

Kleivset, Christoffer

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## From a Fixed Exchange Rate Regime to Inflation Targeting

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# Working Paper

Norges Bank's bicentenary project

## From a fixed exchange rate regime to inflation targeting

A documentation paper on Norges Bank and monetary policy, 1992-2001

*Christoffer Kleivset*

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About the author:

Christoffer Kleivset (b. 1976) has a master's degree in history from the University of Oslo 2010. Kleivset has been employed by Norges Bank's bicentenary project since December 2010.

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# **From a fixed exchange rate regime to inflation targeting**

A documentation paper on Norges Bank and monetary policy, 1992-2001

Christoffer Kleivset\*

## **Abstract**

This paper documents Norges Bank's role in the long transition period from a fixed exchange rate regime to inflation targeting in Norway. It is shown that the Bank's leadership and influential department leaders wanted more exchange rate flexibility from early on. However, due to the division of responsibility of economic policy in Norway – where a stable exchange rate was important with regards to incomes policy – this was met with resistance.

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**Keywords:** Monetary policy, inflation targeting, regime change

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\* Email: [chrkleivset@gmail.com](mailto:chrkleivset@gmail.com)

## **Preface**

The period between December 1992 and March 2001 was a time of transition for monetary policy in Norway. Over that period, the Norwegian authorities moved away from the objective of maintaining a fixed exchange rate against a currency index, and replaced it with a floating exchange rate within an inflation targeting regime. This paper documents Norges Bank's role in this process.

A collection of documentation papers covering selected areas and processes of change are being elaborated in the framework of Norges Bank's 2016 Bicentenary Project. The Bank has engaged both current and former employees to participate in this work. The assistance from experts on different themes is particularly useful since a complete catalogue of the source material for the more recent change processes in the Bank is not yet available. However, it is important to avoid that the documentation papers solely represent the "authors' view" of the events. The main goal of the papers is to provide a guide for historians when consulting the Bank's archival materials. Documenting actual events is therefore more important than their analysis.<sup>2</sup>

The initiative for writing this paper was taken by the current Deputy Governor of Norges Bank, Jan F. Qvigstad. Qvigstad played a prominent role in Norges Bank in the process under review in this paper. Both Qvigstad and the historian Einar Lie have provided the author with invaluable advice and guidance in the writing process.

It should be noted that the focus of this paper is on *Norges Bank's role* in the transition period from a fixed exchange rate regime to inflation targeting. Historians that are writing the full history of monetary policy in Norway between 1992 and 2001 must also be provided with access to material from relevant key institutions, such as the Government, the Ministry of Finance and organisations such as LO (Norwegian Confederation of Trade Unions) and NHO (Confederation of Norwegian Enterprise).

Oslo, November 2012

Christoffer Kleivset

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<sup>2</sup> All the background information in these papers – speeches, correspondence, internal articles, public documents, discussions cited and the like – have been copied and gathered in binders in Norges Bank's archives.

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Section 2 documents Norges Bank's analyses in the period between December 1992 and summer 1993, when the rationale for a fixed exchange rate policy still predominated within the central bank.

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From autumn 1993 key employees of Norges Bank started reviewing the question of the operational target of monetary policy, which was part of the process leading to the establishment by the authorities of a new and more flexible exchange rate target in May 1994. The paper provides an account of the main players and meetings involved in the discussions on this issue.

### **4. Exchange rate stability versus real economic stability (page 20)**

In 1996, tensions arose as to whether the key policy rate should primarily be used to stabilise the exchange rate or to stabilise the Norwegian economy and inflation. At this point, economists at Norges Bank had also started to elaborate a concrete operational framework for inflation targeting. The Bank shared its newly acquired knowledge of a floating exchange rate with other institutions, particularly academics. I describe the central bank's strategy and document the key events of the process.

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In August 1998, Norges Bank started giving greater weight to inflation than to exchange rate stability in interest rate setting. The paper provides an account of the

discussions of the Executive Board and between the central bank and the Ministry of Finance on this matter in autumn 1998.

