operations. In a certain way economic policy was « over-determined », in the Althusser meaning of the word, by political reasons. Eichengreen considers that the Gold Standard had a deflationary bias. Countries with growth implemented restrictive monetary policies, which induced gold inflows from countries, whose recession had loosened the gold link of their money. Capital flight was quicker and greater than current account variations, so gold shifted into growth countries, because of the high interest rates, even though they had current accounts deficits. Countries with current account deficits had to implement restrictive monetary policies of a « follow-the-leader » type, in order to maintain the credibility of their gold parity. The lack of coordination thus lengthened the depression.

From my point of view, this analysis overestimates the impact of monetary policy, because a large fraction of the fluctuations of money demand were accommodated by the substitution of money counterparts. On the other hand, the impact of fiscal and budgetary policies, and of the real exchange rate policy as well, should be re-evaluated. In essence, monetary policy is coarse and should basically peg the growth rate (the real long term interest rate), on the other hand, fiscal policy more precise and should be devoted to special targets, because fiscal policy instruments are numerous and specific to different targets.

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However, economic policy was never thought of in France, as a means of managing activity during this period. So the budgetary policy was intentionally and truly restrictive until the end of 1930. This allowed the Franc to stabilise, the promotion of growth and the implementation of a counter-cyclical policy at a time when the economy was at full factor utilisation. From 1931 onwards, when France was in a Keynesian unemployment regime, both monetary and fiscal policies remained restrictive in order to maintain the gold parity of the franc and to apply the « balanced budget doctrine ». If monetary policy was *ex post* restrictive, reflecting the intentions of the authorities, fiscal policy was for a large part expansionary and counter-cyclical because of the stickiness of expenditure, of automatic stabilisers and of transfers with the colonial empire. On the other hand, the concept according to which economic policy should not have been counter-cyclical had an influence on the private sector. No financial crisis occurred in France, but the increase of the real long term interest rates, from 1931 onwards, induced a dramatic fall of private investment. On the other hand consumption played a countercyclical role because the real wealth held by the private sector, in public debt and money, increased. Last, the fall of export profitability, a consequence of the real exchange rate appreciation and the trade quota policies, had a large negative influence on firms supply. To manage the depression would have meant stabilising competitiveness and export profitability by lowering the parity of the franc to gold, lowering short term interest rates and boosting demand by public expenditure, to a magnitude that was unthinkable at the time.

This chapter is divided into four parts. The first part explains why France entered the depression late contrary to the feeling of some economists, who think that it began in 1928 because of an alleged fall in profitability, or an excess supply of goods, or because mass- consumption had not developed yet. But this fact is not related here with a supposed undervaluation of the franc, since trade balance, competitiveness and export profitability all deteriorated. A dynamic portfolio model is used to show that French growth resulted from an appreciation of the real exchange rate, and not a depreciation (as it is counterfactually suggested by Eichengreen-Wyplosz). This model shows that, near full employment, supply is extended, in the long run, by the increase of the purchasing power of salaries, and the decrease of real unit labour costs. This explains the decrease of nominal interest rates, during the 1926-1930 period, which was concomitant with high growth and trade balance deficit. In this framework, French monetary policy was not restrictive (or more restrictive than elsewhere) with respect to the long term interest rate. An international cooperative policy, in this period, would have meant an appreciation of the franc and a lowering of interest rates in the US and the UK.

It is then shown that a change in the regime occurred in France during 1930, with the appearance of Keynesian unemployment and *ex post* budget deficits. France was hit by a negative demand shock. The last two parts show that this shock was not accommodated by monetary and fiscal policy, even though the latter was not so restrictive *ex post* as expected. On the other hand, gold inflows were basically initiated by the return of French previous asset outflows. Nevertheless, an expansionary policy could have been implemented by lowering interest rates, because the decrease of money demand, from 1932 onwards, was not due to bank runs and a financial crisis, but to the fall of investment, as a consequence of the lack of demand and too high interest rates (user cost of capital).

## I. FRANCE'S LATE ENTRY IN THE GREAT DEPRESSION

The prevailing thesis considers that France entered the Great Depression late and that the latter was to a great extent imported. Nevertheless some authors suggest that the beginning of the depression was to be dated from 1928 and that it would have had internal foundations. In this section, it is shown that the theses about the precocity of the depression are not consistent with facts. The two theses, which give proof of the late entry of France are then discussed and it is again shown that they too are incompatible with the facts. Lastly, an explanation of the macro-economic chain from 1926 until 1931 is put forward, according to which Poincaré's restrictive fiscal policy, in a full employment regime, induced a late expansion of supply that was prejudicial to of foreign trade.

### 1.1 Theses about the precocity of the crisis in France.

According to J. Marseille (1980), the depression began as early as 1928. Though concealed by the undervaluation of the Franc, the depression appeared in traditional, export-oriented but low protected industries (like textile) and in modern ones (like cars and metallurgy) which had excess capacity. According to Marseille, France was in a generalised overproduction regime, because labour productivity growth increased supply more than the pace of domestic and foreign demand. Internal demand grew slowly because the purchasing power of salaries was lagging and because an old forms of consumption characterised still the peasantry and the general population of « home-workers » and « individual entrepreneurs ». In the same vein, R. Boyer (1979) considers that the purchasing power of wages was lagging behind productivity gains and prevented France from developing urban mass consumption. In his words, France entered in « Fordism » late.

These analyses do not fit conveniently to facts. Firstly, the French economy was at full production capacity utilisation and at full employment until the end of 1930. The length of the working week did not decrease below the official threshold (48 hours a week) until 1930 and only fell in 1931<sup>2</sup>. Moreover unemployment, computed from census and employment bureau's statistics, was very low and near its 1926 level. It rose only during the 1927 recession and from 1931 onwards<sup>3</sup>. Secondly, there was no overproduction crisis. Aggregate demand increased faster from 1926 to 1930 (3.4% per year) than output (GDP : 2.5% per year), which induced an increase of prices. In addition, absorption (domestic demand) grew even more rapidly (4.3% per year). These figures means over the period a cutting of inventories and an increase of the trade balance deficit. Lastly, the rate of profits (including dividends) hovered at a high level until the end of 1930 (see Table 1). This evolution originated in three mechanisms. Firstly, wages were geared to prices with lags so that the rate of profits remained high; second, international competition compelled exporters to lower their prices on foreign markets, which reduced

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<sup>2</sup> See the degree of capacity utilisation in Table 2. The capacity of production is measured with a Cobb-Douglas production function estimated with the two following factors : gross fixed capital in equipment and the total working population including the unemployed and the military. The latter was nearly constant in France during the interwar years. The average working week in private firms was 48.45 hours in 1929, 47.33 hours in 1930 and 45.48 hours in 1931 (see Villa (1994)). The official working week was 48.0 hours a week.

<sup>3</sup> In 1930, unemployment amounted to 260000 compared with 248000 in 1926, much lower than the 438000 level during the 1927 recession following the restrictive policy of Poincaré.

the profitability of exports; third, the decrease of raw material prices lowered the cost of imported inputs.

From an analytical point of view, these theses are partial because they are based on examples. The recession in textiles was not peculiar to France and the troubles in iron and steel arose from the capacities inherited after the annexation of « Alsace-Lorraine ». Lastly the increase of the trade deficit seems to have been the logical consequence of the excess demand in an economy at full employment, and of the diffusion of quantity rationing and quotas in international trade<sup>4</sup>.

## **1.2 Explanatory views of the late entry of France into the depression.**

The most traditional and oldest explanation comes from A. Sauvy (1984)<sup>5</sup>. From 1926 onwards, because of the undervaluation of the franc, GDP grew strongly, pulled by foreign demand and without excessive inflation because the supply elasticity with respect to prices was very high. But again this thesis is not compatible with data : it cannot explain the following facts : the trade balance became negative in 1928; the real exchange rate began to appreciate and profitability of exports to decrease, both as of 1926, at the very beginning of the Poincaré stabilisation (see Table 1).

In order to take into consideration buoyant demand and the trade deficit, Eichengreen and Wyplosz (1988) suggest that strong growth in France was the consequence of the stabilisation of the franc. The mechanism for this is as follows. The budget surplus obtained by a restrictive fiscal policy is assigned to the reimbursement of the public debt. This policy thus induces an increase in the holding of financial assets denominated in foreign currency. To make the private sector accept these assets in substitution for government debt, either the return of foreign assets must increase (i.e. a depreciation of the real exchange rate must be expected), or the yield of French assets must decrease. When the marginal productivity of physical capital remains constant, this means that the expected yield on shares must diminish. The price of shares thus increases in the short run by overshooting. This increases the demand for investment, the supply of exportable goods, and the excess supply of exports induces a real depreciation of the franc. If the French interest rate decreases enough, there must be an expectation of a real appreciation of the franc and so short run overshooting, with a depreciation of the real exchange rate in the short run being greater than in the long run<sup>6</sup>.

The model has two drawbacks : it gives counter-factual results and it is questionable in its description of the economy.

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<sup>4</sup> A measure of quantitative protectionism (binding quotas) has been computed for the four main competitors of France (Belgium, Germany, the UK and the US). The resulting figures are 87 in 1926, 100 in 1928 and 124 in 1930.

<sup>5</sup> A. Sauvy, vol. 1, op. cit., p.81-83.

<sup>6</sup> Eichengreen-Wyplosz (1988) Tables 3 and 4.



