

**Pioneering Price Level Targeting:  
the Swedish Experience 1931-37**

by

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# **Pioneering Price Level Targeting: the Swedish Experience 1931-1937**

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## **Abstract**

In September 1931, Sweden became the first country to make the stabilization of the domestic price level the official goal of its monetary policy, actually the only country that so far has adopted such an explicit price level target. Starting from the issues and concepts familiar from research and policy experience in the 1990s of inflation targeting - as contrasted to price level targeting - this paper examines the evolution of the Swedish price level targeting in the 1930s. We bring out a number of similarities and differences between price stabilization in the 1930s and in the 1990s.

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## Pioneering Price Level Targeting: the Swedish Experience 1931-1937

### 1. Introduction<sup>1</sup>

Late in the evening of Sunday September 27th 1931, the Swedish Minister of Finance announced on behalf of the Government that the Riksbank was relieved from its legal obligation to convert its notes into gold on demand. After explaining the developments leading to this step, the Minister stated that the policy of the Riksbank should "now be aimed at, using all means available, preserving the domestic purchasing power of the Swedish krona."

By this statement Sweden became the first country to make the stabilization of the level of domestic prices the official goal of its monetary policy; actually the only country that did so in the interwar period. According to contemporary economists, Sweden adopted Knut Wicksell's program of price stabilization. In modern parlance, the Riksbank became the first central bank to introduce price level targeting explicitly. To our knowledge it remains the only central bank that has taken such a step so far.

This paper analyzes the evolution of the Swedish experiment of price level targeting in the 1930s.<sup>2</sup> The paper is organized in the following way. First, we explain why price level stabilization was made the norm for monetary policy by accounting for the events leading up to the September 1931 declaration. Second, following a brief account of Swedish economic performance in the 1930s, we account for the development of the monetary program of September 1931 from its start until 1937. Finally, we conclude.

The recent international experience of inflation targeting - as contrasted to price level targeting - is the main source of inspiration for our study.<sup>3</sup> We thus base our analysis on issues and concepts familiar from present research and debate on the proper conduct of central bank policy. Consequently, we look upon the

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<sup>1</sup> We would like to thank Klas Fregert, Carl-Göran Lemne and Lars Svensson for constructive suggestions. Jesper Hansson and Lena Lindhe has skillfully assisted with the construction of the charts. We also thank Ann-Christine Högberg för secretarial and editorial assistance.

<sup>2</sup> The term experiment pertaining to the monetary program was used by Ohlin (1933, 1934) and Lester (1939) among others in the 1930s.

<sup>3</sup> For surveys on the inflation targeting of the 1990s see Haldane (1995), Leiderman and Svensson (1995) and Bernanke and Mishkin (1997) among others.

Swedish experiment of price level targeting in the 1930s from the perspective of the experience of inflation targeting in the 1990s.<sup>4</sup>

A price stability target can serve as a nominal anchor, aiming at coordinating inflation expectations as well as providing a commitment mechanism to avoid the time-inconsistency problem of monetary policy, see e.g. Mishkin (1998). The modern view on optimal delegation of monetary policy may be summarized in three recommendations. First, the political authorities should define a clear goal for monetary policy, preferably price stability. This goal should be given a legal backing. Second, the central bank should be given operational independence in order to be able to fulfil the goal assigned by the political authorities. Third, the central bank should be held accountable to the political bodies for the conduct of monetary policy.

When discussing Swedish monetary policy in the 1930s we are interested in a number of issues associated with the modern view on monetary policy and central banking. Which body introduced the target for monetary policy? How was price stability defined by the Swedish authorities? Which price indices were used? How was the target date set? Was the Riksbank given operational independence? Which was the role of public announcements to influence expectations by the public? Were there any changes in central bank legislation? Did monetary aggregates play a role? How was the program of price stabilization monitored by the parliament and other observers? Was the Riksbank held accountable for the behavior of prices and other economic variables? Are there any lessons for the implementation of inflation targeting today? Is there anything essential in today's inflation targeting that was overlooked by the Riksbank in the 1930s?

In our opinion, the 1930s was a period of trial-and-error in monetary policy framing involving the Riksbank, the Banking Committee of the Parliament (the Riksdag), the Government, more precisely the Ministry of Finance, and the economics profession as well as other actors - quite so because the Riksbank and its principal, the Riksdag, had no previous experience of price level targeting. Being pioneers in this field, the monetary authorities had to learn how to design a policy of price stabilization.

The Swedish experience of price stabilization in the 1930s may therefore also be related to the recent literature on learning processes and changes in monetary policy regimes, as well as to the literature on

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<sup>4</sup> The Swedish monetary program of the 1930s as well as the work on monetary rules by Swedish economists like Knut Wicksell, David Davidson and Erik Lindahl attracted a considerable interest internationally in the 1930s. See Fisher (1935, 1937) and Lester (1939) among others. It was "rediscovered" as part of the impact of monetarism and monetary history in the Friedman and Schwartz (1963) spirit in the 1970s, see Jonung (1979b) and (1981). The present debate on inflation targeting and on rules versus discretion has contributed to a new interest in the Swedish 1930s. See for example Johnson and Keleher (1996).

inflation targeting.<sup>5</sup> Our account demonstrates how new problems, new events, new policy priorities and new theories concerning monetary and fiscal policies induced policy-makers to adjust and develop the monetary program of 1931 and - eventually - to incorporate it into a broad program of stabilization policy.

## 2. The adoption of the monetary program of price stabilization 1931-32

### 2.1. Forces behind the adoption

Why was price stabilization adopted as the guide for Swedish monetary policy in 1931? Two major forces were at work here: first, the influence of the economics profession on policy-makers due to its strong position in Swedish society, and, second the monetary experience of World War I and the 1920s of high inflation and sharp deflation as interpreted by contemporary observers.

The academic economists provided the major source of inspiration. In 1898 Knut Wicksell gave a talk at a meeting of the Swedish Economic Association presenting for the first time his view that price level stabilization should be the proper aim of central bank policy. Wicksell founded his policy recommendation on the theoretical work of his German tract Geldzins und Güterpreise, translated into English as Interest and Prices, Wicksell (1965).

Wicksell's rule for the conduct of monetary policy was a simple one: the central bank should raise its discount rate as long as prices were rising, lower it as long as prices were falling and keep it constant when the price level was stable. The key to price stabilization was thus found in the discount rate. This was the essence of the "cumulative process" as Wicksell's theory was later termed. Price stabilization was thus accomplished by interest rate policy. Monetary aggregates like the volume of credit, the monetary base, bank reserves or the stock of money did not play any major role in this framework. In addition, Wicksell's scheme required a "free standard", that is a monetary system based on an inconvertible paper standard.

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<sup>5</sup> See King (1996), Bordo and Jonung (1998) and Sargent (1998). Sargent suggests an alternative to delegating monetary policy to an independent central bank with a legislated price stability goal. An adaptive model may open the way for a government to learn from past attempts to exploit the Phillips curve thereby eventually discovering a version of the natural rate hypothesis that instructs it to reduce inflation. See also Jonung (1998) examining the evolution of Swedish stabilization policies 1970-1995 as a short-sighted learning process based on negative learning.

Wicksell's proposal met hardly with any interest during the classical gold standard prior to the outbreak of war in 1914. David Davidson was the exception. In an academic exchange, reviewing Geldzins und Güterpreise in Ekonomisk Tidskrift, Davidson challenged Wicksell's norm of monetary policy, proposing that prices should fall in proportion to the growth in productivity. Wicksell replied but no consensus emerged on this matter. Rather, the two proposals have remained contestants in Swedish monetary debate since then. Later, Erik Lindahl became an ardent proponent of Davidson's norm which he elaborated on in the 1920s.<sup>6</sup>

Sweden followed the international pattern of leaving the gold standard at the outbreak of World War I. A paper standard was introduced and high inflation occurred, primarily at the end of the war. In the early 1920s a return to the gold standard at the prewar gold parity became the official goal of monetary policy, requiring a sharp deflation. The subsequent fall in prices contributed to a rapid rise in unemployment, huge output losses and social unrest.

As a result of the sharp fluctuations in Swedish prices, unemployment and production, the discussion of the policy of the Riksbank became exceedingly lively in the years prior to the re-establishment of the gold standard in the 1920s. Because of this exchange of ideas on monetary policy - to which the economists as well as representatives from the Riksbank and business contributed - the Swedish public became well acquainted with various monetary norms.

The economists held a strong position in public debate, highly respected and successful in a way difficult to apprehend today.<sup>7</sup> Gustav Cassel had his greatest impact in the 1920s, being regarded as the most influential economist in the world before being eclipsed by John Maynard Keynes in the 1930s.<sup>8</sup> An American observer noted that the Swedish public became "price-level minded" due to the energetic journalistic activity of the economists.<sup>9</sup> The strong position of the economics profession eventually paved the way for the adoption of the monetary program of 1931.

The second major force accounting for the price stabilization program was the monetary experience of the 1920s. Most Swedish economists were in favor of a return to the gold standard at the prewar parity in the early 1920s. They simply could not envisage the deep depression, the output losses and the rise of

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<sup>6</sup> For a modern interpretation of Lindahl's views see Fregert (1993).

<sup>7</sup> The lively journalistic activities of the first generation of Swedish economists are described in Magnusson (1993).

<sup>8</sup> Cassel's address to the US Congress in 1927 is often regarded as the zenith of his career.

<sup>9</sup> See Lester (1939, p. 226), where he also stated: "In Sweden academic economists probably enjoy more respect and influence with the people and the government than anywhere else in the world."

unemployment associated with the deflation process. In addition, unemployment remained at a high and persistent level throughout the 1920s. These events undermined the legitimacy of the gold standard and opened for a discussion of alternative monetary arrangements and policy norms. Swedish economists, notably Gustav Cassel, once a supporter of the gold standard, became critical of the workings of the interwar gold standard.

The world-wide depression starting in 1928 and manifested in falling prices and rising unemployment undermined the standing of the gold standard within academic circles in Sweden. When the depression hit Sweden in 1931 the ground was laid for the acceptance of alternatives to the gold standard. The depression became in this way a window of opportunity for the proponents of price stabilization.

## 2.2. The program of 1931

The full impact of the depression hit Sweden in 1931 through falling exports and a drain on its foreign reserves. Bank failures in Central Europe contributed to capital outflows from Sweden. When the Bank of England made its notes inconvertible to gold on September 19, 1931, speculators attacked the krona. In the following week the foreign holdings of the Riksbank declined rapidly. The Riksbank tried to obtain long term financing from New York and Paris to stay on gold but failed.

As a consequence of the speculative attack, the Board of the Riksbank asked at the end of the week the Government for permission to make Riksbank notes inconvertible into gold, evoking the escape clause in the constitution. The escape clause, as amended in 1915 after the gold suspension of 1914, allowed the Riksbank to suspend the gold convertibility of its notes in case of "severe money crises"<sup>10 11</sup>

In anticipation of the request by the Board, the Minister of Finance, Mr Felix Hamrin, turned to Gustav Cassel on Saturday September 26 asking him to prepare a statement concerning the monetary position of Sweden to be used by the Government. Cassel accepted this task, toiling with it into the night, sending his proposal to Hamrin by messenger late Saturday.