**6. From a de facto to a de jure inflation targeting regime (page 36)**

Svein Gjedrem's succession to the post of Governor at the turn of the year 1998/99 and his statements around that time followed by his annual address in February 1999 showed that the shift from a fixed exchange rate regime to an inflation targeting regime had in fact taken place. Two years later, in March 2001, an inflation target was formally adopted.<sup>3</sup>

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<sup>3</sup> The system of flexible inflation targeting has evolved gradually from March 2001 to date. The main changes and how they came about will be documented in a subsequent document.

## **1. Norwegian exchange rate policy from the Second World War to December 1992**

Historically, monetary policy in Norway was geared towards maintaining a fixed exchange rate using various approaches.<sup>4</sup> After the Second World War, the Bretton Woods system of fixed exchange rates was established where the US dollar functioned as an anchor for inflation. The international monetary system functioned in an environment of fairly synchronised economic cycles and inflation across participating countries, and its stability relied on extensive control of capital movements. When the system collapsed at the beginning of the 1970s, Norway decided to participate in the EEC's exchange rate targeting regime where the Deutsche Mark served as the nominal anchor. Owing to a desynchronisation of economic cycles following the oil crisis in 1973, inflation in Norway could no longer be restrained at the low level prevailing in Germany. After four successive devaluations of the Norwegian krone in an attempt to recoup a competitive loss, the Norwegian authorities decided to leave the system in December 1978, and instead sought to maintain a stable exchange rate against an index including the currencies of Norway's main trading partners.

However, Norway was not able to keep inflation in line with the average level among trading partners into the 1980s. Several small devaluations and "technical adjustments" to the krone were made to compensate for this. The authorities' response pattern was subsequently incorporated into expectations and was itself inflationary. Eventually, it was recognised that the costs associated with an inflationary environment were too high. After a major devaluation in May 1986, triggered by a fall in oil prices, exchange rate policy was tightened again.<sup>5</sup> The exchange rate was to be maintained within a narrow range and not adjusted frequently. This hard currency policy was to bring down inflation and pave the way for lower interest rates.

Tight control of capital movements facilitated the pursuit of a fixed exchange rate policy in the postwar period. Moreover, foreign exchange controls made it possible to pursue a nationally oriented interest rate policy and credit policy. Interest rate changes were decided politically under this system. In the 1970s and 1980s, however, this system came under

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<sup>4</sup> Several economists have read drafts of this paper and have commented and proposed improvements. I would like to thank Krister Andersson, Sigbjørn Atle Berg, Jarle Berge, Harald Bøhn, Øyvind Eitrheim, Svein Gjedrem, Amund Holmsen, Jan Tore Klovland, Torstein Moland, Jon Nicolaisen, Arent Skjæveland, Kjell Storvik, Lars Svensson, Bent Vale, and Birger Vikøren. I would also like to thank Helle Snellingen for translating the Norwegian text into English. All remaining errors and omissions are the responsibility of the author.

<sup>5</sup> See Kleivset 2011 for a study of Norwegian exchange rate policy 1971-1986.



pressure.<sup>6</sup> The hard currency policy pursued as from 1986 in effect removed interest rate setting from political control.

As a main rule, the Governor of Norges Bank took the decision to change interest rates when it was deemed necessary to do so in order to support the krone exchange rate. Before the decision was made it had to be submitted to the Ministry of Finance.<sup>7</sup> Nonetheless, it was largely an automatic decision during the period where monetary policy operated with narrow fluctuation margins for the exchange rate. The provision for operating this policy was set out in the general authorisation of the Executive Board of Norges Bank. The Executive Board was therefore not involved in the monetary policy decisions. The Board primarily dealt with overarching economy policy matters, often in relation to consultation processes.

In Norges Bank's communication of the orientation of monetary policy, the role of the Governor was clearly distinct from that of the Executive Board. The Governor could speak fairly boldly both to the media and in his annual address to the Supervisory Council of Norges Bank. When Norges Bank's Executive Board expressed its views on a matter, primarily in the form of a letter submitted to the Ministry of Finance, there was seldom any divergence between its views and official policy.