First, the direct impact of the stabilisation policy was in reality an appreciation of the real exchange rate in the short and the long term, and a decrease of competitiveness as well as of the profitability of exports. Thus the trade balance decreased during the period, 1927 excepted (Table 1). Their model gives exactly the opposite results. Moreover, while a decrease in the difference between the French and the British interest rate is to be observed, the price of shares kept on increasing throughout the stabilisation period until 1930, without any overshooting. Finally, fiscal policy produced a recession in 1927, big enough to increase unemployment and to boost the foreign trade by reducing absorption.

From our point of view, the discordance between the simulations and the actual effects of the policy has three reasons :

- firstly, there was no perfect substitution between shares and bonds. The nominal long term interest rate lowered continuously from 1926 until 1931, when the yield on shares (price and dividends), measured by the rate of profits, remained stable until 1930 and, measured by the price of shares, increased until 1929 (see Tables 1 and 2). So the risk premium on shares was big and variable. Moreover, statistics of the financial market show a big increase in bond financing during 1929 and 1930, which were years of big investment. These observations show that the share market remained limited to few agents (large banks did not buy them) and that their price did not matter much in investment decisions compared with the interest rate<sup>7</sup>.

- secondly, the interest rate is not a variable that determines the equilibrium between supply and demand as it is in the Eichengreen-Wyplosz model. In the short run, it was determined by monetary policy and, there was a link between the interest rate on bonds and the discount rate. So a decrease in demand induced, in the short run, a decrease in the nominal interest rate, as in all Keynesian models, but had an ambiguous effect on the rate of profits : the marginal productivity of capital increased but the scale of output diminished. That is why the nominal interest rates fell after the restrictive policy of 1926, while the rate of profits was almost constant.

- thirdly, the model should explain the short run recession in 1927 due to a budget surplus, the short run expansion following the budget increase of 1928, and the full employment regime which took place afterwards as a long run equilibrium.

### **1.3. An explanation with a portfolio model (Villa, 1993, chap.5).**

We suggest a unified explanation of the stabilisation of the franc and of France's late entry in the depression using a dynamical model, which distinguishes short and long term effects.

The economy is described by an open economy Mundell-Fleming model. Its specificity concerns only the price-wage loop and exports. Econometric results show that prices were pegged by firms, with some adjustment lags, in relation to unit labour costs and the price of imported raw materials. Wages were geared to consumption prices, with

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<sup>7</sup> An example of the fact that the price of shares had small effects on investment decisions is the case of electrical firms. They distributed large dividends to shareholders, who reinvested them in the firms, in order not to disseminate the shares in the public. In this case, new shares are equivalent to invested profits and there is no interaction between investment and market prices.

adjustment lags, but the latter were only depended on the GDP price index, because there was few imported consumption goods except from the colonial empire. Moreover exports were a function of profitability (export price / GDP price) and not of competitiveness (export price/foreign price). This behaviour was the consequence of quantitative rationing in international trade and of a high level of specialisation. Exports were oriented in sectors with high profitability and not to gain market shares.

In this neo-Keynesian model, the portfolio choice of agents is introduced. It is assumed that there is no perfect substitutability between national and foreign assets. Agents want to hold only a part of their wealth in currency, which depends on the difference between expected yields, i.e. the difference between the French interest rate and the foreign interest rate plus the expected depreciation of the exchange rate. The balance of payments determines the change of foreign assets and gold that must be held, and which is equal to the sum of the interest earned from the wealth in currency, of its actual appreciation (considering the effect of the variation of the exchange rate on sold out assets) and of the level of the trade balance. A surplus on the trade balance induces an increase in the wealth held in currency. This increase cannot occur if it does not correspond to the portfolio choice of private agents. The national interest rate must decline so that French agents accept to hold more wealth in currency denominated assets. The decrease of the home interest rate increases absorption, and hence reduces the trade surplus. This stabilises the balance of payments. However, it is not this mechanism which ensures the instantaneous equilibrium between the demand for foreign assets, determined by portfolio choice, and the supply of assets, determined by the balance of payments equilibrium. The equilibrium is obtained by a variation of the real exchange rate. If there is a balance of payments surplus, i.e. wealth in currency and gold must increase, the real exchange rate appreciates to increase the expectations of a later depreciation, and to increase the yield of assets denominated in currency. So the demand for foreign currencies increases and the exchange rate losses lower the supply of foreign assets.

In 1926, Poincaré launched a permanent budget surplus policy, which, by depressing the internal demand, induced a trade surplus. The latter, accumulated, led to an increase in the foreign currency wealth of France. In the long term, and at the equilibrium, this additional wealth generated interest flows, which had to be offset by a trade deficit. Such a deficit could only be obtained by a higher production growth in France than abroad, and by an appreciation of the real exchange rate, lowering competitiveness and export profitability. Moreover, this real appreciation of the franc meant a decrease of import prices, hence an increase firms' profitability : this implied an extension of the supply of goods. At the same time, because wages were pegged on consumption prices with some lags and because inflation was cut down, the restrictive policy induced an increase of the purchasing power of salaries, implying an extension of the labour supply. This double extension of supply had an expansionary effect on production which is, in the long run, supply determined. In addition, in the long run, the interest rate varies to adjust demand to supply. The former being smaller because of the restrictive fiscal policy, the interest rate lowered. The consequence of this was to stimulate the demand for goods and to make the French accept to hold a larger part of their wealth in foreign currency and gold. The long run effects are thus classical : a restrictive fiscal policy has a positive impact on growth. This explains why a restrictive fiscal policy, led during five years, from a situation of full employment in 1926, induced a sustainable growth in 1929 and 1930.

In the short run, the consequences of the policy are different and Keynesian in nature. The decrease in public spending lowered demand and production, and caused a

trade surplus. In order for the French to accept to hold this additional wealth in currency, the French interest rate had to decrease and the nominal and real exchange rate to appreciate. This raised the relative yield of assets denominated in currency, hence it increased their demand; it also resulted in exchange losses of foreign assets valued in francs and reduced their supply mechanically.

The permanent fiscal surplus policy should thus have resulted in a trade surplus in the short term and a trade deficit in the long term; lower growth than the foreign growth in the short term and a greater growth in the long term; an increase of assets in foreign currency and gold held by the French in the short and the long run; an increase of the income on these assets; a permanent appreciation of the nominal and real exchange rate of the franc and a permanent decrease of the interest rate difference with foreign countries. This is what a simulation of the model shows and what can be observed on data during the period of budget surpluses between 1926 and 1930, if the temporary expansionist fiscal policy of 1928 is excluded (see Table 1).

Thus, the same policy, implemented in a situation of full employment and high inflation, explains the stabilisation of the franc, the inflow of gold, the real appreciation of the franc, the trade deficit and the exceptional growth at the end of the twenties : that is why France entered lately in the depression.

## **II. THE UNFOLDING OF DE DEPRESSION IN FRANCE FROM THE END OF 1930**

The starting of depression in France corresponds to a change in the regime. Industrial production went down in June 1930, de-seasonalised consumer prices in December 1930 and the de-seasonalised unemployment rate rose as of December 1930 onwards<sup>8</sup>.

Until this time, France was in a supply regime as has been shown : the increase in the purchasing power of salaries increased the labour supply and the decrease of labour costs boosted the good supply. Aggregate demand was growing (4.5% in 1929 and 1.5% in 1930), but its structure was distorted. The trade balance worsened with competitiveness stagnating, exports profitability decreasing and world demand in depression (Table 2). The two first factors are a consequence of domestic inflation and the third of the precocious recession among France's principal trade competitors. In contrast, domestic demand (excluding inventories) grew rapidly because of housing investment and productive investment by firms. This latter evolution resulted from the general equilibrium but also came from peculiar circumstances. Full employment and the restrictive fiscal policy reduced the real interest rate and increased profitability measured by the ratio profits/user cost of capital or by the ratio price of shares/user cost of capital (see Table 2)<sup>9</sup>.

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<sup>8</sup> We measure unemployment from census and statistics of the employment bureau's, excluding individual entrepreneurs and isolated workers. Even with this restrictive definition, unemployment rose 226000 during the first quarter of 1931. A discussion of the low level of employment in France in this period can be found in Salais(1988). We do not think that a correction for independent workers would change qualitatively anything in the evolution on that matter : unemployment appeared roughly.

<sup>9</sup> The decrease of the real interest rate explains the boost in housing investment and the increase in profitability the surge of physical investment.