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<sup>10</sup> From 1931 until 1974, the Riksdag granted annually the Riksbank exception from the requirement of redeeming its notes into gold. In 1974 the constitution was changed, cutting the link between gold and Riksbank notes. This step marked the end of the gold standard in Sweden from a purely legalistic point of view. See Fregert and Jonung (1996).

<sup>11</sup> The gold suspension of 1931 was the first and only occasion when the notes of the Riksbank were made inconvertible in a legal sense; all other suspensions have been illegal. See Fregert and Jonung (1996).



On Sunday September 27 the Government met to decide on the request of the Board of the Riksbank. Basically, it had no choice but to allow the Riksbank to leave the gold standard as the foreign reserves were depleted. In the declaration made public Sunday evening, the Minister of Finance, Felix Hamrin, first explained the chain of events leading to the decision of gold suspension. He put the blame on foreign developments and argued that the public finances of Sweden were in good order.

At the end of the declaration, the monetary program of price stabilization was announced; the domestic purchasing of the krona should be preserved "using all means available"<sup>2</sup>. Apparently it was an economist, Gustav Cassel, who was instrumental in putting price stabilization into the announcement of the Swedish government demonstrating the influence of the economics profession on policy-making<sup>3</sup>.

### 2.3. The program of 1932

The new monetary policy goal was covered by one sentence in the declaration of September 27th, 1931, Thus, it was far from a complete program for monetary policy. It became the starting point for eight months of deliberations by the Board of the Riksbank, the work of three eminent monetary economists and the Banking Committee of the Riksdag which was supervising the Riksbank, and public debate on monetary issues, before a more developed program was finally confirmed by the Riksdag (the Parliament) in May 1932. It may be summarized in five major points:

1) An immediate return to gold or a peg to the British pound should not to be considered, that is Sweden should maintain a flexible exchange rate for the krona for the time being. Efforts to control the value of the krona should start from the domestic price level and the "needs of Sweden's economy".

2) Continued deflation should be resisted just as strongly as the inflation was resisted that was expected when Sweden abandoned the gold standard.

3) Some recovery in prices would be desirable, though not a return to a "too distant" price level. Even domestic prices should be allowed to rise, not just export and import prices, provided this did not appreciably affect the cost of living. Price increases due to higher custom duties should be accepted as consistent with the monetary program.

4) Monetary policy should not be tied schematically to a particular index figure. Conducting monetary policy in the interest of the entire country involved considering so many factors that "a formal and simple rule" for monetary policy did not appear feasible.

<sup>2</sup> Record of financial matters, done before the King-in-Council at Stockholm Palace on 27th September 1931.

<sup>3</sup> The above description is taken from the autobiography by Cassel (1941, p 285). Cassel noted that Hamrin did not show him any appreciation for this work. We cannot rule out that Hamrin used other advisors as well. Lester (1937, 1939) stated that Heckscher prepared Hamrin's statement. Most likely, Hamrin was influenced by both Cassel and Heckscher. The full account of the monetary program of 1931 remains to be written.

5) It was generally desirable that domestic interest rates were kept as low as was conceivably possible without jeopardizing the monetary policy objective.

In June 1933 the Riksdag approved a revised version of the monetary program. The major additional recommendation was stated in the following way:

6) The choice of means for reaching the monetary policy objective should rest entirely with the Riksbank, and the Riksbank should be allowed such liberty of action as is required for this purpose.

### 3. Swedish Economic Performance in the 1930s

As the monetary program as well as the evaluation of the program evolved was strongly influenced by actual economic events, we describe briefly the behavior of some major economic aggregates such as prices, interest rates, exchange rates, unemployment and production in the 1930s prior to World War II. This account of the depression in Sweden serves as a background for the subsequent analysis of the evolution of the program of price stabilization.

Prices. A major part of the contemporary discussion of the monetary program focussed on two price indices and their relationship: the consumer price index of the Riksbank that the Bank started to compile in the fall of 1931 and the whole-sale price index available from World War I. These indices, displayed in Chart 1 for the period 1928-1938 with September 1931 as the base equal to 100, show roughly the same long-run pattern, falling from 1928 until 1932-33 and then turning upwards. (The consumer price index is proxied by the cost-of-living index for 1928-30 in Chart 1.) The secular fall and rise in consumer prices, however, is much smaller than the movements in wholesale prices.

Wholesale prices fell sharply from January 1928 to September 1931, reflecting the effects of the international deflation transmitted to Sweden through the workings of the interwar gold standard. The deflationary process was halted by Sweden leaving the gold standard and adopting a "free" standard in September 1931 - just as envisaged in Hamrin's declaration of September 27th, 1931. Wholesale prices subsequently remained roughly constant, with a minor decline, until the spring of 1933. From then on they began a gradual rise, accelerating in 1936-37, then falling in 1937-38.

The consumer price index exhibited, judging from Chart 1, a stable long-run pattern. Consumer prices declined on average in 1931-33 followed by a gradual rise from then on. The index fluctuated considerably less than wholesale prices within a band of less than 3 percentage points around the base

level of 100 for September 1931 during the period 1931-36. During 1937 consumer prices rose by almost 5 per cent. Then the CPI remained stable prior to the outbreak of World War II.

The rate of change in the two price indices, shown in Chart 2, demonstrates that wholesale prices exhibited greater volatility than consumer prices. It also indicates that price stabilization as carried out by the Riksbank was not identical to a zero rate of consumer price inflation in the 1930s on a monthly basis. These movements in consumer and wholesale prices were influencing the design of the monetary program as well as the actions of the Riksbank as seen below.

Exchange rates. Contemporary commentators on monetary matters paid much attention to the behavior of exchange rates. Actually, the protocols from the meetings of the Board of the Bank reveal that the Bank was preoccupied primarily by the behavior of the pound rate but also of the dollar rate. The pound rate, as shown in chart 3, fell below the gold parity rate of 18.15 kronor during the fall of 1931. It rose sharply above the gold parity rate at the news of the death of Ivar Kreuger in early March 1932, declining in the Fall of 1932. After a rise in the Spring of 1933, the Riksbank pegged the krona to the pound in July 1933. The peg was maintained until the outbreak of World War II, signifying Sweden's adherence to the Sterling bloc that evolved after the gold suspension of 1931 by the Bank of England.<sup>4</sup>

The dollar rate rose sharply after Sweden left gold, reached a peak in the Fall of 1932 and fell back almost to the gold parity level after the US left the gold standard in the Spring of 1933. The krona remained then depreciated relative to the currencies that were on gold.

Interest rates. Swedish interest rates followed relatively closely the UK rate as seen from Chart 4. When the link between the krona and gold was severed in September 1931, the Riksbank raised its discount rate from six to eight per cent out of fear of inflation. It was subsequently lowered, albeit at a slower pace than the UK rate, reaching 2,5 per cent in 1934 where it remained until the outbreak of World War II.

Unemployment and production. The rate of unemployment rose sharply starting in 1930-31, peaking in the Spring of 1933, see chart 5. Unemployment remained high, although falling, during the 1930s. Production, in particular within the export sector, declined sharply during the depression. Real income fell in absolute terms during two years, 1932 and 1933.

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<sup>14</sup> The Scandinavian countries as well as members of the British empire among other countries belonged to the Sterling bloc or Sterling area in the 1930s.

Compared to most other countries, in particular those that stayed on gold, the Swedish economy fared relatively well during the 1930s.<sup>15</sup> While industrial production, as shown in chart 6, in Sweden fell by 21 per cent in 1929-32, the decline in the US was 46 per cent. The corresponding numbers for the decline in real income are 9 and 22 percent, respectively.<sup>16</sup> The Swedish recovery 1933-38 was remarkably strong as well.

#### 4. The Evolution of the Monetary Program 1931-37

The Riksbank was facing a new task after the gold suspension in September 1931; that of implementing a program of price stabilization. It had no prior experience, nor any foreign examples to use as guidance. It simply lacked knowledge about the proper conduct of monetary policy under a "free standard" – as Swedish commentators described the new monetary regime. At the suggestion of Ivar Rooth, the Governor of the Riksbank, the Board of Directors decided on October 8, 1931 to turn to three renowned economists for advice, Gustav Cassel, David Davidson and Eli Heckscher.

The inquiry of the Riksbank dealt with many questions sorted under three major headings: first, the proper choice of monetary standard for Sweden and the transition to such a standard, second, the proper set of instruments (or means) for monetary policy, and third and finally, any other issues deemed important for the future organization of the monetary system of Sweden. (The questionnaire is displayed in Table A1 in Appendix A.) As the recommendations, given in three separate reports, of the three economists covered most of the issues that were debated subsequently, they are used here as the starting point for our account of the evolution of the monetary program. In addition, the reports most likely influenced the Riksbank in the 1930s. The views of the economists, in particular those of Cassel and Heckscher, were also made known to the public through newspaper articles and other contributions.

As seen from the following account the Riksbank should properly be described as an independent central bank towards the Government in the 1930s.<sup>17</sup> The Riksbank was the bank of the Parliament since 1668 when it was taken over from private interests. The Parliament has throughout history tried to protect the Riksbank from attempts by the executive branch to take control over monetary policy. Since the

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<sup>15</sup> This is a common pattern during the 1930s; countries leaving gold early were hit less severe by the depression. See for example Eichengreen (1992) and Bernanke (1995).

<sup>16</sup> See Table 1 in Jonung (1981).

<sup>17</sup> The independence of the Riksbank in the 18<sup>th</sup> and 19<sup>th</sup> century is examined in Fregert and Jonung (1996) and in the 20<sup>th</sup> century in Haavisto and Jonung (1998).

introduction of the gold standard in the 1870s, monetary policy was solely a matter for the Riksbank, which strengthened the independence of the Riksbank. The Riksbank was headed by the Board of the Riksbank which met weekly. The Board was mainly made up of members of the Parliament, who had no major interest in the daily conduct of the business of the Bank. The Governor of the Riksbank thus held a strong position within the Board.

As mentioned in the introduction, the following description of the evolution of the monetary program in the period 1931-37 is inspired by a number of issues of the present debate on inflation targeting. We examine the views put forth by the Banking Committee of the Riksdag, that supervised the Riksbank, the Board of the Riksbank, the Minister of Finance, the economists and the governor of the Riksbank, Ivar Rooth.

#### 4.1. Was the shift to price level targeting a permanent or a temporary one?

In the 1990s the adoption of inflation targets in several countries has been announced as a permanent shift of the monetary policy regime, commonly as a reaction of disappointment with the macroeconomic performance of the old regime. Inflation targeting thus represents a move from regimes based on fixed exchange rates, monetary targeting or high inflation to a regime of low inflation or price stability as defined as inflation within a range from zero to 3 percent annual inflation. Much effort has been spent at creating credibility for the new regime of inflation targeting and reduce expectations of return to high inflation.<sup>18</sup>

The introduction of the price level target in 1931 was initially viewed as a temporary - not a permanent - step by the Swedish policy authorities. When the Minister of Finance announced the new monetary policy goal on 27 September 1931, he declared that the divorce from gold was not to be a permanent one. On the contrary, a return to gold should be aimed for as soon as the conditions for this were at hand<sup>19</sup>.