Norway succeeded in maintaining a fixed exchange rate against the exchange rate index from 1986 to the end of the decade. In 1990, the krone was again linked to the EC currencies within the framework of the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS). Norway's return to exchange rate cooperation within the EC, which at that time was a unilateral decision without the intervention support that would have followed from EC membership, was partly motivated by the new impetus to European integration as a result of the fall of the Berlin wall and the reunification of Germany. A number of countries had joined the ERM in 1990. The Norwegian authorities expected that linking the krone to the ERM would lower risk premiums on the krone and hence reduce interest rates. However, the reunification of the two Germanies gave rise to a demand shock. The German central bank responded with interest rate increases, which had an adverse impact on a number of countries participating in the ERM. When operators in the foreign exchange market discovered this,

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<sup>6</sup> See Berg, Bøhn and Kleivset 2012 for documentation of Norges Bank's role in the transition from a regulatory to a market-based approach in monetary, credit and exchange rate management in the period 1965-1990.

<sup>7</sup> See Hermod Skånland, "Experience with monetary management" in *Economic Bulletin*, 1987 (3).

heavy pressure arose on devaluation-prone currencies. An additional factor was the preceding wave of deregulation of capital markets. Technological advances had also reduced transaction costs, which led to an increase in short-term capital flows.<sup>8</sup> As a result, a number of countries were compelled to allow their currency to float in the course of the summer and autumn 1992. The krone also fell victim to market pressures. Norges Bank responded with interventions and sharp interest rate hikes. On 10 December 1992, the Bank succumbed and the krone was allowed to float.

As a result of the ERM crisis in autumn 1992, many countries introduced a new operational target for monetary policy, shifting focus from a fixed exchange rate to a floating exchange rate system. Without defining a different intermediary target, such as money supply, the interest rate was set with the aim of achieving price stability, defined as low and stable inflation. Some countries outside Europe had already introduced such a regime before 1992. New Zealand was the first to do so in 1989 and Canada followed suit in 1991. These countries became an example to, for instance, the UK and Sweden, which introduced an inflation targeting regime in 1992 and 1993, respectively.

In Norway, however, the notion of a fixed exchange rate as an anchor for the economy also figured prominently after the currency turbulence in autumn 1992. This reflected the division of responsibility for economic policy in Norway. Svein Gjedrem explained this in his first annual address as central bank governor on 18 February 1999:

In New Zealand, Australia and many other countries monetary policy is oriented directly towards price stability, and these countries permit short-term fluctuations in the exchange rate. This means that monetary policy bears the primary responsibility for price stability, whereas fiscal policy is to a greater extent oriented towards long-term stability in government finances.

[...] Many countries are struggling with government finances. After several years of large government budget deficits, interest expenditure is laying claim to a considerable portion of tax revenues and thereby limiting the government's scope for carrying out its tasks. The main challenge to fiscal policy is to eliminate these deficits and reduce government debt and interest expenditure.

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<sup>8</sup> Ragna Alstadheim, "Valutamarked og valutapolitikk" [Foreign exchange market and foreign exchange policy] in "Financial market, monetary and exchange rate policy in Norway", *Norges Bank's Occasional Papers* no 23, 1995: 36.

Norway has had greater fiscal scope for manoeuvre, although this has not solely been used to promote long-term balance. Therefore, Norway established a different division of responsibility for economic policy. As the objective of monetary policy is to maintain a stable exchange rate, fiscal policy has an important responsibility for stabilising the economy.

In Norway incomes policy played an important role, while in other countries it was of little relevance. In his first annual address, Governor Gjedrem elaborates on this aspect:

High wage growth cannot be attributed to flaws in wage and income determination. On the contrary, the flexible wage and income system can probably be cited as the main factor behind the high level of employment and low unemployment in Norway. In periods of strong labour market pressures, particularly in 1974-1976, 1986-1987 and last year, wage growth accelerates sharply. Such periods are normally followed by a slacker labour market and higher unemployment. The positive feature of income determination in Norway has been that wage growth returns to normal relatively quickly, which has allowed Norway to avoid the persistently high levels of unemployment experienced by most West European countries. Even though some increase in unemployment must be expected, we should be able to avoid a rise in unemployment to European levels or to the level prevailing in the period 1989-1992 if wage and cost inflation is rapidly reduced also during this business cycle.