**Table 2**  
**The entry of the French economy in the depression.**

1938 base if not specified	1928	1929	1930	1931	1932	1933
rate of growth (%)						
capacities	3.1	4.2	5.1	2.3	-0.4	0.1
GDP	6.1	8.9	-2.6	-3.9	-8.8	3.0
demand excluding inventories	4.9	4.5	1.5	-6.8	-5.7	2.0
domestic expenditures excluding inventories	5.5	6.4	3.7	-5.3	-5.7	2.3
levels						
trade balance (billion of F.)	1.4	-0.7	-10.6	-14.6	-22.6	1.8
degree of capacity utilisation (%)	93.3	97.5	90.3	84.8	77.7	80.0
unemployment rate(%)	1.3	1.2	1.2	2.4	3.7	3.7
inflation rate-CPI(%)	0.2	4.2	3.5	-2.9	-6.7	-3.3
nominal long term interest rate(%)	5.33	4.89	3.82	3.70	4.73	5.74
user cost of capital(%) <sup>(1)</sup>	10.5	8.6	8.3	10.4	13.6	13.2
profitability 1 <sup>(2)</sup>	1	1.14	1.08	0.80	0.49	0.60
profitability 2 <sup>(3)</sup>	1	1.47	1.32	0.73	0.49	0.51
competitiveness <sup>(4)</sup>	1.39	1.37	1.41	1.34	1.36	1.35
export profitability <sup>(5)</sup>	1.26	1.20	1.13	0.98	0.87	0.83

*Sources : Villa(1994)(1) Putty-clay model, with depreciation and a finite lifetime of investment.*

*(2) rate of profits/user cost of capital, base 1 in 1928.(3)real price of shares (deflated by investment prices)/user cost of capital, base 1 in 1928.(4)exports price/price of the six main competitors of France (the US, the UK, Germany, Belgium, Italy and Swiss).(5)exports price/GDP price.*

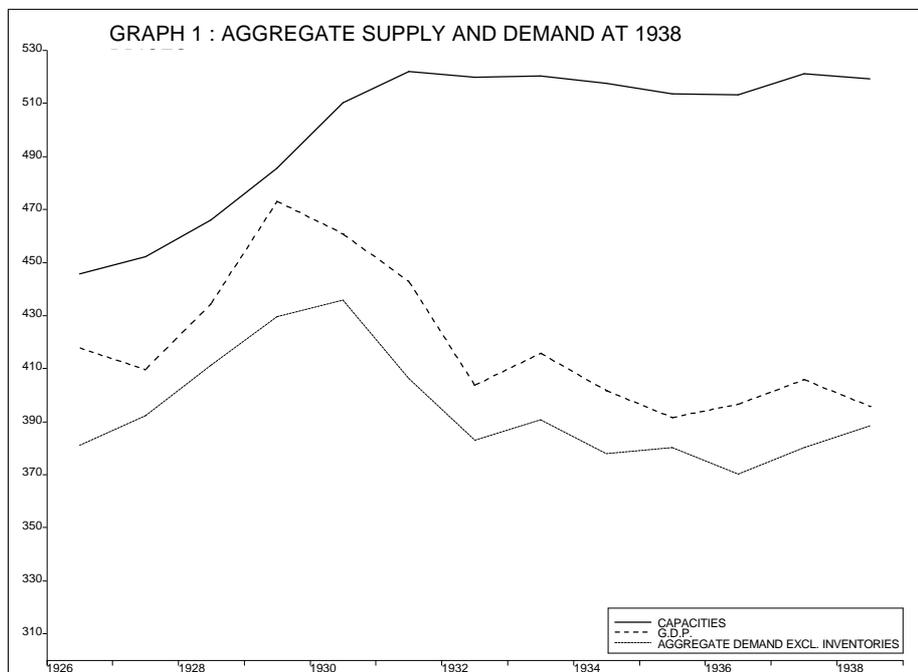
So from 1927 onwards and especially in 1929 and 1930, it is observed that a huge amount of shares and bonds were issued by the quoted firms. Nevertheless, it is not possible to explain completely, by econometrical methods, this surge in investment in 1930. We must call contingent historical reasons : indivisible investment programs, launched in 1928 and 1929, in capital equipment industries (mechanical and electrical industries) ended in 1930 and 1931, the addition of engineering investment stemmed from the building of car plants and hydro-electric plants, the building duration of which lasted about three years. But this additional explanation remains insufficient from a statistical point of view. The remainder of the boom in equipment investment in 1930 must thus be read either as a measurement problem or as an error by firms in their expectation of demand. This last interpretation takes all its meaning, given the degree of capacity utilisation, the unemployment rate and the inflation rate, which were the only economic variables observable by the contemporaries.

From 1931 onwards, France was in a Keynesian unemployment regime. This assertion can be verified in two ways : on the one hand by the observation of demand, supply and unemployment statistics, and on the other hand by indirect evidence like the nominal long term interest rate and the price level. As it is suggested by Temin (1976), the decrease in aggregate demand should have induced a decrease of prices and nominal interest rates, but the drop of the latter can be crossed by a restrictive monetary policy. The observation of data (see Table 2 and graphs) corroborates the diagnosis of a

Keynesian recession : the pound devaluation at the end of 1931 added to the fall of internal absorption<sup>10</sup>.

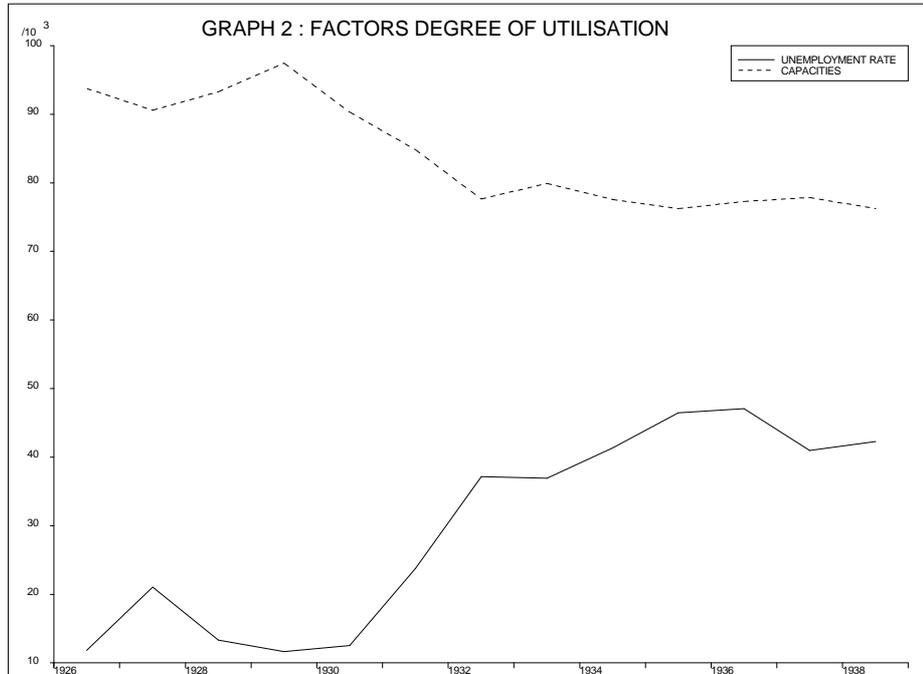
This fall stemmed basically from investment. An econometric study (see Villa (1993)) shows that housing purchases reduced suddenly because the government stopped distributing subsidies based on war damages. Later on they fall even more because of the high real interest rates. Likewise, the fall in firms investment can be econometrically explained by the decrease in aggregate demand and the fall of the profit rate (Villa (1993)).

Graph 1



<sup>10</sup>The long term interest rate upswing came at the end of 1931, partly from the devaluation of the pound (expectations of a depreciation of the Franc) and partly from the mistrust of the French financial market towards the public debt. During October 1931, the rate on bonds changed rapidly from 3.48 % to 3.88 %.

Graph 2



This happened even though employment and the weekly working hours adjusted very rapidly. The rise of salaries was thus more than offset by redundancies and the decrease of working hours<sup>11</sup>. Thus the real unit labour cost still decreased in 1931, but the rate of profits too, because the scale of production diminished. The depreciation of the pound just reinforced the down turn of absorption.

This situation continued in 1932 and the recovery in 1933 had three origins : good competitiveness until the dollar devaluation, a rising budget deficit and a surge in household consumption fuelled by wealth effects. Then investment increased via the accelerator effect. According to some authors (C. Romer (1990)), consumption would have been procyclical during the depression. The fall and uncertainty of stock prices lowered consumption. Estimates on French data show the contrary to be true : the propensity to consume grew during the depression years (1931,1932) and lowered in 1933 during the recovery. There are three reasons for the countercyclical part of consumption : the increase of the share of salaries in total households income increased the propensity to consume; deflation, and the fall of consumer prices enlarged real financial wealth and especially real monetary wealth; finally households cut their saving which were previously used to restore their financial wealth because prices were decreasing (see Villa (1996)).

<sup>11</sup>Wage earner employment in the private sector fell from 10.3 million in 1930 to 9.85 million in 1931, and unemployment increased from 260000 to 487000.

After 1933 and the dollar devaluation and until 1936, the economic evolution in France can be explained by the over-valuation of the Franc, the Gold Bloc and the deflationary policy. These points neither raise any factual question nor any discussion among economists. Anyway, they shall not be tackled because they are beyond the aim of this chapter.

Chronology being fixed, the next two paragraphs examine to what extent French economic policy and the Gold Standard might have triggered or magnified the depression in France and abroad.

### **III. FISCAL POLICY FROM 1929 UNTIL 1933**

Broadly speaking, the French government did not implement any voluntary policy to manage aggregate demand using autonomous public expenditure over the period. The countercyclical feature of public balances is only the consequence of *ex post* rigidities in spending and of the automatic stabilisers. It is therefore not possible to speak of a Keynesian policy, but as for conjuncture a change of the regime appeared in 1930.

Until the end of 1930, fiscal policy remained restrictive : Poincaré and his followers tried - if the fiscal stimulus in 1928, which was not voluntary<sup>12</sup>, is ruled out - to maintain a budget surplus of 2% of GDP by financial orthodoxy and to reduce the public debt (as well as long term interest rates). As explained above the success of this policy relied on the fact that France was at full employment. The only autonomous expenditures contemplated by policy makers were the so called « big public work programs ». The "Tardieu" program, proposed in 1929, aimed at increasing supply (infrastructure expenditures). It was rejected by Parliament. If it had been carried out, it would have had an inflationary impact and would have increased the trade balance deficit, because the economy was at full capacity utilisation both of labour (unemployment rate stood at : 1.2%) and of capital (capacity utilisation stood at : 97%)<sup>13</sup>. In fact contemporaneous policy makers rejected the plan for other reasons : by suppressing the budget surplus, they were afraid of calling into doubt the credibility of Poincaré's stabilisation policy by causing capital flight. This is an example of the deflationary bias of the Gold Standard. Eichengreen (1992, p. 10) evokes it in the radically different context following the first world war, when big fiscal deficits were the scene of internal conflicts, over who would pay the debt devaluation. The willingness to link money to gold implied a restrictive policy to eliminate any expectations about inflation or about taxation based on the size of the debt (and its likely monetisation); otherwise there would be capital flights, which rendered the scheme impossible because of the loss of gold reserves. An expansionary fiscal policy can thus run up against the Gold Standard rules represented by the gold/money ratio. Ironically, this regime worked optimally for France at the end of the twenties, since it forced France to adopt a restrictive fiscal policy at full employment<sup>14</sup>.