About a month later in their replies to the questionnaire of the Riksbank on the future monetary arrangement of the krona, Cassel, Davidson and Heckscher were of the same opinion.

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<sup>18</sup> See for example the contributions in Leiderman and Svensson (1995) on the inflation targeting in five countries.

<sup>19</sup> Record of financial matters, done before the King-in-Council at Stockholm Palace on 27th September 1931.

The three economists recommended that Sweden should maintain a “free standard” based on price stabilization as long as the world monetary system remained disorganized. There should be a rapid and immediate return at existing exchange rates to a gold standard or to an international monetary system, once international monetary stability had been restored. Initially, they viewed the monetary program of 1931 as a temporary arrangement while the world monetary system was in disarray.

The permanence of the program was considered a few months later by the Banking Committee in February 1932:

"It would, of course, be desirable to be able to draw up a program for the Riksbank's monetary policy that gained as much universal applicability as possible and could apply for a considerable time. But in view of the many elements of uncertainty that still pertain in the situation and the domestic situation's dependence on what may occur abroad, it should be pointed out that *at present any monetary policy program must be said to apply only for the time being*. In the opinion of the Governing Board, the time has not yet come to establish a program for the longer term, constituting guidelines for safeguarding a stabilised currency."<sup>20</sup>

The Banking Committee declared in May 1932:

"Monetary policy since the departure from the gold standard and the Governing Board's actions to maintain the value of the currency seem to call for more detailed treatment, considering for instance that the statements, with which the Government concurs in these respects, could *do doubt acquire the character of guidelines for our monetary policy in the immediate future*"<sup>21</sup>

As the international gold standard gradually dissolved in the 1930s, a return to gold became no longer a viable alternative for Sweden. Instead, the monetary program was maintained and gradually amended in various ways. Some economists actually started to view it as the first step towards a Swedish as well as international adoption of price stabilization as the proper norm for monetary policy - as an alternative to fixed exchange rate systems. This was the case of Irving Fisher (1934) and Erik Lindahl (1937).

However, a younger group of Swedish economists, working within the Stockholm School approach, started to question the price stabilization program on theoretical as well as empirical grounds, eventually suggesting employment stabilization as a superior goal to price stabilization as seen below.

To sum up, the monetary program of 1931 was initially viewed as a temporary one by the government, the economists and the Riksbank. A return to a fixed exchange rate was regarded as the natural step, in particular by the Riksbank. The Riksbank tried unsuccessfully such a return already in November 1931 by

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<sup>20</sup> Banking Committee, Submission 6, February 1932, p. 3, italics are ours.

<sup>21</sup> Banking Committee, Submission no. 40, May 1932, p. 15, italics are ours.

pegging the krona to the pound at the old gold parity rate. The Riksbank made a new attempt in July 1933 that lasted until the outbreak of World War II. See Chart 3.

#### 4.2. How was price stabilization defined?

In the 1990s all countries pursuing an explicit price stability target have chosen an explicit quantitative inflation target, either an interval or a point target, where the center of the interval or the point target varies across countries from 1.5 to 2.5 per cent per year. The target, thus, is set in terms of a rate change rather than of the price level. Several recent papers present arguments for preferring a target in terms of levels rather than rates of change, however.<sup>22</sup>

The price stability target adopted by the Riksbank in 1931-32 was a price level target, in contrast to the inflation target adopted by central banks in the 1990s. A price level target implies that a lower than target inflation rate in one period has to be offset by a correspondingly higher inflation rate in the following period. An inflation target allows "base drift" in the price level: after each period, the actual price level is taken as the base for the inflation target of the next period, even if the inflation target for the base period was not met.

When the Finance Minister announced that monetary policy should be directed at "preserving the domestic purchasing power of the Swedish krona" in September 1931, he wanted to arrest the ongoing deflation as well as calm fears of inflation judging from contemporary comments. It was left to others to choose the norm consistent with "stable domestic purchasing power". From a Swedish point of view, two alternatives existed: either the norm of Wicksell, that is of a stable price level, or the norm of Davidson, that is a falling price level proportional to productivity growth. Both norms consistent with the concept of "price stabilization" – just as a low rate of inflation today is consistent with the concept of "price stabilization".

Which should be the future behavior of the price level once the monetary program was in force? This was the principal issue of monetary policy under an independent standard according to Heckscher's report to the Riksbank. He favored the norm developed by Davidson and later by Lindahl of a price level varying inversely with the growth in productivity. However, Hecksher felt the problem of choosing the proper norm was so complicated that the Riksbank should seek the advice of those who had studied it in great detail.

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<sup>22</sup> See Fischer (1994), Goodhart and Vinals (1994), Dugay (1994) and Svensson (1997).

In his report, Cassel argued that Sweden must have an independently managed paper standard and that there could hardly be any other norm for this standard than the stabilization of the domestic purchasing power of the krona. He stated that the great advantage of the paper standard was that Sweden became isolated from the "destructive" deflation taking place in those countries still on gold. This ability of the paper standard to prevent the world deflation from spreading to Sweden should be regarded as the main reason why Sweden left the gold standard. According to Cassel, this goal had to be determined by the use of a quantitative measure of the purchasing power of the krona. His report suggests that Wicksell's norm should be adopted although he was not explicit on this issue.

Davidson considered two competing monetary norms for a free currency: first, a stable general price level, and second, a norm that - judging from his argument - was most likely the norm presently carrying his name. The first norm had the advantage of being simple and easy to follow for the monetary authorities although it was not the correct guideline for monetary policy in Davidson's opinion.<sup>23</sup>

The three economists all agreed that monetary policy under a paper standard should be focused solely on price stabilization. They did not consider any other goals for the Riksbank such as output or employment stabilization in their reports although written when Swedish industrial production was declining and unemployment was rising dramatically.

Judging from the official documents on monetary policy during the subsequent years, price stabilization was eventually defined as price level targeting. In April 1932 the Governing Board of the Riksbank stated that it was expected that in the first place, as in other countries, the departure from the gold standard would start a process of inflation. The declared monetary policy program was *intended to calm such fears*". On the other hand, the Board said, "the program was intended *to prevent the price level in Sweden from following the downward international price trend*".<sup>24</sup>

In May 1932, the Banking Committee considered the criticism that had been directed at the monetary policy program. On the one hand there had been fairly sharp criticism of the Riksbank's interest rate policy and its credit restrictions, which had been considered to impose excessively heavy burdens on the

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<sup>23</sup> Why did not Davidson recommend the norm now carrying his name? His reply hints at a "better" norm than price stabilization but he argues that knowledge is lacking concerning this norm. Perhaps the decline in wholesale prices preceding the gold suspension of the Riksbank and the deepening of the depression made it difficult for Davidson to suggest a norm that would imply falling prices.

<sup>24</sup> The Board of Directors in a document dated 14 April 1932, cited in Banking Committee, Submission no. 40, May 1932, p. 13, italics are ours.



economy and had been interpreted as representing a deflationary price policy. On the other hand, the starting point for monetary policy had been the desirability of keeping the cost of living largely unchanged. At the same time, however, it had been admitted that the sharp price fall had had harmful effects and the intention had not been to oppose a recovery of the wholesale price level, which for producers was considered of primary importance, provided this recovery was kept within the bounds that would be controllable for monetary policy instruments and did not entail an appreciable increase in living costs.

It appeared to the Banking Committee that the opinions which were put forward from various quarters did not differ so appreciably either from each other or from the program in question—particularly as this was propounded in the Governing Board's document dated 11 February 1932 — that these opinions could not be reconciled with the broad guidelines that were incorporated in the program. The Committee considered that this would no doubt be the case under two conditions: that the Governing Board's statement is elaborated so that an *"equally strong defence is set up against continued deflation as against an originally feared inflation* and that the price recovery referred to *is not envisaged as a return to an unduly distant price level.*"<sup>25</sup>

The Banking Committee also considered in May 1932 that the starting point for efforts to control the value of the krona should be *"the domestic price level and the needs of Sweden's economy."*<sup>26</sup> But from this it did not follow that the program to maintain the domestic purchasing power of the Swedish krona could constitute the sole foundation for these efforts. Neither did the purport of this program by itself appear to be so unmistakable that it could be accepted without further ado as a principle for monetary policy in the near future.

To sum up, price stabilization was eventually regarded as synonymous with Knut Wicksell's norm.

#### 4.3. Which price index was used as target variable?

In the 1990s all countries where monetary policy today is based on an explicit, quantitative inflation target, have chosen the consumer price index (CPI) or a variant of this that excludes volatile components as the target variable. In some countries the target variable disregards effects of political decisions (taxes

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<sup>25</sup> Banking Committee, Submission no. 40, May 1932, p. 18, italics are ours.

<sup>26</sup> Banking Committee, Submission no. 40, May 1932, p. 17, italics are ours.

and subsidies) or monetary policy decisions. Alternatively, a number of factors that should be disregarded in evaluations of the target variable are specified in advance?<sup>27</sup>

In the 1930s the Swedish authorities was facing the choice of proper price index to select as target variable for the new monetary program. In his reply to the Riksbank questionnaire Heckscher's choice was the price of goods domestically produced. As a matter of principle the Riksbank could stabilize an average price level consisting of exports, imports and non-tradable domestic goods. In the prevailing situation this would, however, be to ask "too much" of monetary policy.

According to Cassel, the choice was between the stabilization of either the wholesale prices or of the cost of living. Cassel argued that a stabilization of the cost of living would be favorably received by the general public. He also suggested that a "broader" measure of the purchasing power of the krona than the cost-of-living index should be, preferably computed on a weekly basis. Furthermore, the Bank should adopt this general index as a guide for its policy, paying attention to indices for separate groups of goods only under "special circumstances".

Concerning the selection of price index to be used by the Bank Davidson suggested that "due attention" should be given to every kind of index since so little was presently known about this issue. He advised the Bank to explain in great detail how its price index was constructed because such knowledge would facilitate an analysis of actual price movements. The Bank ought to use its price data for two purposes, first, and most importantly, to measure the impact of monetary policy and, second, to inform the Bank about future developments, that is to use it as an indicator.

The Riksbank started to calculate a consumer price index on a weekly basis after the announcement of the price stabilization norm in the autumn of 1931. The consumer price index was constructed at the statistical department at the Riksbank with the assistance by the board of trade and the Royal Social Board.<sup>28</sup> See Chart 1 and Chart 2.

The aim of the Riksbank index was to register at short intervals in the most generally comprehensible and widely applicable way possible the influence of Swedish monetary policy with regard to the internal purchasing power of the krona, for the information both of the directors of the Bank of Sweden and the Swedish public.

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<sup>27</sup> In New Zealand, for example, the types of shocks that are disregarded are specified in the agreement between the Ministry of Finance and the Central Bank, which explicitly refers to e.g. significant changes in terms of trade.

<sup>28</sup> Information on CPI is from Lindahl (1933).

A weekly table of the whole commodity price system, a weekly index of the average retail prices of consumer goods and of services were produced. The index number was calculated to detect as far as possible both the *origin* of price changes and their importance for agriculture and industry. By comparing various quotations it was possible to decide how far an internal price movement was dependent upon foreign price changes or an alteration in the exchange rate, and to what extent it was founded on internal conditions, for example, on a change in domestic demand. Data were assembled from fifteen localities to show the retail price of goods and services, which were considered representative of consumption within the entire country.