In an article in *Aftenposten* 4 May 1999, Governor Gjedrem expressed the following:

There are considerable differences between Norway and other industrial countries in the structure of the economy, the organisation of decision-making processes and the formulation of economic policy. In Norway, income and wage determination is fairly centralised; a number of fora to foster cooperation between the social partners have been established, as has special legislation which makes it easier to resolve labour conflicts than in many other countries. The central government budget is used more actively to stabilise economic developments, partly because the Norwegian state has substantially greater economic leeway than other countries.

## 2. The first months of a floating exchange rate

On 11 December 1992, the day after the fixed exchange rate for the Norwegian krone had been suspended, the Minister of Finance, Sigbjørn Johnsen, provided an account to the Storting (Norwegian parliament), specifying that the Government was aiming to establish a fixed exchange rate for the krone as soon as international conditions permitted.<sup>9</sup> It was, however, difficult to specify the timing. As the Ministry of Finance only had the authority to suspend the fluctuation margins for a period of up to 30 days, a new exchange rate regulation for the Norwegian krone might be required.

Sweden and Finland had been pressed to suspend their fixed exchange rates earlier in the second half of 1992; Finland in September and Sweden in November.<sup>10</sup> The two countries immediately started work on clarifying the operational target that should apply during the period of a floating exchange rate.<sup>11</sup> Within Norges Bank, there was interest in this research work at an early stage. In December, Jan F. Qvigstad, Director of the Economics Department of Norges Bank sent two economists, Arent Skjæveland and Arild Lund, to Stockholm and Helsinki to discuss floating exchange rate regimes with their colleagues. The discussion formed the background for a memo presented to the Governor of Norges Bank, Hermod Skånland. One of the main points in the memo was that the central banks in Sweden and Finland had a greater degree of independence in their conduct of monetary policy than Norges Bank.<sup>12</sup>

In Norway, when the 30-day period neared an end, the conditions were still not in place for returning to a fixed exchange rate policy. It was therefore decided by Royal Decree of 8 January 1993 that the krone would be allowed to float until further notice. In a government memo, a three-phase approach for monetary and exchange rate policy was drawn up. In the first phase, Norges Bank would attempt to buy back some of the foreign exchange that had been lost in the support interventions conducted in autumn. In phase two, a more fixed range

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<sup>9</sup> Account to the Storting by the Minister of Finance on 11 December 1992 (Analytical Paper no. 7/1993, dark blue binder, bookcase 94, Hermod Skånland's archives).

<sup>10</sup> See Lars Jonung, "Inledning" [Introduction] in Lars Jonung (red.), *På jakt efter ett nytt ankare. Från fast kronkurs til inflationsmål*, [The quest for a new anchor. From a fixed exchange rate to an inflation target] SNS forlag, Stockholm, 2003: 9-10.

<sup>11</sup> A conference was held in Sveriges Riksbank in December. The contributions at the conference were published in a special edition of Sveriges Riksbank's economic journal *Penning- och valutapolitik*.

<sup>12</sup> To Skånland from Norges Bank's Economics Department, "Svenske og finske erfaringer med flytende valutakurs" [The experience of Sweden and Finland with a floating exchange rate], Analytical Paper no. 62/1992, binder "Valutakurspolitikk", bookcase 94, Hermod Skånland's archives.

for the krone exchange rate would be sought, but no official announcement would be made as to the timing. In phase three, a fixed exchange rate range for the krone in relation to the European Monetary System (EMS) would be defined.<sup>13</sup>

At that time, there was full agreement between Norges Bank and the Ministry of Finance that Norway should peg the krone to the EMS as soon as conditions allowed.<sup>14</sup> However, there were some disagreement concerning whether an exchange rate target also made price stability a monetary policy objective. At the end of January 1993, the future guidelines for monetary policy were discussed at a working dinner between the two institutions. Governor Hermod Skånland maintained that the conduct of monetary policy in Norway should continue to be based on developments in an exchange rate index. At the same time, Skånland argued that a fixed exchange rate target meant that price stability was a de facto objective of monetary policy.<sup>15</sup> When establishing a new exchange rate target, it was essential to ensure that inflation did not deviate from the level prevailing in the countries included in the currency index.<sup>16</sup>

Svein Gjedrem, Secretary General of the Economics Department at the Ministry of Finance, agreed with Norges Bank that considerable weight must be given to price stability, but argued that there was not a need for a further specification of price stability as a monetary policy objective. “The focus of the debate on economic policy would then quickly shift to whether the objective should be low inflation or full employment”.<sup>17</sup> It should be noted that at that

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<sup>13</sup> From the Minister of Finance to Government members, “Valutakurspolitikken” [Exchange rate policy], Analytical Paper no. 7/1993, Hermod Skånland’s archives; “Comments on R-paper on exchange rate policy 7 January 1993”, Analytical Paper no. 10/1993, Hermod Skånland’s archives.