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<sup>12</sup> In 1928, the budget surplus vanished as a consequence of social security expenditure and lagged unemployment benefits. The restrictive fiscal policy had induced a recession in 1927 and increased unemployment. With the return to full employment in 1928, the budget surplus reappeared in 1929.

<sup>13</sup> Contrary to Eichengreen's statement (p.255), fiscal policy remained restrictive in 1929 and 1930, even though public investment increased.

<sup>14</sup> Budgetary discipline, prescribed by the Gold Standard or by the Maastricht's prudential ratios, is extremely efficient at full employment. Yet is this the case in a Keynesian unemployment regime ?

**Table 3.**  
**Data on fiscal policy (total government).**

as share of GDP (in %)	1928	1929	1930	1931	1932	1933
expenditures (excluding interests on debt)	12.5	10.2	11.2	15.3	18.1	19.4
of which: consumption and investment	2.9	3.0	3.6	4.7	5.5	5.1
of which: social and unemployment benefits	5.2	3.7	4.8	5.7	6.9	7.7
of which: net foreign transfers (e.g. colonial empire)	-0.4	-0.6	-1.9	-0.6	-0.4	0.8
interest on debt	4.0	3.8	3.2	3.3	3.9	3.8
budget surplus	-0.2	1.9	1.7	-1.0	-2.4	-4.7
taxes and social contributions	16.3	16.0	16.1	17.6	19.6	18.6
public debt in francs	81	70	72	78	87	97
apparent average interest rate on debt (%)	4.8	5.3	4.4	4.3	4.3	4.3

*Sources : Villa(1994). Central government, social security and local authorities are included.*

Other public works programs were planned and actually implemented, when France was in depression<sup>15</sup>. The macro-economic consequences of these programs, directed towards sectors with a high labour/capital ratio and facing a little competition through international trade (education, agriculture, public works) has been disputed (P. Saly (1980)). It is difficult to assess them, since they were sometimes monetary expenditures, which were not assigned to buy goods, while at other times they were subsidies which were substituted for credits already granted by government. It is thus hard to distinguish between consumption, investment and operating expenditures. In spite of these statistical restrictions, it may be considered that this policy contributed to an increase in public expenditure and had a counter-cyclical effect (see Table 3). Nevertheless, they could not have been responsible for the rough appearance of a public deficit in 1931, because public consumption and investments had been growing since 1928. The change in the regime in 1931, despite an increase in the average tax rate, had in fact different origins and was undergone. Indeed, the increase in total expenditure was largely due to social allowances (unemployment), to the stickiness of civil servants salaries (when the level of consumer prices was decreasing) and to international income transfers to the colonial empire. On the other hand, interest payments on the debt did not weigh heavily from 1931 onwards, since the government had previously partially reimbursed its debt and used monetary financing<sup>16</sup>.

The balanced budget doctrine carried full weight in 1933, when the government tried to reduce the number of civil servants, to increase the income tax, to tax fuel etc. After the fall of several governments, a restrictive fiscal policy was implemented : additional tax on the income of civil servants, an increase of 10% in income tax and the

<sup>15</sup> In 1931, « Steeg » program (FF 0.7 billion) and « Laval » program (FF 2.7 billion); and subsequently, the « Marquet » programs in 1934 (FF 2.5 bn. ) and in 1935 (FF 1.3 bn. ).

<sup>16</sup> The government had difficulties to issue a new long term debt at low interest rates because of the mistrust of financial markets. So it issued money and short run bonds which lowered the apparent interest rate (see next paragraph and Table 3).

« contrivance » of a new tax based on the discrepancy between the 1933 nominal income and the average 1931 and 1932 of nominal incomes over<sup>17</sup>. This voluntary restrictive fiscal policy did not balance the budget *ex post* as expected, but it succeeded in interrupting growth contrary to what happened in other countries<sup>18</sup>.

In conclusion, fiscal policy was inspired by the budget balanced doctrine and was weakly related to the Gold Standard. Only Poincaré and his close followers can be supposed to have related public debt and capital flows. This policy was countercyclical before the onset of the depression and procyclical thereafter, even though the results differed from their intentions because of automatic stabilisers.

#### **IV. MONETARY POLICY AND THE GOLD STANDARD**

According to Eichengreen, the Gold Standard has a deflationary bias. Countries in recession cannot carry out expansionary monetary policies because they went up against capital outflows and thus against the vanishing of gold reserves. On the other hand, countries, which implement restrictive monetary policies, benefit of capital inflows, which can even reverse their current account deficit and make them accumulate gold. Their competitors are thus constrained to implement restrictive policies of a "follow the leader" type, even though these policies do not fit their activity levels. The system promotes restrictive policies and systematically prevents any country from coming out the depression through an uncoordinated policy, unless it drops gold convertibility or devalues, when the gold cover ratios are breached<sup>19</sup>. France would thus have been partly responsible of triggering the depression, deepening it, and breaking the Gold Standard by accumulating gold. From this point of view, Foreman-Peck, Hughes-Hallet and Ma (1993) try to show, by estimating a monthly model for France, Germany, the UK and the US over the 1929-1933 period, that a cooperative monetary policy between the four countries could have limited the depression and avoided uncoordinated beggar-thy-neighbour devaluations.

These analyses, which partly stress the weight of the depression on French policy are questionable from several points of view.

In the first place, it is assumed that in a the Gold Standard regime, French governments could control the money supply quantitatively, especially through open-market policies. Yet, in a fixed exchange rate regime, the main instrument of monetary policy is the short term interest rate. As the latter is fixed, then on the one hand gold inflows are related to asset movements and to the level of the current account, and on the other hand a pure open-market policy (i.e. a repurchase of public assets) cannot reduce the gold and foreign currency reserves counterpart of the money stock. The only three ways to fight gold inflows are the following : (1) lower the interest rate to make the private sector hold foreign assets in foreign currencies as substitutes for domestic assets (in francs) or for money; (2) sell foreign assets directly on the exchange rate market; (3) appreciate the

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<sup>17</sup> This curious tax was motivated by the idea that only the increase of nominal income had to be taxed in a period of falling prices.

<sup>18</sup> A. Sauvy, vol. 1, Chap. 10, does not understand why French growth failed in 1933, but he never mentions the fiscal burden and the over-valuation of the franc.

<sup>19</sup> See Eichengreen, op. cit. p. 274-286, and Temin(1993).

exchange rate of the currency in gold. The Bank of France refused these policies because they threw into question the external value of the franc and it feared above all a return to instability on the exchange rate market. So it favoured pegging and stabilising the discount rate (see K. Moure (1991)).

Secondly, the consequences of a monetary policy depend on the regime of the economy. In 1929 and 1930, France was at full employment. So any decrease of the interest rate would have increased price levels when short and long term real interest rates were negative. On the other hand, from 1931 onwards, the French economy was in a Keynesian unemployment regime with budget deficits. The mistrust of financial markets, which preached the balanced budget doctrine, was such that a great part of the budget deficits were financed by money or short term bonds and that long term real interest rates went up again, strengthening the restrictiveness of monetary policy.

The following sections aim at describing the French monetary conditions over the period, at evaluating the restrictive degree of the monetary policy and its responsibility in the depression.

#### **4.1. Monetary policy from 1928 until the end of 1930.**

Gold and foreign currency reserves accumulated from the end of 1926 to May 1928 as a consequence of current account surpluses (FF 22.4 billion), induced by the restrictive fiscal policy, and of the capital inflows (FF 13.6 billion) The total (FF 36 billion) was used to buy French private assets or was held in French money (see Table 4). In both cases, this induced an increase of the « gold and foreign reserves » counterpart; but in the first case (the purchase of French assets), it also decreased the credit demand of firms which were more financed by issuing bonds. The substitution of bonds and securities for credit increased the gold/money ratio mechanically, without having to use a multiplier theory<sup>20</sup>.

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<sup>20</sup> Other things being equal, the mechanism is the following : the French exchanged their foreign assets for gold, then gold for money to buy domestic assets denominated in francs. Then firms issued shares and bonds because their demand was favourable (decrease of the interest rate). Then they reduced their credit demand to banks. The money demand did not change and, concerning supply, the gold and foreign reserves counterpart was substituted for the credit counterpart. The increase in the gold and reserves counterpart was exactly equal to the decrease in the holdings in foreign currencies.



In 1929 gold and foreign reserves were at a standstill because the demand for foreign assets increased again due to the increase of the interest rate differential and because the current balance deteriorated after the real appreciation of the franc. On the other hand, in 1930 and until the depreciation of the pound in September 1931, gold flowed in again through the repurchase by the Bank of France of foreign assets held by French speculators. The Hoover moratorium, the fear of pound and dollar devaluations induced a dramatic inflow of previous capital outflows (Sicsic, Villeneuve (1993)).