The index was subject to a constant process of re-sampling so as to adjust it to fundamental changes taking place in the commodity and service markets. The components of the index were thus altered as the need for change arose. The weighting of each component part was changed from time to time so as to reflect, as far as feasible, the direction of effective consumer demand.

However, the Board of the Riksbank did not tie monetary policy solely to its consumer price index. In February 1932, the Board of the Riksbank pointed out that when forming its policy in view of fluctuations in the price level the Riksbank could not but take into account the causes of such changes in prices. It was considered essential to determine whether price movements were caused, e.g., by increased tariffs, altered exchange rates or a tendency to inflation on the domestic market which could be looked upon as primary in relation to exchange rates. In any such analysis of price conditions, naturally *other price indices besides the Riksbank's own index of consumer prices will also be taken into consideration*<sup>29</sup>

The citation above clearly indicates that the Board did not want the price norm to be formulated only in terms of the CPI-index. The explicit role of indirect taxes when calculating the index figures was also taken into consideration. For example, in May 1932, the Governing Board noted:

"That the course of registered price movements has followed the Board's guidelines should be evident from the appended table showing the Riksbank's consumer price index. Since December 1931 this index has risen 1.1 per cent, of which about *0.66 percentage points can be considered to have been occasioned by increased customs and excise duties.*"<sup>30</sup>

According to Lindahl, allowable divergences were alterations in indirect taxation, seasonal price changes and other changes of the consumption price level which were not conditional upon the construction of the index number but were of a more fundamental character.<sup>31</sup> The Board of the Riksbank also said that, in

<sup>29</sup> Banking Committee, Submission 6, February 1932, p.2-3, italics are ours.

<sup>30</sup> Quoted from Banking Committee, Submission no. 40, May 1932, p. 14, italics are ours.

<sup>31</sup> In fact Lindahl calculated a measure of the CPI adjusted for seasonal factors and indirect taxes, see Lindahl. (1933).

their endeavor to create as stable economic conditions as possible, it was also taking into account other factors than mere changes in the price level, particularly conditions affecting productivity and stocks in various industries.

Finally, the Banking Committee, in May 1932, formulated the part of the program concerning monetary policy indices, that was to be accepted by the Parliament:

*"In this context it should be underscored that monetary policy should not be rigidly bound by a particular index figure, neither did the Governing Board appear to intend this. In the endeavor to conduct monetary policy in the interest of the entire country so many factors have to be considered that one can hardly have a simple and formal rule Under these circumstances the Committee ... states that the program in question should provide scope for conducting a monetary policy that admits a reasonable recovery of prices while creating safeguards against the dangers associated with inflation in the accepted sense of this term.*<sup>32</sup>

To conclude: On the recommendation of the economists, the Riksbank constructed a consumer price index in order to analyze at short intervals (it was a weekly index) the influence of monetary policy on the internal purchasing power of the krona. This index enabled the public as well as the directors of the Bank to draw their conclusions as to the future development of the price level as stressed by Davidson and Heckscher.<sup>33</sup> The Riksbank also monitored the wholesale price indices published by the commercial banks and the Royal Board of Trade, as well as the price series relating to raw materials. The Riksbank was concerned with temporary factors, like indirect taxes, and seasonal effects, influencing the development of inflation. In many ways, the discussion in 1931-32 is a forerunner to the analysis of measures of underlying rate of inflation in countries pursuing an inflation target strategy today.

#### 4.4. At which level and date should price stabilization start?

In January 1993 when the Riksbank announced its adoption of an inflation target, it also declared a transition period of two years by stating that the inflation target was to be effective starting in January 1995<sup>34</sup>. The Riksbank specified that the objective of monetary policy is to limit the annual increase in the consumer price index in 1995 and onwards to 2 per cent, with a degree of tolerance of 1 per cent. This objective corresponded to the underlying rate of inflation when the target was announced. In 1993 and 1994 monetary was to aim at preventing the inflationary impulse due to the depreciation of the krona and changes in indirect taxes from causing an increase in the underlying rate of inflation. Thus the Riksbank

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<sup>32</sup> Quoted from Banking Committee, Submission no. 40, May 1932, p. 18-19, italics are ours.

<sup>33</sup> This was noted by Fisher (1935, p. 408)

<sup>34</sup> See Andersson and Berg (1995)

did not suggest a particular level of the CPI as the starting point of inflation targeting, it referred rather to the underlying inflation as a form of a nominal anchor during the interim period.

In September 1931 when the krona was taken off gold, prices had been falling since 1928 - see Chart 1. The discussion therefore centered around the issue of an appropriate level at which prices should be stabilized. A major question was the following one: which point of time should be chosen as the base for the program of price stabilization? Heckscher settled for the average price level of the third quarter of 1931. He argued that a return to the price level of 1928-29 - before the fall in prices - was not to be recommended on two counts; first, the inflation required for such a purpose would create requests for higher nominal wages, perhaps giving rise to an increasing real wage, second, and most important, it was extremely difficult to manage a free standard when prices were rising since rising prices would contribute to speculation.

Should monetary policy aim at changing the relationship between various indices, particularly between the wholesale price index and the cost-of-living index? (Chart 2 shows a more rapid fall in wholesale prices than in the cost of living index.) Heckscher answered in the negative. As monetary policy could not do anything in this field, the Riksbank should ignore any disparate movements of individual indices in the past. This recommendation did not mean that the present relationship between the cost-of-living and wholesale price index was the desirable or the proper one - only that it was not the task of monetary policy to make such adjustments according to Heckscher.

Cassel believed that the "normal equilibrium" between these two price indices did not exist at present. Cassel argued that a stabilization of the cost of living at the level prevailing in mid-1931 would be favorably received by the general public. In Cassel's opinion, wholesale prices and the cost of living price index had to converge before any stabilization could take place. He stressed that the wholesale price index had declined by 25.6 per cent from the average level of 1928 to July 1931 while the cost-of-living index had declined by only 8.7 per cent in the same period. A slight rise in wholesale prices was the best way to accomplish convergence between the two series, as a lowering of the cost of living would reduce nominal wage rates and cause social unrest. Thereafter a stabilization of the cost of living at the level prevailing in mid-1931 would be preferable, according to Cassel. Davidson gave no advice on this matter.

The relationship between wholesale and consumer prices as discussed by the economists remained an issue throughout the 1930s. In January 1932 the Finance Minister repeated that the aim should still be to

maintain the purchasing power of the krona. However, he also noted that "this, of course *does not preclude certain modifications of prices, especially wholesale prices*"<sup>35</sup>

In February 1932, after having pointed out that the retail price level had remained unaltered since September the Board of the Riksbank added that

*"the Riksbank was not aiming at maintaining unaltered the average retail price level for all consumer goods"*.<sup>36</sup> Through the rise in the prices of certain import and export goods, which was expected gradually to be more and more strongly reflected in the retail market, such a monetary policy would necessitate a corresponding forcing down of the prices of home-market goods — a development that would intensify the crisis in Sweden.

The Riksbank's intention was to endeavor to maintain more or less unaltered the average level of prices of home-market goods and of the most important services that form an integral part of consumption. A monetary policy along these lines was said to be compatible with a certain rise in the Riksbank's index, viz. insofar as it might be caused by a rise in import and export prices brought about by a rise in exchange rates and in commodity prices abroad.

In May 1932 the Banking Committee added that

*"even prices for genuinely domestic products should evidently be allowed to rise, provided this does not appreciably affect living costs"*<sup>37</sup>

This statement together with the idea, also added by the Banking Committee, namely that it was generally desirable that domestic interest rates were kept as low as was conceivably possible without jeopardizing the monetary policy objective<sup>38</sup>, can be seen as an attempt to reduce the commitment to price stability.

However, in the perspective of the world-wide depression and ongoing deflation in many countries at the time when the Swedish monetary program was prepared, it is more illuminating to relate deviations from the target as responses to major shocks. In mid 1932 there was a clear concern of continued deflation. On the one hand, Heckscher had suggested that monetary policy could not restore the relationship between various indices, on the other hand a reflation of wholesale prices was needed, according to Cassel. In June 1932 wholesale prices had fallen by 26 per cent since the end of 1928 while consumer prices had

<sup>35</sup> Finance Minister quoted in Ohlin (1932, p. 3), italics are ours.

<sup>36</sup> Banking Committee, Submission no. 6 p. 2-3, italics are ours.

<sup>37</sup> Banking Committee, Submission no. 40, May 1932, p. 18, italics are ours.

<sup>38</sup> See Banking Committee, Submission no. 40, May 1932, p. 19.

decreased 8 per cent during the same period. The consumer price index of the Riksbank had been relatively stable, after September 1931.<sup>39</sup>

A description of the policy dilemma was given by Irving Fisher.<sup>40</sup> He noted that:

"When in May 1932, the Banking Committee of the Riksdag met...the internal wholesale price level ought to be raised, in so far as this could be done without also seriously affecting the cost of living. Swedish retail prices and wages had not fallen as drastically as had the wholesale price level, so that the gap between wholesale and retail prices had become abnormally wide. By raising wholesale prices, while maintaining the retail price level, it was hoped to correct this disequilibrium. At the same time this procedure was to make production profitable again"<sup>41</sup>.

Summing up, the discussion so far underlines the provisional nature of the process during which the monetary program was drafted between September 1931 and June 1932. While Heckscher recommended that the Riksbank should stabilize the price level at the existing structure of prices, Cassel argued that the wholesale price index first had to be raised, closing the gap between wholesale prices and the cost of living index that had developed 1928-1931, before the Bank began to stabilize prices.

Except for the report by Davidson and Heckscher, we have found no explicit reference to forward-looking policy rules. Neither were any explicit quantitative inflation forecasts made at the Riksbank.<sup>2</sup> The intention of the Board of the Riksbank was to endeavor to maintain more or less unaltered the average level of prices of domestic and consumer goods. A monetary policy along these lines was compatible with a certain rise in the Riksbank's index as prices of certain import and export goods were expected to increase. The Banking Committee then added that even domestic market prices should be allowed to rise, not just export and import prices, provided this did not appreciably affect the cost of living. This can be interpreted as a provisional short-term specification of a price stability target which in the long run aims at price stability. The reason for this interpretation is that wholesale prices since 1928 had fallen much

<sup>39</sup> Lindahl, however, in 1933, constructed a measure of underlying inflation, which was the Riksbank index adjusted for changes in indirect taxes and seasonal variations, which showed that even retail prices were falling in 1931 and 1932, though less rapidly than between 1928 and 1931.

<sup>40</sup> According to another observer "the objective of the program became diffuse and indefinite". See Lester (1939, p. 233). Lester also said that "Riksbank officials in deciding their policies more or less disregarded the Bank's retail price index". "During the nine months prior to April 1933 the Riksbank's index declined at a rate three-quarters as rapid as its fall during the nine months before Sweden abandoned gold." "Although the officials of the Bank kept an eye on the price level, they directed their policy according to other criteria" Lester (1939, p. 233).

<sup>41</sup> See Fisher (1935, p. 322). He also gave a positive evaluation: "The official cost of living index (which alone the Riksbank undertook to stabilize) kept remarkably stable. Starting with 100 in September, it never rose higher than 101.7 and never fell below 98.4, for thirty-five months...In other words, it ranged from 1.7% above to 1.6% below, the chosen par." Fisher (1935, p. 324).