Banking credits grew temperately during the last two years of high activity (1929 and 1930). Firms preferred to finance investments with their high profits and by issuing bonds and shares rather than by using bank loans (see Tables 3 and 4). Bonds issues were promoted by low real interest rates and by the fact that the government did not issue many bonds because of the budget surplus.

According to this partial substitution of the monetary counterparts, monetary policy must manage the cost of financing and the discrepancy between the structure of wealth (held by private agents) and the structure of private and public indebtedness. In France, this policy consisted basically in pegging the discount rate. This policy was not restrictive, when looking at short term and long term real interest rates, which were always smaller than American and British ones except for 1928 (see Table 5 and Graphs 3). The apparent restrictive feature of monetary policy in this year corresponds to the reluctance of the Bank of France to decrease the discount rate according to rate of inflation. However, the policy was not so restrictive as it seems because banks' refinancing was limited (Table 4). This situation was the consequence of the substitution of French assets for foreign assets in private wealth holdings and also of the budget surplus, which lessened the issues of new public debt. Moreover the purchase of discount papers was not small because the Bank would have refused to refinance commercial banks. In 1928, the interbank offer rate was smaller than the discount rate. A discount constraint, if any, was not binding. When it began to bind, at the end of 1929 and the beginning of 1930, the Bank lowered its discount rate such that the real short term interest rate became negative (see Graphs 3 and Table 5).

Thus monetary policy consisted in fixing the nominal discount rate, when inflation fluctuated much and moreover reflected, with a lag of about one year, the fluctuations of output (see Table 2). Even though, there would have been a stabilisation policy with an internal target (which was not the case), it would have been difficult to peg the interest rate according to such a target.

Two criticisms have been made of this policy. First, the Bank of France did not accommodate the increase in money demand, which followed the Poincaré stabilisation. If it were true, an increase of the nominal, long term interest rate should have been observed because this rate explains the choice between money and asset holdings. But opposite occurred. So gold accumulation resulted only from capital inflows and the substitution of the counterparts.

According to the second criticism, the Bank should have used an active open-market policy<sup>21</sup>. Eichengreen thinks that it would have been impossible, because of the

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<sup>21</sup> Eichengreen, *Golden Fetters*, p. 197.

regulation of the Bank of France, which prevented it from using open market operations and because it failed to create a market of government bonds, by selling them in 1928, at a moment of increasing gold reserves<sup>22</sup>. But in fact open market operations were possible, since the Bank used to buy second-hand treasury bills and many government rents through the discount market. But a repurchase of these bonds could have three different effects. In the first case, with the discount rate held constant, these bonds were sold by banks. So, in order to balance their accounts, they had to decrease their refinancing : there was a substitution between government bonds and discounted papers : at the M2 money stock level, there was no impact. In the second case, these bonds were sold by households and thus two configurations are to be considered. If households increased their money demand by the same amount as the repurchase of bonds, their money stock increased without any effect on the gold stock, but the government credit counterpart increased in the same magnitude. If households did not want to alter their money demand, the interest rate had to fall in order to make them partly accept this money and partly to buy French and foreign assets<sup>23</sup>. In this case, the increase in foreign assets corresponds to the capital flight induced by the interest rate discrepancy with the foreign interest rate and/or by the expectations of exchange rate depreciation<sup>24</sup>. An open market operation in the Gold Standard is also equivalent to buying and selling foreign bonds directly on the foreign exchange market.

The unwillingness of the Bank of France to implement an expansionary open-market policy thus corresponded to its unwillingness to lower interest rates<sup>25</sup>. So it is not a special functioning of the Gold Standard in France which originated the gold inflow at the end of the twenties. The Bank could not implement alone a policy decreasing interest rates firstly because the economy was at full employment and, with inflation fluctuating and going on, the real long term interest rate was near zero and secondly because it was afraid of triggering off a confidence crisis and a capital outflow, which could not have been stopped. Only a cooperative monetary policy mixing an appreciation of the franc with respect to gold and an expansionary policy in the US and the UK could have solved the problem. But to contemplate such a policy, it should have been recognized that France was not in the same regime as the two other countries. Moreover, for the success of such a policy, the positive spillovers through international trade should have been of large magnitude. This was not the case because, at the same time, countries increased their tariffs and quotas<sup>26</sup>.

*Graphs 3a to 3d.*

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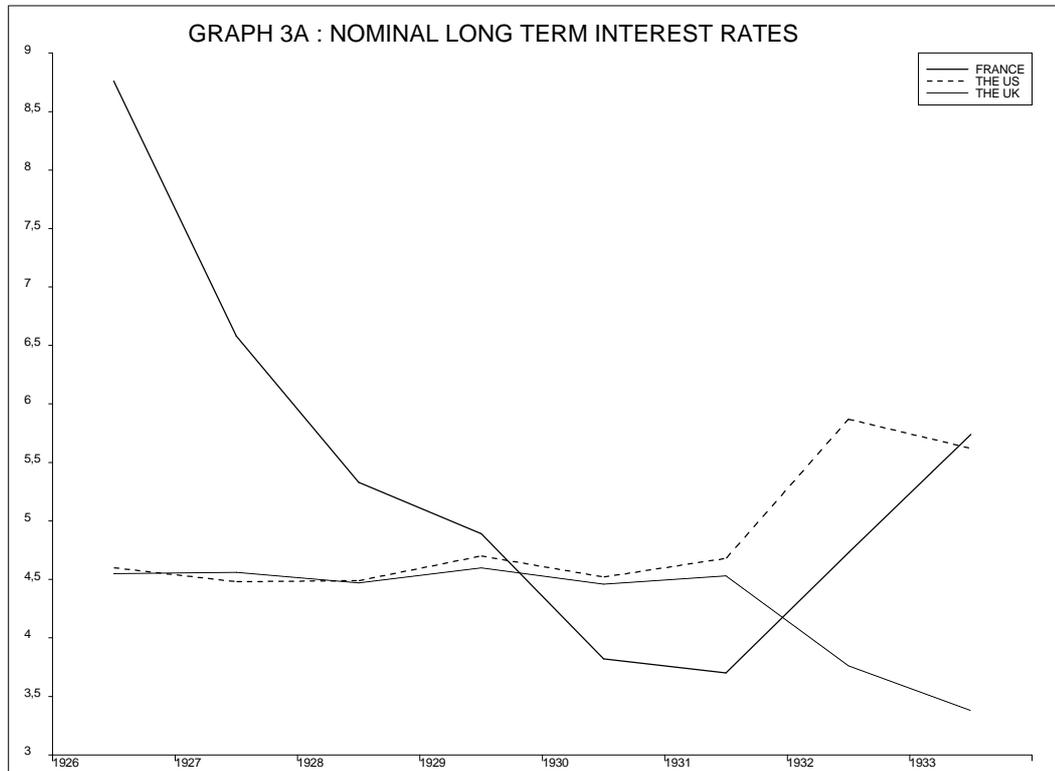
<sup>22</sup> Eichengreen, op. cit., p. 223.

<sup>23</sup> If they bought only French assets, it would have lowered the credit demand from firms and would have no impact on gold.

<sup>24</sup> There was no exchange controls but few capital controls : the French could not lend in foreign currency to foreigners but could buy foreign assets.

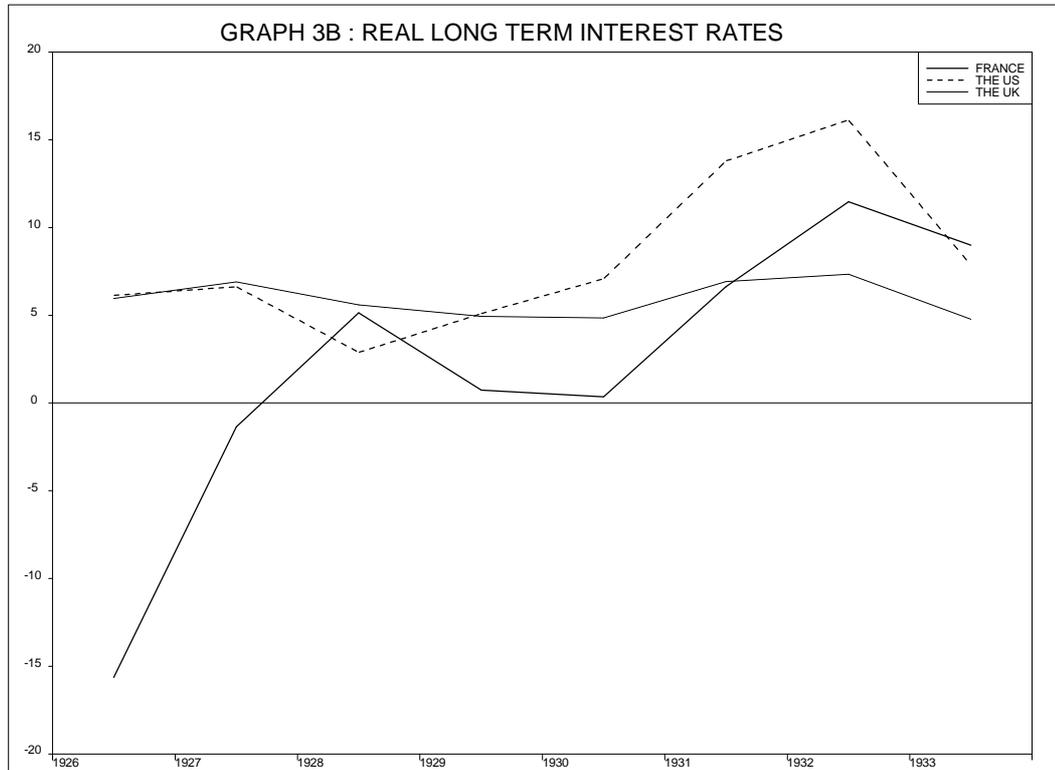
<sup>25</sup> The Bank of France used the trade balance deficit to explain that it did not violate the Gold Standard rules (Eichengreen p. 254-255).