<sup>42</sup> However, Lindahl in 1934 pointed out that it was very suitable to link a monetary program to a consumer price index because more definite conclusions could then be drawn regarding *the future development of prices*", see Lindahl(1934, p.169-181)

more than retail prices. However, the possibility of raising domestic wholesale prices, without bringing about an increase in the cost of living, recommended by Cassel and later supported by Fisher, was questioned by Heckscher.

The idea of a lagged introduction of the new monetary program did not occur in the 1930s. Price stabilization was to take place at once. As policies emerged the September 1931 price level was adopted as the starting point although various requests were made in the following years for a rise in the wholesale price index.

#### 4.5. Who should set the goal of monetary policy?

Modern research on central bank independence draws a distinction between goal independence and instrument independence.<sup>43</sup> A central bank has goal independence when it is free to set the final goals for monetary policy (e.g. decide that price stability is less important than output stability), while a bank that has instrument independence is free to choose the means by which it seeks to achieve its goals.

Much suggests that the goal of price stabilization announced in September 1931 acted as an important restriction on monetary policy, while the Riksbank actually was more interested in maintaining stable exchange rates than maintaining the internal purchasing power of the krona.<sup>44</sup> The Riksbank was traditionally an adherent of fixed exchange rates. The monetary policy statement by the Finance Minister was written and inspired by economists, thus not originating from the Riksbank. The Riksbank tried already in November 1931 to peg the pound rate, but failed. Again in the Summer of 1933 the Riksbank pegged the krona to the pound. This time the pegging succeeded. The minutes of the Board of the Bank demonstrate a strong belief in the beneficial effects of a fixed exchange rate for the krona.

To examine the issue of goal and instrument independence in the 1930s, we focus on the process leading to the approval of the monetary policy program by the Riksdag. The Riksbank certainly was influential in the shaping of this program. As shown here the Banking Committee in the Riksdag and the Finance Minister were more influential, however.

In the report by Heckscher, he discussed whether any constitutional guarantees could be adopted for the paper standard similar to those once found in the Swedish law pertaining to the gold standard. Heckscher

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<sup>43</sup> Debelle and Fischer (1994)

<sup>44</sup> See Jonung (1979b)



was pessimistic about the feasibility of such guarantees since the paper standard lacked those simple points of reference of the gold standard that made it easy to see if the rules of the system were followed. Still, Heckscher was of the opinion that attempts ought to be made to anchor the paper standard in the law, suggesting that in due time it would be possible to find better points of reference than those presently available.

One possible approach would be to legally force the central bank to maintain a stable price level. However, this approach was probably dangerous to adopt, according to Heckscher, since, first, it would give constitutional status to the weights of a given price index which would not adjust to continuous changes in the economy, and, second, one specific price index was in any case an inadequate point of reference for monetary policy. At best, the law could prescribe some maximum allowable deviations around a fixed level of a price index or of a combination of price indices. However, at this juncture no legal regulations should be introduced.

At any rate, the Swedish authorities should publicly declare their firm commitment to the principles of the new monetary system and preferably also state explicitly that the foreign value of the krona and the volume of notes in circulation would be dependent on the aim of the monetary program. Apparently he viewed such announcement as a substitute for legislation based on the monetary program Cassel and Davidsson did not suggest any judicial changes in order to have binding commitment to the new price stability norm.

The Banking Committee forcefully reminded the Bank of its goal dependence in May 1932:

"The Committee's starting point is that *the broad guidelines for monetary policy are established by the Government, not by the Governing Board* and that maintaining the convertibility of notes for gold has accordingly been the guiding principle for the Riksbank's managerial body. ...<sup>45</sup>

The first evaluation of the monetary policy program approved by the Riksdag was accomplished in June 1933. The most important new aspect in the evaluation of the monetary policy program was the following statement, arguing for giving *instrument independence* to the Riksbank:

"The Riksbank should be given no directions as to its monetary policy beyond such as indicate the objectives of that policy. The choice of means for reaching this objective should rest entirely with the Riksbank, and the Riksbank should be allowed such liberty of action as is required for this purpose. In regard to public financial demands on the Riksbank, the latter's complete independence should be maintained."<sup>46</sup>

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<sup>45</sup> Banking Committee, Submission no. 40, May 1932, p. 15, italics are our.

<sup>46</sup> Memorandum by the Swedish Delegation on the Monetary Policy of Sweden, (1933, p. 2)

The monetary policy program finally approved by parliament implied that the Riksbank's position can be described as goal dependent but instrument independent.

The goal was covered by the five aspects decided on in May 1932, but the instruments were chosen at the Riksbank's discretion as indicated by the aspect added in June 1933. This meant that besides the standard monetary policy instruments, the Riksbank also intervened in the foreign exchange market in order to prevent an excessively strong increase in exchange rates and to smooth minor exchange rate movements.<sup>47</sup>

#### 4.6. Which instruments and indicators were chosen?

Cassel, Davidson and Heckscher agreed that the monetary policy instruments used by the Riksbank in order to fulfil the price stability target remained the same as under the gold standard: changes in the discount rate and operations in the foreign exchange market were the most important instruments. The explicit announcement of a primary objective for monetary policy would serve as an important moral suasion instrument in order to maintain confidence in the future value of the krona, as emphasized by Heckscher.<sup>48</sup>

The economists did not mention the use of monetary aggregates such as the monetary base or the money stock. The three economists were all working within a monetary framework that should be classified as Wicksellian. The discount rate was the important tool of monetary policy. Monetary aggregates were not important as intermediate targets or indicators during this period. Aggregate monetary statistics were available on a monthly basis as reported in the balance sheets of the commercial banking system and of the Riksbank. However, little interest was given to these statistics.

Present inflation targeting makes use of a number of indicators including inflation forecasts. As the monetary program was based on price stabilization various price indices were recommended as indicators for the Riksbank. Heckscher argued that the index for wholesale prices should be closely monitored as this index had a tendency to change far in advance of retail prices, thus informing the management of the Riksbank at an early stage about movements in prices. Retail prices would then show to what extent the policy measures taken had accomplished the intended effects.

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<sup>47</sup> Banking Committee, Submission no. 40, May 1932, p. 14.

<sup>48</sup> Kjellström (1934, p. 36)

Here Heckscher argued that movements in wholesale prices should be used for the purpose of making forecasts for directing monetary policy and that fluctuations in retail prices should be adopted as a measure of the actual effects of monetary policy - as a "verification" according to his report.

Kjellström presented an index of raw material commodity prices monitored during this period and stated that "the Bank of Sweden makes use of wholesale indices published by the commercial banks and the Royal Board of Trade, as well as the price series relating to raw materials and products to guide its monetary policy".<sup>49</sup> Since Swedish exports largely consisted of commodities and export prices were closely monitored, commodity prices undoubtedly played an important role as indicator for monetary policy during this period.

The foreign exchange rate had a prominent role as a monetary guide during the 1930s. Swedish economists and policymakers recognized that movements in exchange rates affected prices in an open economy. However, there was also an insight that given a purposeful Swedish monetary policy, it was to be expected that the domestic value of the Swedish krona would also determine the foreign exchange rates.<sup>50</sup>

Partly because of an underdeveloped Swedish bond market and the fact that Swedish economists had not spelled out a theory of the bank rate/long bond spread, this yield was not employed as a policy indicator during the price stabilization period.<sup>51</sup>

Present practice of inflation targeting makes substantial use of forecasts, in particular of the future rate of inflation. A striking feature of the price level targeting of the 1930s is the lack of explicit forecasts and prognosis. Why was this the case? Dag Hammarskjöld provided an answer in a lecture on modern central banking to the Swedish Bankers' Association in 1935 – at that time he was employed by the Riksbank working in close contact with Rooth. Hammarskjöld stressed that in the past when Sweden was on gold, central banking was characterized by the automatic functioning of the gold standard – it displayed the working patterns of a "machine". In this institutional setup there was no need for information about the behavior of the economy.

Under present circumstances it was obvious that central banks needed knowledge "about the domestic business cycle and the world business cycle", however. The modern central bank thus should recruit a new

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<sup>49</sup> Kjellström (1934, p. 49)

<sup>50</sup> See the statement by the finance minister in record of financial matters, done before the King-in-Council at Stockholm Palace on 27th September 1931.

<sup>51</sup> Montgomery (1938, p.45-46).

type of employee, namely that of the economic advisor, in charge of analyzing domestic and international economic events according to Hammarskjöld (1935, p. 6). He pointed at the Bank of England as a forerunner in this field.

Hammarskjöld's lecture gives a reason why the Riksbank did not use any inflation forecasts. The Bank simply lacked the expertise capable of producing forecasts in the modern sense. The econometric techniques and the statistical data used presently for inflation forecasting did not exist at the time.

#### 4.7. How was the price level targeting monitored?

To make monetary policy transparent under the inflation target regime that was announced in 1993, the Riksbank communicates with financial market participants and the public by speeches, inflation reports and other publications<sup>52</sup>. The inflation report is the most important policy document and is published four times a year. The purpose of the report is to provide a basis for monetary policy decisions and make the Riksbank's deliberations known to a wider public. The inflation reports contain an account of the inflation forecast, in terms of both the consumer price index and the underlying rate of inflation, and of monetary policy as well as an assessment of alternative risk scenarios.

Other important channels for monetary policy communication, besides the inflation reports, are the speeches by the Governor and Deputy Governors. In addition the Governor appears before the public in hearings in the Committee on Finance of the Parliament.

In the 1930s, the Riksdag supervised and monitored the activities of the Riksbank, primarily through the annual report of the Riksbank submitted in early January to the Banking Committee of the Riksdag. Next, the Governor was questioned by the Banking Committee which submitted a report to the Riksdag in May for a general debate on the conduct of monetary policy. The Government as well as members of the Riksdag put forth legislation concerning the policy of the Riksbank. The process was an open one. It was commented on in the media.

Monetary policy was also evaluated in bills put forth by the government. These bills were drafted within the Ministry of Finance. The political opposition also proposed legislation concerning the policy of the Riksbank. The main monitoring of the Riksbank thus occurred through the political process.

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<sup>52</sup> See Berg and Gröttheim (1997)

The Riksbank was also continuously monitored in the financial press and by the economics profession. Cassel, Heckscher and Ohlin among others commented frequently on the program of price stabilization, often being critical of the policy of the Riksbank. This criticism was taken seriously by the Riksbank. It had to pay attention to the views of outsiders as these could be picked up by the Government and by Parliament.

## 5. Evaluations of the Price Stabilization Program in the 1930s

### 5.1. Evaluation of the Monetary Policy Program in 1933 and 1937

Aside from the annual examination by the Banking Committee, two major official evaluations of the monetary program were presented in the 1930s. The first one was carried out in the Spring of 1933<sup>53</sup>. The Minister of Finance reported on 23 April 1933 the appointment of a group of twelve experts - including Cassel, Heckscher, Rooth and Jacob Wallenberg, a prominent commercial banker - to consider the guidelines of Swedish monetary policy. The experts submitted a statement dated 22 May 1933 - as Riksbank governor, Rooth did not participate. The joint statement, later approved by the Government and the Riksdag, suggested that Sweden's monetary policy should continue to aim at regulating the internal purchasing power of the krona.

A change in the internal purchasing power of the krona favorable to Sweden's economy would probably be most easily and most advantageously accomplished in connection with a rise of the world price level. Sweden should accordingly make a point of keeping pace with such a development and associate herself at the World Economic Conference in London with any efforts made to attain that end.

On the other hand, if such a strategy would not be possible, Sweden would have to continue to pursue an independent monetary policy. In that case the aim should be to arrest any tendency to a fall in prices. In addition to this, the goal of an independent Swedish monetary policy should be to bring about a moderate *rise of the internal wholesale price level*. Such a rise would not have any major effect on retail prices as they reacted slowly to changes in wholesale prices.

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<sup>53</sup> The board of the Riksbank applied for a prolongation of the decree exempting it from redeeming its notes with gold on 22 May 1933. The committee of experts submitted its report the same day. One part of the report was approved by the government and the parliament on 17 June and made part of the Memorandum submitted to the London Economic Conference on 21 June 1933. The other part of the report included discussions on the price norm and monetary policy instruments. The Minister of Finance presented a bill on monetary policy on 26 May 1933 outlining a thorough evaluation of price developments since the inception of the price norm, giving some general conclusions. At the meeting of the King-in-Council at Stockholm Palace on 26 May 1933, the record of financial matters began with a rehearsal of the minutes from 27 September 1931, 11 February 1932 and 2 May 1932 noting that the passage quoted from the minutes of 2 May had been approved by the Riksdag.

In conjunction with the experts' report, the Minister of Finance presented his views on the performance of the monetary program in a government bill on 26 May 1933. Reviewing the development of various price indexes since September 1931, he first analysed the Board of Commerce price index. It was 107 for September 1931, 111 for December 1931, went down in the second quarter of 1932, and was 110 in September and October 1932, and 105 in April 1933. Second, the Finance Minister noted that the Riksbank consumer price index had displayed a high degree of stability; it had ranged from 100.1 to 100.8 during 1932; then shown a falling tendency since November 1932 until it was 98.8 in April 1933. The price level for imported goods rose from 80 in September 1931 to 99 in September/October 1932 on account of the krona's depreciation. In April 1933 the level had dropped back to 91. The export price index was 111 in September 1931, 113 in February 1932 and 104 in March 1933. The Finance Minister concluded:

"The price rise for imported goods was thus countered in the initial period up to the autumn of 1932 by the price fall for export goods, which had to do with conditions in markets abroad, while home market prices were virtually unchanged, possibly somewhat below the level that prevailed in September 1931. Since the autumn of 1932 the price index for all commodity groups has fallen, though in recent months the decline has been less pronounced. The downward tendency was broken in April but it seems that this improvement in the price situation has essentially favored home market and export goods, while import prices continued to fall. The price movements described here show that the fears of a loss of purchasing power for the krona that were expressed when the gold standard was abandoned have not been confirmed. On the contrary, the price fall has not entirely ceased, still less has there been the price recovery that was mentioned in the report for 1932 from the Banking committee.<sup>64</sup>

The Minister of Finance went on to note that some industries with a domestic market orientation had withstood the deepening international depression more successfully than export industries. However, unemployment had increased. Trade union unemployment went up from 26.5 per cent in December to 31.0 per cent in December 1932 and to 28.1 per cent in March 1933. (See Chart 5.)

Turning to interest rate movements, the Minister of Finance stressed that the cuts in the discount rate in 1932 had not been fully effective in that the commercial banks only altered the discount rate for commercial bills. At the turn of 1932, however, the commercial banks had also reduced their lending rates. When Sweden left the gold standard in the autumn of 1931, the strength of the downward price effects in the global economy had been underestimated, according to him. Attention was concentrated solely on preventing an expected bout of inflation. In the spring of 1932 easing of the monetary stance would suffice for some recovery in prices. The subsequent development showed that, by themselves, discount rate cuts and easier capital conditions were not sufficient to stimulate a price rise.

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<sup>64</sup> Quoted from Government Bill 260, p. 9.

The experts' report, however, had drawn attention to the fact that the Riksbank did not lack ways of intervening more actively, which linked up with the alternatives for financing public works to counter unemployment. Considering what the experts had stated, the Minister was of the opinion that *the possibilities of exerting an appreciable influence on the domestic price level were no doubt greater than indicated by the Riksbank's Board of Directors*. These opportunities should be utilized to the extent needed to achieve a moderate increase in the domestic price level.

Finally, the Finance Minister was of the opinion that attention must also be paid to preventing a price rise above the stated limits. If the downward price tendencies had been underestimated in the autumn of 1931, there could now be a temptation not to pay sufficient attention to the inflationary tendencies that could be released by a general upturn in global activity.

In conclusion, the Finance Minister was critical of the policy of the Riksbank. The Bank had not fulfilled the goal of monetary policy; both wholesale and consumer prices had fallen between September 1931 and April 1933. The Minister of Finance wanted the Riksbank to intervene "more actively" and to "link", that is to coordinate, the Riksbank's policy with the Government's fiscal policy to combat unemployment. These formulations reflected the fact that the Finance Minister, Ernst Wigforss, of the Social Democratic government coming into power in 1932, was inspired by the ideas on fiscal policies promoted by Keynes in the UK and by Bertil Ohlin and Gunnar Myrdal in Sweden.<sup>55</sup>

The second evaluation of the monetary policy program was made public in 1937. On 30 April 1937 the Board of the Riksbank discussed the goal that the Government had set up for the Riksbank's monetary policy and which the Banking Committee had formulated in 1933. The Board considered the goal as to achieve an increase in the level of domestic wholesale prices. This rise should be limited so that it did not affect living costs appreciably. This goal would be achieved most readily in the event of an increase in the global price level, which would affect the price level in Sweden to the desired extent.<sup>56</sup>

The Board of Directors then suggested that a change in the goal was called for because of changing circumstances. A further increase in the general price level in Sweden did not seem to be desirable. The Riksbank's policy, like economic policy in general, should now focus on trying to restrain the price rise and at least prevent an inflationary tendency. The Board thought that, as far as possible, the Riksbank should maintain the stability of Sweden's currency. Considering that the economic situation is changeable

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<sup>55</sup> Landgren (1960, p.13)

<sup>56</sup> Included in Banking Committee, Submission no. 67, 21 May 1937, p.2

at short notice, so that an amendment of the program may be needed, the Board requested that the directives be formulated in general terms and applied to a limited period.

Simultaneously, the Minister of Finance noted that the depression had given way to a pronounced boom. The price fall had been succeeded by a price rise that proceeded slowly in the early years within narrow limits but had accelerated markedly since the preceding autumn, so that wholesale prices were close to the level before the outbreak of the depression. He stressed that monetary policy should aim for a certain stability in the price level. But other factors must also be allowed to intrude; monetary policy was to be an instrument for promoting "the smooth progress of economic activities and providing as much employment as possible for the nation's productive forces".<sup>57</sup>

Ernst Wigforss also pointed out that the "reflation policy" (eliminating the effects of the preceding "deflation") had been the characteristic feature of monetary and exchange rate policy in recent years. The sterling peg in 1933 was not a departure from the directives; the fixed exchange rate to the pound implied that the level of Swedish wholesale prices was linked to the slow increase in British wholesale price, which facilitated "reflation".<sup>58</sup>

Furthermore, the basic idea that price stability was the primary objective stood firm but "reflation" was no longer desirable, according to the Finance Minister. The level of wholesale prices had already risen by more than the "moderate increase" that had been intended originally. Both the Riksbank's policy and general economic policy should focus on restricting the price rise, at least preventing an inflationary tendency. It was then inevitable that the question of stabilizing the external value of the krona must remain a secondary matter.<sup>59</sup>

Concerning monetary policy instruments, the Minister of Finance had pointed out that the Riksbank's primary instrument was the discount rate on bills of exchange. An increase in this rate was likely to be effective only if it was supported by open market operations, perhaps together with an increase in minimum reserves. As an emergency precaution, the Riksdag had authorized the National Debt Office to provide the Riksbank with Treasury bills or other debt instruments for market operations.<sup>60</sup>

The Minister then noted that the price rise was due to three factors: agricultural policy, external price increases and increased domestic demand. Agricultural policy was a special case, deliberately constructed

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<sup>57</sup> Ibid, p. 2

<sup>58</sup> Ibid, p. 3

<sup>59</sup> Ibid, p. 4

<sup>60</sup> Ibid, p.5



by the Government to raise the price level for agricultural products. Increased food prices accounted for the largest part of the increase in living costs above the 1931 level.<sup>61</sup>

The Minister had considered, in keeping with the program that the Banking Committee had submitted to the Riksdag in 1933, that the Riksbank's Board of Directors should decide which instruments were to be used to fulfil the monetary policy goal which the Government had established. This applied under the self-evident condition that all the various governmental measures that affected the economy and the monetary system were coordinated so that they supported and did not counteract each other.<sup>62</sup>

The Banking Committee adopted most of the views of the Minister of Finance, adding that it was desirable to keep domestic interest rates as low as possible in the given situation.<sup>63</sup>

In conclusion, with the adoption of the bill in May 1937, the primary goal of Swedish monetary policy again was framed as maintaining a stable price level. However, this was not the only goal set up for the Riksbank since other goals were mentioned including a stable economy and full employment of the country's productive resources. As these objectives might conflict with maintenance of a stable price level, they presumably were secondary considerations.<sup>64</sup> However, the government stressed the necessity of synchronizing economic and monetary measures and stated that the Riksbank, in choosing the means to accomplish its policy, should act in cooperation with the government, that is coordinate its measures with fiscal policy.

The ideas expressed by the Minister of Finance and by the Banking committee in 1937 should properly be seen as a forerunner of the type of stabilization policy implemented in Sweden after World War II. Thus in 1937, when the Swedish monetary program had become a complete economic program for the country, this marked not the end of the price stability norm of the 1930s but rather the beginning of the end.

## 5.2. Evaluation by Economists

The policy of the Riksbank was closely followed, commented on and criticized by the economics profession. Initially, that is in the Fall of 1931, they were all in favor of the monetary program of 1931, although they did not share exactly the same view. Eventually, the economists split up into two groups, one favorable towards price stabilization, one critical of the monetary program.

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<sup>61</sup> Ibid, p.6

<sup>62</sup> Ibid, p.10

<sup>63</sup> Ibid, p.12

<sup>64</sup> This is also the opinion by Lester (1939, p. 238)

The first group consisted of the older generation of economists, influenced by the monetary events of World War I. They were liberal in their general outlook and critical of government intervention. Cassel, Heckscher and Lindahl belonged to this group. They remained throughout the 1930s proponents of price stabilization and turned into critics of the new ideas of the younger generation.