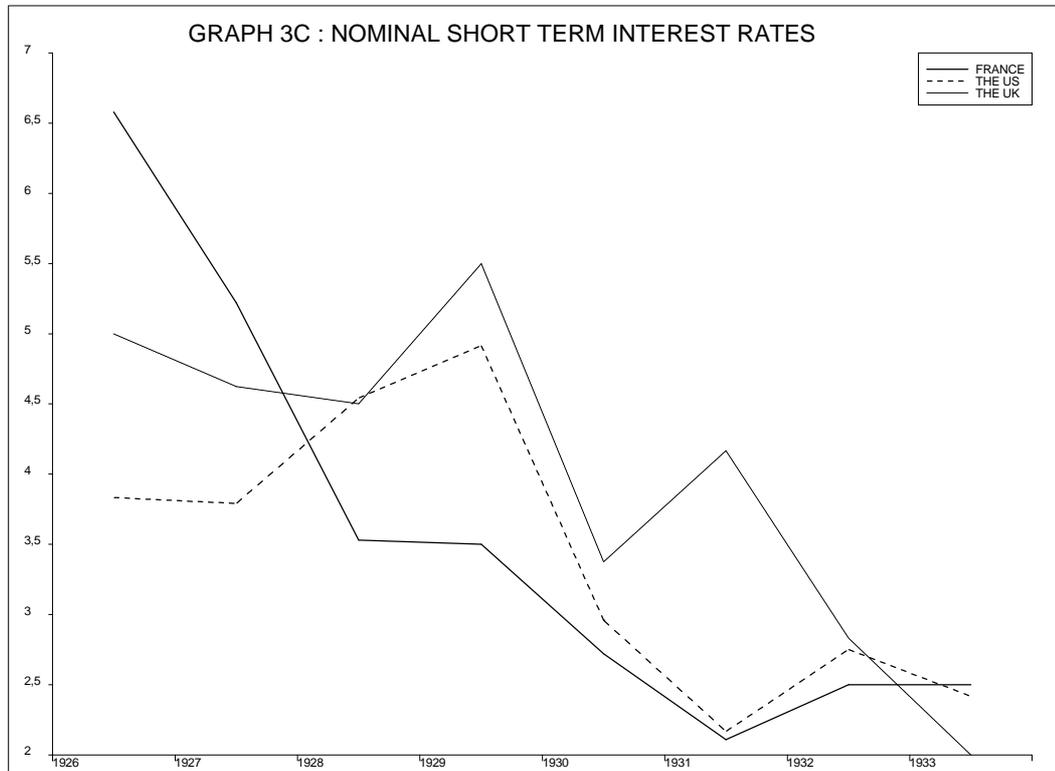
<sup>26</sup> The index of trade quotas that have been computed moves from 100 in 1928 to 126 in 1930 for France and from 100 to 124 for its four main competitors : Belgium, Germany, the UK and the US.

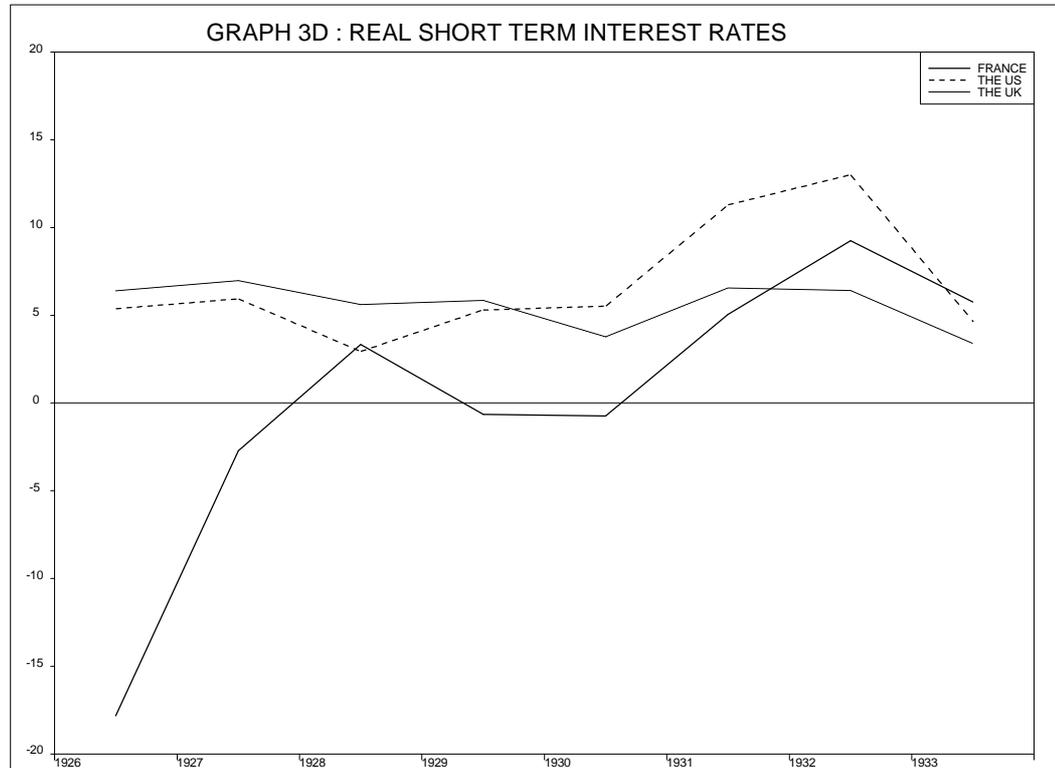


*France in the Early Depression of the Thirties*

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#### 4.2. Monetary policy during the depression (1931-1933).

From 1931 onwards, France was in a Keynesian unemployment regime (fall of domestic and foreign demand and of investments). Restrictive monetary policy no doubt played a great part in deepening and protracting the depression. This can be measured by the increase in the short term real interest rate and the unwillingness of the Bank of France to lower the nominal discount rate.

To this may be added the increase in the spread between the long term and the short term real interest rate (see Table 5). Why had long term real interest rates been so high ? Several explanations are generally put forward.

The first one invokes an *external reason*. After the pound devaluation, private agents were anticipating a depreciation of the franc between 1932 and 1933. This idea is sustained by the measures of exchange rate expectations computed by P.C. Haucoeur (1993), who compares the price of the 4% consol indexed on the exchange rate of the

pound Sterling (emprunt Caillaux) and the price of the non-indexed 4% consol. However a measure of expectations with the forward exchange rate does not confirm this result<sup>27</sup>.

**Table 5.**  
**Apparent average real interest rates.**

percentage	1928	1929	1930	1931	1932	1933
short term (discount rates)						
France	3.34	-0.65	-0.73	5.05	9.25	5.77
UK	5.62	5.84	3.77	6.57	6.41	3.40
US	2.94	5.31	5.52	11.30	13.00	4.66
long term (bond and consol rates)						
France	5.14	0.74	0.36	6.64	11.48	9.00
UK	5.59	4.94	4.86	6.93	7.34	4.78
US	2.89	5.09	7.09	13.80	16.14	7.86

Sources : annual statistics of the different countries and Villa (1994) for French prices.

Three other « internal » explanations have been put forward to explain the spread between long term and short term interest rates.

(i) *The gold hoarding* : by withdrawing resources from savings, it would have produced a lack of liquidity, which could be resolved only by an increase in the interest rate. However, this explanation, which refers to the keynesian liquidity trap, seems to be overestimated, since gold hoarding by the private sector was small if related to all money holding (M2 or M3)<sup>28</sup>.

(ii) *The credibility crisis* of the government with respect to the financial markets and the private sector. Since 1931, public budgets were in deficit, even though governments had intended to restore a balanced budget. Now the Treasury had difficulties in selling the public debt. This can be noticed during two special episodes :

- *the exchange of rents* : in September 1932, the government could only turn old rents into 4.5% consols instead of at 4% as expected. This credibility crisis concerned the financial markets especially, because private banks and the *Caisse des Dépôts*<sup>29</sup> held 55% of rents<sup>30</sup>.

<sup>27</sup> According to this last method, there had been an expectation of a franc appreciation of 1.7% on average in 1931, of 0.3% on average in 1932, and an expectation of depreciation of 1.1% in 1933.

<sup>28</sup> The variation of gold holdings by the French since 1928 was not more than 2% of the 1933 M2 money stock, whichever the sources : Sicsic-Villeneuve (1993), and Villa (1993). Explaining the increase in the interest rate by gold hoarding was more an intuition of the time than a statistical result.

<sup>29</sup> The Caisse des Dépôts et Consignation is still exists as an institution which manages the savings (deposits). It worked like a commercial bank (and a savings bank) issuing loans, selling and purchasing bonds, discounting bills and government securities.

<sup>30</sup> On this subject, it is worth consulting A. Sauvy, vol. 1, p.122. In statements reported at the time, the aim was « not to rob small investors ».

- *the issue of treasury bills* in May 1932 : in the view of the financial markets this confirmed that the government was giving up the balanced budget target. A risk premium was instantly added to the long term interest rate<sup>31</sup> (see P.C. Hauceur (1993)).