The second group was made up of the new generation of economists that was making its way in the 1930s. They were influenced by the high and persistent unemployment of the 1930s. To them the challenge was to develop theories and policies to reduce unemployment and the fluctuations of the business cycle. They became early proponents of government intervention and “active” countercyclical policies. This group was later termed the Stockholm School.<sup>65</sup>

Bertil Ohlin and Gunnar Myrdal were the most prominent members of the Stockholm School. Gunnar Myrdal prepared a report for Ernst Wigforss giving the theoretical foundations of a countercyclical fiscal policy in 1933. Ohlin suggested at an early stage various government measures to counteract unemployment. In December 1933 he reviewed the policy of the Riksbank in an article with the title “The Inadequacy of Price Stabilization”. Here Ohlin was of the opinion that the Riksbank had failed in preventing a fall of wholesale and consumer prices. In addition, the price stabilization program had not prevented a decline in demand, in production, in real national income and in domestic investment according to Ohlin (1933). According to him:

“on the whole, then, we may say that, when once a depression has set in, a reduction in the quantities produced and marketed can very easily take place without being materially reflected in the index numbers presenting the average wholesale or retail price level.”

On the other hand, Ohlin (1933, p. 264) thought that the monetary program had been beneficial to Sweden by preventing a further decline in prices. “The fatal spiral of deflation was avoided in Sweden.” However, in his conclusions Ohlin thought price stabilization was insufficient. Instead, he recommended a “konjunkturpolitik” that aims at as full and regular utilization of the productive forces as possible.”. Ohlin thus proposed employment stabilization rather than price stabilization. Here Ohlin was recommending a stabilization policy program that eventually spelt the end of the monetary program.

## 6. Conclusions

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<sup>65</sup> The diverging views on macroeconomic issues between the old and young generation of Swedish economists in the 1930s is dealt with in the introduction of Jonung (1992). Cassel’s and Heckscher’s resistance towards “the new economics” is examined by Carlson (1992).

When Sweden left the gold standard in the fall of 1931, the government, under the influence of the economics profession, introduced a monetary program of stabilization of the domestic price level. It was launched at the onset of the depression, initially to arrest the fall in prices as well as mitigating widespread fears of rising prices. The monetary declaration of 1931, consisting of one sentence, evolved in several steps into a full monetary program before it was finally approved by the Parliament in 1932.

The Swedish experience of the 1930s anticipated much of present discussion of monetary policy for central banks with price stability as the primary objective. The Swedish policymakers took aboard the idea, familiar from inflation targeting countries today, that an institutional commitment to price stability could act as a coordinating device and anchor expectations. The announcement of the monetary program in 1931-32, initially viewed as a temporary one, acquired the character of guidelines for a monetary policy, acting as a nominal anchor intending to calm the fears of inflation.

The transparency of the monetary policy strategy in the 1930s through communication with the Swedish public can be seen as anticipating the modern view on inflation targeting. The Riksdag and its Banking Committee supervised and monitored the activities of the Riksbank through regular reports. The Governor was questioned annually by the Banking Committee. Monetary policy was evaluated in bills put forth by the government. The main monitoring of the Riksbank occurred through an open political process which was well covered by the press. Two major evaluations of the monetary program were carried out, in 1933 and 1937, in addition to the annual examinations of the Banking Committee.

Central banks pursuing an inflation target today have all announced a numerical target for inflation. The Riksbank published from 1931 and onwards a consumer price index as part of the monetary policy process. However, the consumer price index was not the sole target variable. The Riksbank monitored other price indices as well. Nevertheless, it was concerned with "underlying inflation" in a modern way, as it stressed the need to disregard temporary factors, like indirect taxes, customs duties and seasonal effects, influencing the development of inflation.

The price stability target adopted by the Riksbank in 1931-32 was a price level target, in contrast to the inflation targets adopted by several central banks in the 1990s. With a price level target the longer-term variance, and hence uncertainty, about prices are smaller. According to one prominent observer, the chief disadvantage of a price level target is that the monetary authority is attempting to deflate the economy half the time, thus creating more uncertainty about short-term inflation rates than with an inflation target<sup>66</sup>.

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<sup>66</sup> Fischer (1994).

However, in a model with persistence in output (due to price-stickiness, for instance), price level targeting results in lower short-run inflation variability than inflation targeting<sup>67</sup>.

In 1932 the fears of inflation expressed when Sweden left the gold standard was replaced by a clear concern of continued deflation. The strength of the downward price effects in the global economy had probably been underestimated. By raising wholesale prices, while maintaining the retail price level, it was hoped to correct the disequilibrium between wholesale prices and the cost of living index that had developed 1928-1931, before the Bank began to stabilize prices. Although continued deflation should be resisted just as strongly as inflation, some recovery in prices was desirable, though not a return to a "unduly distant" price level. This part of the program was successfully implemented. In 1937 wholesale prices were close to the level at the end of 1928, while the consumer price index had been relatively stable since 1931. This suggests that the price level target contributed to a low variability of consumer prices during the recovery from the depression. An important lesson from the early Swedish experience is also that a price stability target can be used *to raise* inflation expectations when there are fears of deflation.

What was overlooked in the Swedish experiment with price-level targeting? According to the modern view on monetary policy, there is a considerable lag before monetary measures affect inflation. For this reason, monetary policy has to be forward-looking. In particular, the assessment of future inflation will be central. In practice, the part played by the inflation forecast is so vital that it resembles an intermediate target for inflation targeting central banks, see King (1994) and Svensson (1997). Central banks should pursue monetary policy so that the inflation forecast for an appropriate horizon is in line with the inflation target.

In contrast, we have not found any references to explicit forward looking policy rules used in the 1930s by the Riksbank. Some of the Swedish economists were insightful as to the use of forecasts, but in practice it seems as if the Riksbank and its principals were primarily concerned with the actual price level. The lack of any expertise on forecasting within the Riksbank may account for this state of affairs.

The monetary program adopted in 1931-1932 can be seen as a means to set a price-level target for a goal-dependent but instrument-independent central bank. The Riksdag stressed that the Riksbank should be given no directions as to its monetary policy beyond such as indicated by the objective of that policy. However, the program was not given a legal backing. Even though the original goal of stable prices was

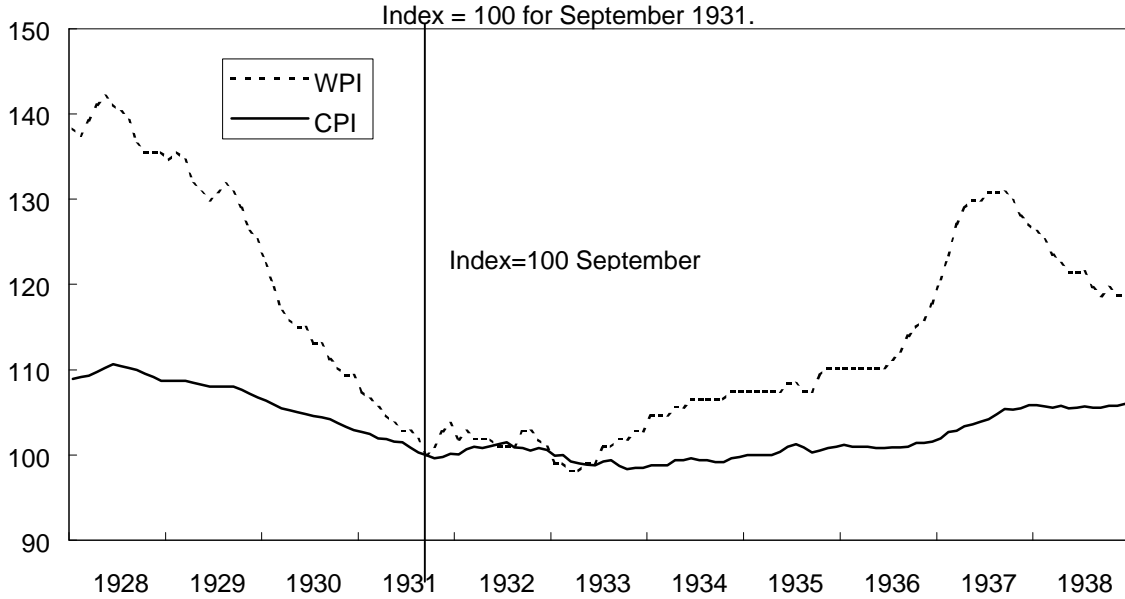
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<sup>67</sup> Under inflation targeting, according to the model by Svensson (1997c), the decision rule is a linear feed-back rule for inflation on the output gap and the variance of inflation is proportional to the variance of the output gap. Under price level targeting, the decision rule is a linear feed-back rule for the price level on the output gap. Then inflation is a linear function of the first difference of the output gap and the variance of inflation is proportional to the variance of the first difference of the output gap.

maintained throughout the 1930s, adjustments and additional goals were added by requests from the Parliament and the Minister of Finance as the depression worsened. In 1932 the goal to preserve the domestic purchasing power of the krona was adjusted as both import prices and domestic market prices were allowed to increase. The Riksbank was also asked to keep interest rates as low as possible without jeopardizing the monetary policy objective. In 1933 the Riksbank was asked to "intervene more actively" and "link" its monetary policy measures with fiscal policy measures to combat unemployment. In 1937 the Riksbank, in addition to the primary target to preserve a stable price level, was given other goals like aiming for full employment.

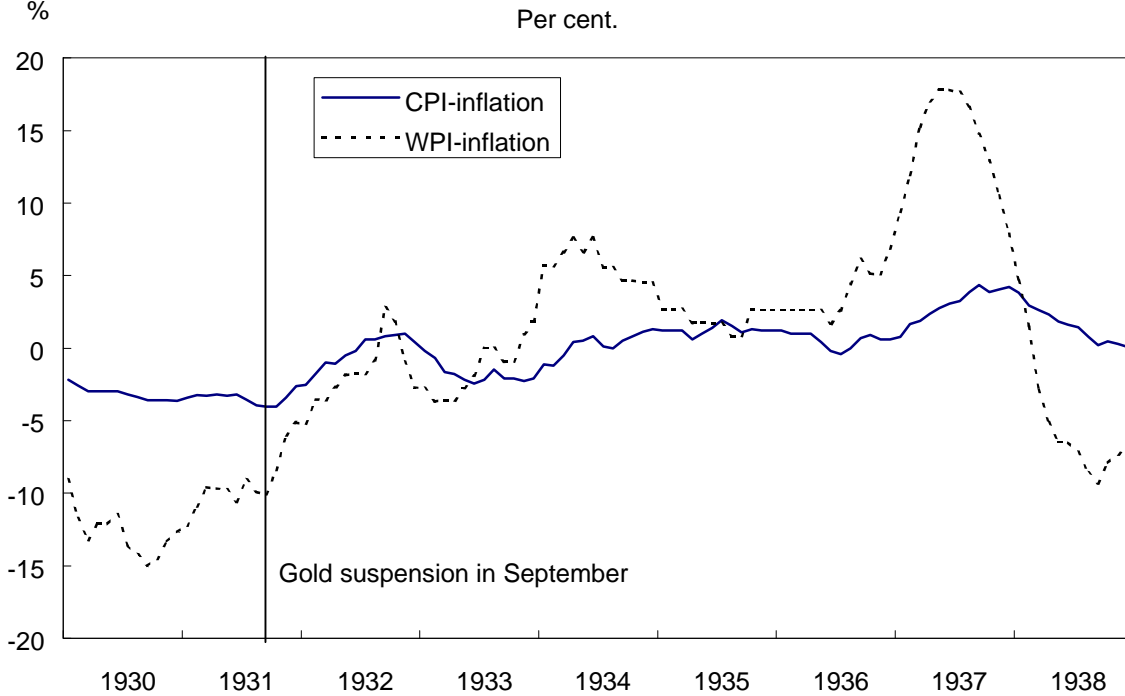
The monetary program of 1931-32 was developed in a pre-Keynesian world where the dominating view held that monetary policy was effective in influencing the movement of prices. The depression that started in Sweden in 1930 and reached its trough in 1932-33 opened for a new view concerning the role of fiscal policies. The government budget was openly underbalanced and requests were made that monetary and fiscal policies should be coordinated. Price level targeting was considered necessary but not sufficient to bring Sweden out of the depression. The monetary program was viewed as arresting the deflationary process but not as adequate in raising production and employment. Instead, monetary policy should be coordinated with fiscal policy to stabilize the macroeconomy. This view eventually spelled the demise of price level targeting and the subordination of monetary policy. It became the victim of price control policy and "keynesianism" in the post World War II-period.