The crisis of confidence crisis in the state signified that small investors and banks did not buy the rent except at high interest rates, if not they preferred savings deposits (M3-M2 in Table 4) or central money (see Graph 4). In the same way, they turned away from shares, the yields of which were smaller than those of loans (see Table 2 and A. Sauvy, vol 1, p. 127). This shift was increased by the fact that the government increased the ceiling of savings deposits, and that it paid for these deposits at a higher interest rate than the discount rate<sup>32</sup>. In a way, the Bank of France implemented a more restrictive monetary policy than is shown by the discount rate. However, as the *Caisse des Dépôts* was in charge of managing the savings-bank, it used to negotiate a large part of its resources in bonds in the financial market. It could thus, by buying or selling rents and treasury bonds, have lowered the long term interest rate. Since this decrease is not observed, the increase in the long term interest rate must be explained by a third hypothesis.

(iii) *The conflicts between the monetary institutions and the state* : these conflicts developed in three peculiar circumstances :

- On September 1932, during the exchange of rents and consols, the Bank of France refused the government a monetary advance to fund the operation.

- In 1933, the Bank of France refused to discount treasury bills unless they corresponded to real operations<sup>33</sup>.

- By permanently fixing a ceiling on the discount (repurchase) of treasury bills, the Bank of France constricted the short run financing of government and pushed it to ask the *Caisse des Dépôts* to take a place in these operations. The latter did so from 1932 onwards. In 1933, the Treasury had to borrow from the English banks, which made the long term interest rate climb again<sup>34</sup>.

Would have it been possible to implement an expansionary policy ? It is sure that, during a period of mistrust of rents (fear for taxation and inflation), buying treasury bills or repurchasing « bons de la défense nationale » (a sort of treasury bill) could have allowed the government to finance at a lower interest rate. Moreover, it could have allowed the banks to offer a lower interest rate to firms, which could have favoured private investment. Nevertheless, the most efficient measure would have consisted of

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<sup>31</sup> Average interest rates on rents increased from 4.67% in April 1932, to 4.97% in May 1932 and to 5.15% in June 1932 (sources : P. Villa (1994)).

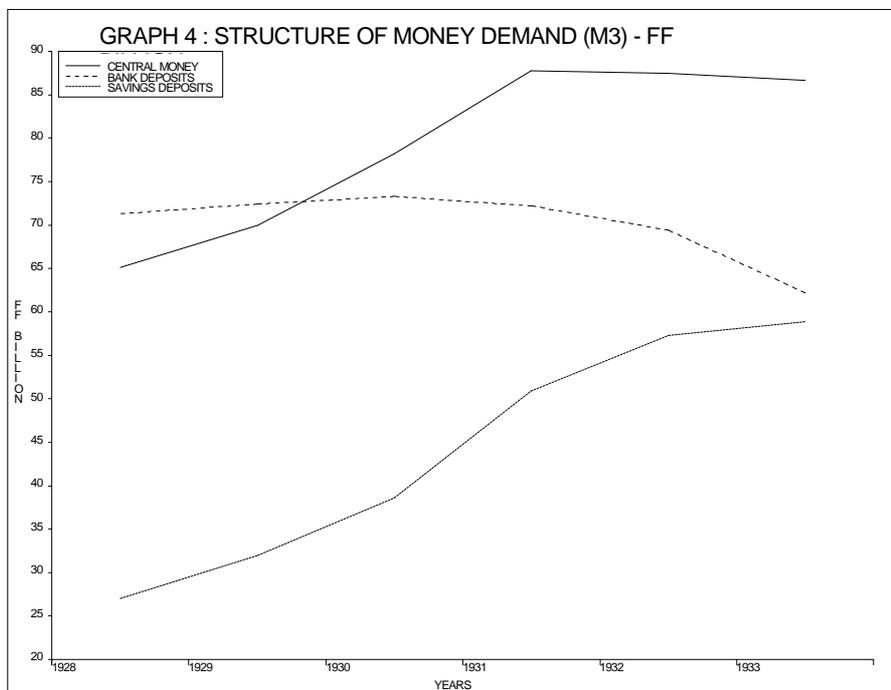
<sup>32</sup> Ceilings of the savings deposits increased from FF 2000 to 20,000 francs for individuals, and were set at FF 100,000 for firms in April 1931. The interest rate fluctuated between 3.25 % and 3.50 %, with a discount rate amounting to 2.5%.

<sup>33</sup> Must this behaviour be seen as a reappearance of the real bill doctrine, or more probably the willingness not to finance public deficits, because they could be « bad » money ?

<sup>34</sup> See P.C. Hauceur, p. 110-111.

lowering short run interest rates<sup>35</sup> in order to reduce the banks' interest rate and the long term interest rate. But such a policy came up against two doctrines : the balanced budget doctrine and the supply doctrine. Thus, in 1932, the Bank of France refused to lower the discount rate on the pretext that this would have allowed firms to maintain production levels, at a time when the outlets for trade were limited. It is impossible to be more anti-Keynesian at a time of demand weakness.

*Graph 4.*



However, this chilly monetary management did not have only drawbacks, since no banking crisis occurred in France. The mistrust of the private sector to banks began in 1930, with deposit withdrawals inside the banking system, from small banks to larger ones. It was followed by substitutions of high powered money (bank-notes) and of savings deposits for bank deposits, as of 1931 (see Graph 4). Nevertheless, no banking crisis took place. First, banks going bankrupt were few and were redeemed without loss for the depositors. But, in particular, the banking system as a whole, was always very liquid in France. In the first place, deposits always exceeded credits (see Table 4). Second, the discount of real bills by the Bank of France (discount window) was small. Lastly, banks used to buy public rents, treasury bonds and gold with their exceeding liquidities, rather

<sup>35</sup> The discount rate and the rate on savings deposits.

than shares and bonds of the private sector. They thus did not suffer great losses after the fall of stock exchange prices (see Tables 2 and 4). On the other hand, their liquidity, measured by the ratio loans/deposits did improve from 1930 to 1933<sup>36</sup>. This evolution cannot be explained by the decrease of credit supply connected with a banking crisis, which could have broken the information structures, which allow lenders to select borrowers - as it is suggested in Bernanke (1983) - because bank failures were the exception. This comes basically from the decrease of demand for bank credits, which is related to the fall in investment and the excessively high, real interest rates. Thus, only a policy lowering the interest rate could have had an impact on investment<sup>37</sup>.

On the other hand, the safety of deposits and of their income allowed consumption to play a counter-cyclical part, as opposed to what was observed in the US (C. Romer (1990)). Money was the main form of savings and the rise in the value of the real money stock increased the propensity to consume and reduced the savings which were traditionally devoted to restoring the money stock eroded by inflation<sup>38</sup>.

Thus money did not magnify the Depression as in the US, but the monetary policy was procyclical by increasing real, short term interest rates. But the spread between long and short term interest rates increased from 1931 onwards, because the financial sector mistrust the government, which did not succeed in balancing the budget. This was procyclical. Had the government balanced the budget, the depression would have deepened. All happened as if the government had to manage a credibility-deflation trade-off. The high real interest rates, without any banking crisis, explain why the Gold Standard did not collapse from the beginning (since 1932) in France, despite an overvalued exchange rate, a fact on which all economists agree.

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<sup>36</sup> The ratio credits/deposits of the four main commercial banks goes from 0.90 in 1930 to 0.78 in 1933. In 1931, during the failure of Adam bank (the Loustric case), the balance sheet of these four banks is as follows : liabilities : deposits : FF 38 bn. , reserves : FF 3 bn.; assets : gold : FF 13 bn., discount of private and public bills : FF 18 bn. , loans to firms : FF 10 bn (C. Rist (1937)). It is difficult to go bankrupt with such a balance sheet !

<sup>37</sup> Econometric estimates (see Villa (1993)) show that the decrease in aggregate demand explains almost completely the fall of firms investment. The remainder is due to the decrease in profitability, that is the ratio : profits/user cost of capital.

<sup>38</sup> See Villa(1996) for estimates of the consumption function over this period.

## CONCLUSION

During the inter-war period, between 1926 and 1933, economic policy in France was not managed according to some internal targets, but rather by two doctrines : « the balanced budget doctrine » and the « the stabilisation of credit conditions doctrine ». The latter aimed basically at maintaining the nominal cost of credit constant and at providing liquidities to the banking sector and to firms. The Bank said it had to fight against « managed money ». This assertion can be understood as a mix of the « real bill doctrine », which suggests to discounting only bills corresponding to real operations, and to the Wicksellian theory of the interest rate, the long term interest rate being determined by the short term one, to which a risk premium for inflation, exchange rate depreciation and illiquidity is added. After an exchange rate crisis in 1926, the economic authorities did not want to diverge from these two principles.

Until the late entry of France into the Depression in 1931, these doctrines expressed themselves through a restrictive fiscal policy and a neutral monetary policy, which was actually rather expansionist if one looks at real interest rates. So, *ex post* and *de facto*, the chosen policy-mix proved effective in fighting inflation and to boosting growth, because it induced an appreciation of the real exchange rate, which was at a low level in 1926, and because it allowed labour costs to decrease and the purchasing power of wages to increase.

But this policy was unconscious, so that the doctrines did not change after the entry into Depression in 1931. The uncertainty about the gold value of the franc and the public debt (even though the gold/central money ratios were far greater than the 35% official percentage required), expressed itself in the risk premium on the long term interest rate. At the same time, the budget deficits were not desired, and the government tried constantly to reduce them, and this sent wrong signals to the private sector about the depressed aggregate demand for goods.

So it was not a special and mal-functioning Gold Standard in France which induced the gold inflow into France, and exported Depression abroad. Rather it was a misunderstanding of the efficiency of fiscal policy compared with monetary policy. Two lessons can be drawn from this period. The first is that coordination might have improved the situation. But, it should have been recognized that, until the end of 1930, France was at full employment, as was not the case of the US and the UK, and that the exchange rate policy and fiscal policy were more efficient than monetary policy, and finally that monetary policy should also be pegged to the real interest rate (GDP growth) and the public debt trade-off. The second lessons is that the coordination of economic policies require some freedom. Before 1931, France had to implement a restrictive fiscal policy and a rather neutral monetary policy, while the US and the UK had to launch expansionist fiscal and monetary policies. The opposite was true during the 1931-1933 period, when France should have adopted an expansionary monetary policy. But these coordinated policies are difficult to use when they are constrained by prudential ratios like the Gold Standard, gold to money ratios, or the fiscal budget deficit and the debt to GDP ratios of the Maastricht treaty. Prudential ratios and their consequences on credibility are inconsistent with coordination.

**APPENDIX**

**The model of simulation of Poincaré's policy**

Aggregate demand

$$y = g + cy - \mathbf{t}i - a(w - p) + b$$

Wage-price loop

$$w^d = p + w_o$$

$$w = \mathbf{m}w_{-1} + (1 - \mathbf{m})w^d + \Phi y$$

$$p^d = \mathbf{q}w + (1 - \mathbf{q})(p^* + e) + p_o$$

$$p = \mathbf{l}p_{-1} + (1 - \mathbf{l})p^d + \mathbf{V}y$$

Trade balance

$$b = m(y^* - y) + \mathbf{m}d(p^* + e - p)$$

Expectations of the nominal exchange rate

$$\dot{e}_t^a = e_t^a - e_t = \mathbf{n}(\bar{e} - e_t)$$

Imperfect substitution of foreign assets

$$i_t = i_t^* + \dot{e}_t^a - \frac{1}{f}F_t$$

Balance of payments

$$F_t = F_{t-1} + (i_t^* + \dot{e}_t - \dot{p}_t)F_{t-1} + b_t$$

Reaction function of monetary authorities (interest rate policy)

$$i_t = i_{t-1} + \mathbf{a}(y_{t-1} - \bar{y}) - \mathbf{b}(F_{t-1} - \bar{F})$$

Name of variables

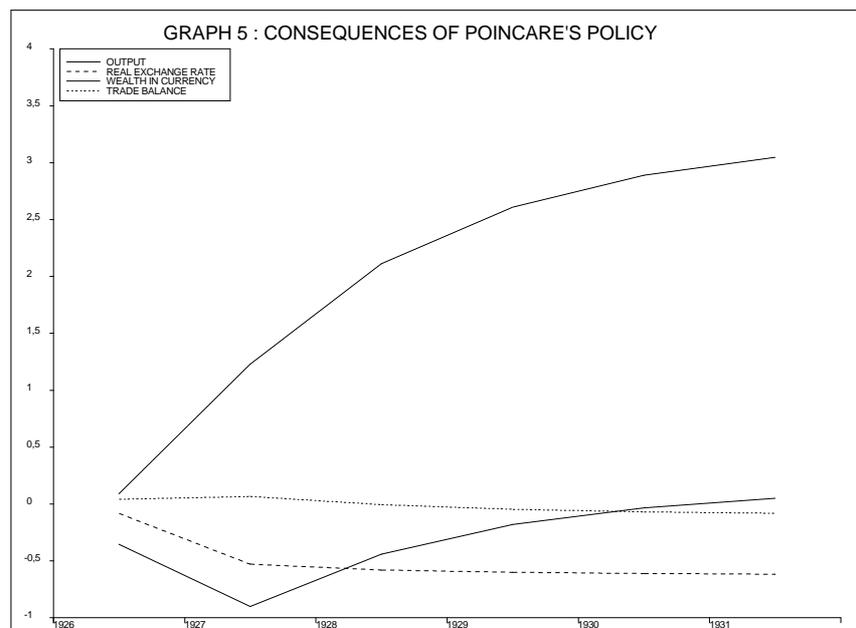
$y$  : production,  $p$  : price level,  $p^d$  : desired price level,  $w$ : wage,  $w^d$ :desired wage,  $p^*$  : foreign price level,  $e$ : effective nominal exchange rate,  $y^*$  : foreign output : all these variables are in logarithm.  $g$  : public expenditure,  $b$  : trade balance,  $F$  : wealth in foreign currency : all these variables are a share of GDP.  $i_t$  : nominal french interest rate and  $i_t^*$  : nominal foreign interest rate, these variables are levels in pourcentage.  $\dot{e}_t, \dot{p}_t$  and  $\dot{p}_t^*$  are the rate of change of  $e_t, p_t$  and  $p_t^*$ .  $\bar{e}$  is the equilibrium exchange rate.

The interest rate is given by a reaction function in which the monetary authorities try to stabilize output and external wealth in foreign currency.

The model has been estimated on interwars data between 1921 and 1938 by OLS. The values of parameters are the following :

$$c = 0,70, \quad a = 0,40, \quad t = 0,37, \quad f = 1, \quad V = 0,37, \quad j = 0,67, \quad m = 0,145, \\ d = 0,83, \quad q = 0,77, \quad l = 0,70, \quad m = 0,70, \quad n = 0,80, \quad a = 1, \quad b = 2$$

The following graph shows a simulation of the restrictive fiscal policy of Poincaré. Public expenditure has been lowered of 2% permanently form 1926 to 1931.



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**Table 1**  
**The stabilisation of the franc**

	<b>1925</b>	<b>1926</b>	<b>1927</b>	<b>1928</b>	<b>1929</b>	<b>1930</b>	<b>1931</b>
Public deficit/GDP (in %)	-2.37	2.09	2.04	-0.17	1.92	1.66	-1.00
taxes/GDP (in %)	12.6	14.6	15.6	16.0	15.7	15.2	16.1
trade balance /GDP (in %)	1.12	0.65	1.10	-0.07	-1.58	-2.13	-2.90
foreign interest income/GDP (in %)	0.61	0.85	0.67	0.84	1.30	1.25	1.04
nominal effective exchange rate(1)	0.59	0.76	0.61	0.62	0.62	0.62	0.61
real effective exchange rate(1)	1.00	1.15	0.88	0.90	0.87	0.80	0.73
purchasing power of wages (base 1 in 1928)(2)	1.04	1	0.93	0.98	1.05	1.08	1.09
real unit wage costs(base 1 in 1928)(3)	1.02	1	0.92	0.96	0.92	0.92	0.86
growth differential(in %)(4)	-2.0	-2.0	-10.4	3.8	6.4	6.3	5.8
long term interest rate difference(in %)(5)	4.7	4.2	2.0	0.9	0.3	-0.6	-0.8
profit rate including dividends(in %)	15.0	14.3	13.5	14.3	13.7	12.7	10.7
stock issues (billion of F.)	5.4	6.0	7.9	14.8	16.9	10.6	5.1
private bonds issues (billion of F.)	2.0	2.5	5.7	5.4	10.2	14.5	9.1

*Sources : Villa (1994) , base 1938 except when it is specified.*

*(1) weighted exchange rates of the 6 main competitors of France.*

*(2) related to the consumer price index.*

*(3) related to the GDP price index.*

*(4) growth difference between France and its six main competitors (The UK, Germany, Italy, Belgium, Switzerland and the US).*

*(5) France minus the UK (public debt and consols).*



**Table 4**  
**The money-counterparts equilibrium.**

FF billions	1926	1927	1928	1929	1930	1931	1932	1933
M3(1)	122	141	165	177	192	213	216	210
M2(1)	107	120	138	145	154	162	159	151
of which : central bank money (including postal deposits)(1)	56	60	65	70	78	88	87	87
gold and foreign reserves counterpart of M2(2)	10	33	64	67	79	91	88	78
government financing counterpart of M2(3)	59	45	12	11	9	16	26	25
banks loans counterpart of M2(1)	38	42	62	67	66	55	45	48
of which : refinancing of banks by the central bank(4)	6.5	3.9	4.6	8.4	8.4	6.9	3.2	4.1
variation of private reserves (gold and foreign currencies)(5)	13.1	-8.6	-5.0	4.8	-6.8	-27.2	-2.4	0.7
variation of public reserves (gold and foreign currencies)(5)	-1.5	15.2	13.2	3.4	7.1	12.1	-0.8	-2.7
current account (6)	10.4	5.8	8.7	8.9	2.0	-4.0	-1.6	-3.0
French private bonds and shares issues(7)	8.6	13.6	20.2	27.1	25.1	14.2	16.2	10.2
public debt in French currency(1)	290	299	289	282	282	284	276	304
nominal GDP(1)	331	343	356	400	392	366	316	313

Sources : (1) Villa(1994), money stock held by residents, excluding Treasury deposits at the post offices.  
(2) Bulletin de la SGF (1901-1931) and (1929-1939), including appreciation of gold and foreign currencies. According to the law of 1928, the Gold/Central Money ratio should not be lower than 35%. It is obvious from the computations reported in this table that, from 1927 onwards, there was room for an intervention on the foreign exchange market, because reserves exceeded the ratio. But this impression stems from the view of the Gold Exchange Standard, because foreign reserves in currency are added in the counterparts.(3) Patat-Lutfalla (1990), appendix, but excluding Treasury deposits at the post offices.(4) Bank of France balance sheets.(5) Rist-Schwob (1939) and Sicsic-Villeneuve (1993).  
(6) Rist-Schwob.(7) Marnata.