**Chart 1. Wholesale price index and the consumer price index of  
The Riksbank, 1928-1938.**



**Comment:** The quarterly cost-of-living index for 1928-1930 has been interpolated and linked to the monthly consumer price index of the Riksbank starting in January 1931  
Source: The Riksbank.

**Chart 2. Annual change in wholesale and consumer prices,  
1930-38.**

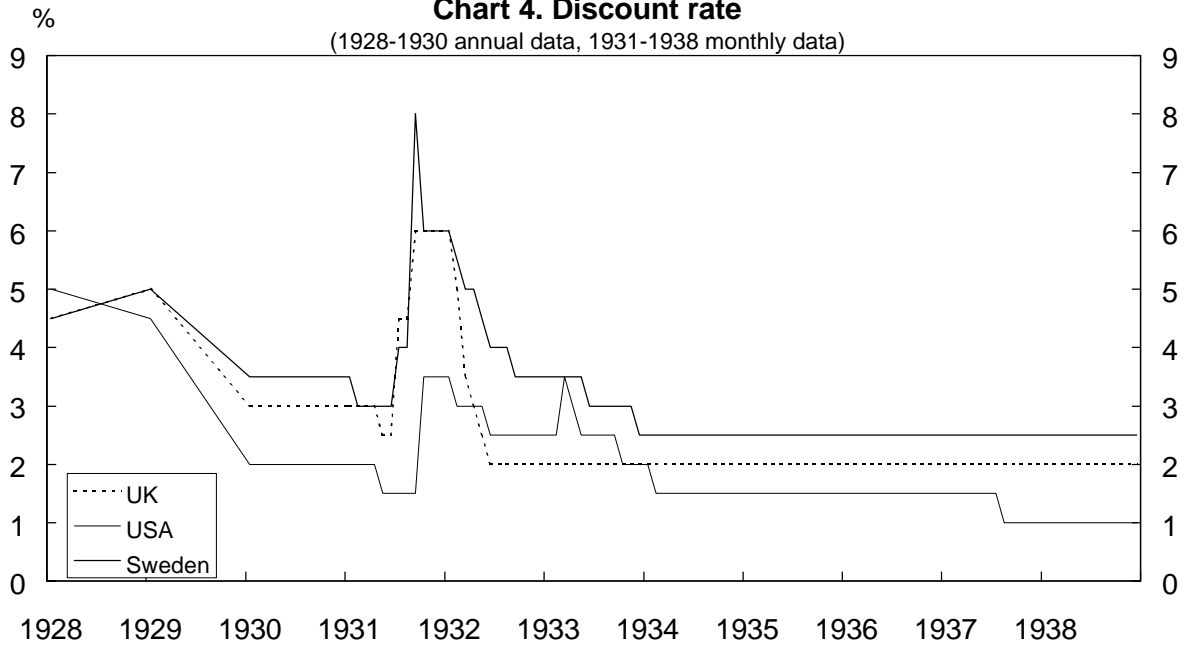


**Chart 3. Exchange rate Kr/Pound**  
 (1928-1930 annual data, 1931-1938 monthly data)



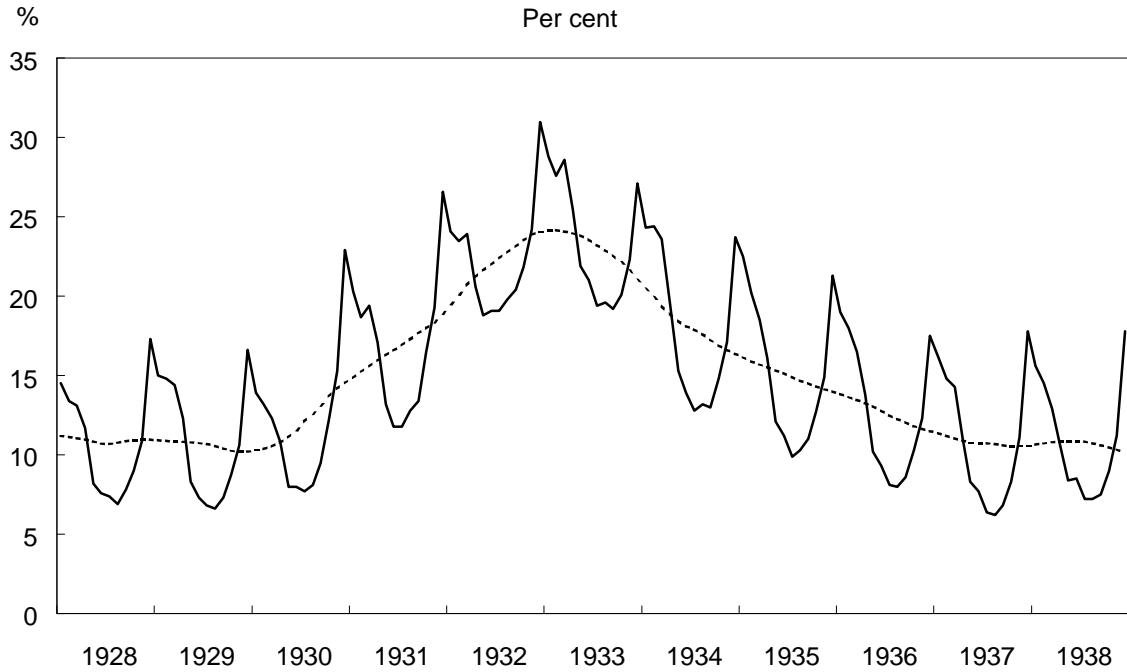
Source: Ekonomisk Översikt 1932-1940

**Chart 4. Discount rate**  
 (1928-1930 annual data, 1931-1938 monthly data)



Source: Ekonomisk Översikt 1932-1940

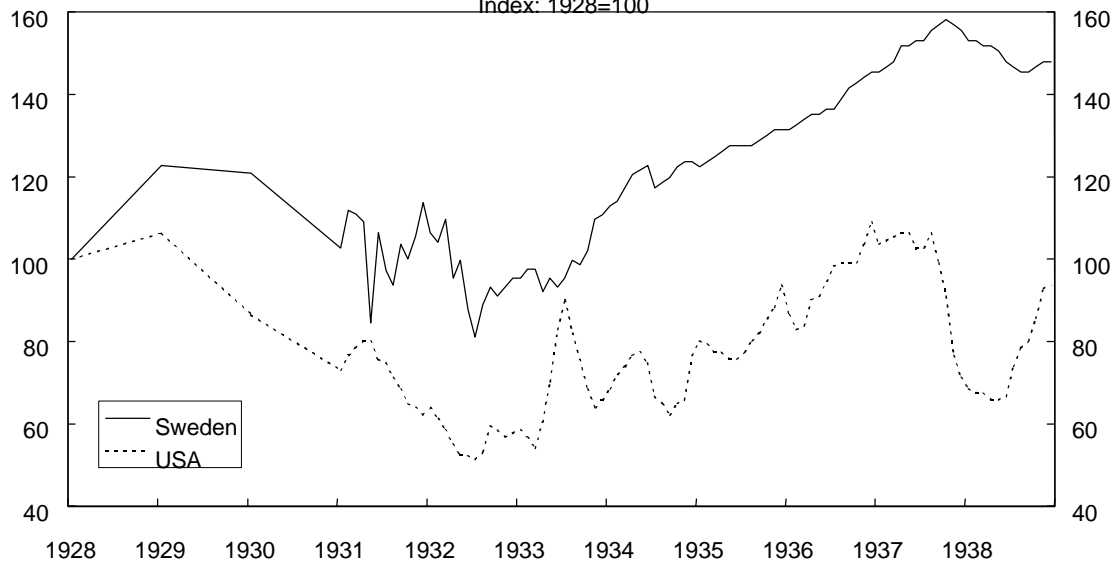
**Chart 5. Unemployment among union members 1928-1938.**



**Comment:** The trend rate (dashed line) is calculated as 12-months moving average.

**Chart 6. Industrial Production**

(1928-1930 annual data, 1931-1938 monthly data)  
Index: 1928=100



Source: Ekonomisk Översikt 1932-1940



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## Appendix A.

Table A1. The Questionnaire of the Riksbank of October 1931.  
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I. A. Under which international conditions would it be appropriate for the Swedish monetary system to be tied to monetary conditions in other countries.

B. Which arguments can be advanced for tying the krona  
1) to an international currency, primarily to a gold standard, and  
2) to a given foreign currency?

C. Which should be the basic conditions for a transition or return to such a system? Should the exchange rate of the krona be set equal to the old parity to gold, or to a given foreign currency, as for example the pound, or to some other rate, more recently attained?

D. Should such a transition be instituted as a temporary step, subject to possible changes, or should it come about in a single once-and-for-all reform?

E. Which norms should guide the discount policy and the foreign exchange policy *of the* Riksbank in lieu of such a transition or return?

F. How should domestic price stability be realized under present circumstances? Should the goal of price stabilization be expressed in terms of wholesale or retail prices or in terms of the cost of living, in import and/or export prices, or in still some other way?

II. Which means are available to the Riksbank to accomplish

- a) a transition to
  - b) and preservation of the proposed system?
- Is there a need for any powers that the Riksbank
- a) presently lacks or
  - b) presently does not use?

III. Which other questions should preferably be considered in connection with the future organization of the Swedish monetary system?

Table 1. The Price Stabilization Program of 1931. Chronology of Events.

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Event:	Date:
Sweden returns to the gold standard at the prewar dollar parity	April 1924
Great Britain returns to gold	April 1925
Bank of England leaves the gold standard	21-9-1931
The Riksbank requests the Government to relieve it from the requirement to convert its notes into gold at demand following a week of large gold and capital outflows	28-9-1931
The Riksbank seeks the advice of Cassel, Davidson and Heckscher	8-10-1931
The Riksbank fails to peg the Krona to the pound at the gold parity rate of 18:15	November 1931
The death of Ivar Kreuger in Paris sets off liquidity crises for the Skandinaviska Kreditaktiebolaget.	March 1932
The Riksbank supports the Skandinaviska Kreditaktiebolaget with a loan of 200 million kronor	
The Parliament adopts a full fledged monetary program	May 1932
An expert group reports on Swedish monetary policy supporting price stabilization	May 1933
The Riksbank pegs unofficially the krona to the pound at 18:15	July 1933

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