<sup>14</sup> As indicated in several documents; see, for example, “Forberedelse til arbeidsmiddagen med Finansdepartementet” [Preparations for the working dinner with the Ministry of Finance], Memo of 25 January 1993, in Hermod Skånland’s archives.

<sup>15</sup> “Working dinner with the Ministry of Finance on 27 January 1993. Theme: Guidelines for monetary policy. Summary minutes”, Analytical Paper no. 7/1993, Hermod Skånland’s archives (The summary minutes were drafted by Norges Bank and have not been approved by other meeting participants); To Jan F. Qvigstad from Arent Skjæveland and Arild Lund, “Preparations for the working dinner with the Ministry of Finance”, memo of 25 January 1993, Analytical Paper no. 16/1993, Hermod Skånland’s archives.

<sup>16</sup> As Skånland pointed out, this was made more urgent as a number of countries now had defined price stability as the primary monetary policy objective. It was unclear, though, at this point, what the notion of price stability actually entailed. Skånland was of the view that the definition of the Chairman of the Federal Reserve, Alan Greenspan – that “inflation must be so low that agents do not have to worry about it” – provided a good basis. To Skånland two percent seemed to be the maximum these countries could accept.

<sup>17</sup> “Summary minutes from working dinner” 27 January 1993, Analytical Paper no. 7/1993 (The summary minutes were drafted by Norges Bank and have not been approved by other meeting participants); To Jan F. Qvigstad from Arild Lund and Arent Skjæveland, “Forberedelse til arbeidsmiddagen med Finansdepartementet” [Preparations for the working dinner with the Ministry of Finance], Analytical Paper no. 16/1993, Hermod Skånland’s archives.

point in time Gjedrem and the Ministry of Finance had the experience of a well functioning division of responsibility for economic policy, including exchange rate policy, which remained the case at least up to 1996.<sup>18</sup>

Internal discussions on both the temporary and future orientation of monetary policy continued within Norges Bank. The theme would become the main thrust of Hermod Skånland's annual address delivered on 18 February 1993.<sup>19</sup> In the speech, which incidentally was his last as he stepped down as Governor at the end of 1993, he pointed out that Norges Bank must be given the right to use the same monetary policy instruments under a temporary floating exchange rate regime as under a fixed exchange rate system. Skånland was concerned that in the absence of the discipline inherent in a fixed exchange rate regime, it would become difficult to explain unpopular interest rate decisions. He advised the authorities against allowing inflation to rise with a view to boosting employment. The positive economic effects this might have in the short term would be more than matched by adverse effects in the longer run.<sup>20</sup> Developments in the Norwegian economy in the years following 1986 showed that the real economic cost of bringing inflation back to a low level was considerable. Skånland therefore argued that the Norwegian authorities should seek to keep inflation at the low level already attained, and that it should be specified that the long-term objective of monetary policy was price stability. In his last speech, Skånland also considered the Bank's legal status, an issue with relevance for the conduct of monetary policy. He argued that the Government's legal right to issue instructions to Norges Bank could give the impression that the Government "wants to provide a backdoor exit from implementing the stability policy".<sup>21</sup>

Before the fixed exchange rate policy was abandoned in December 1992, it had been argued that the krone exchange rate should not be allowed to depreciate by more than 6-7 percent in

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<sup>18</sup> Conversation with Svein Gjedrem at the Ministry of Finance 7 July 2011.

<sup>19</sup> As background material for the Governor, the Economics Department had drawn up a memo "Guidelines for monetary policy under floating exchange rates – memo draft (background material for the Governor's annual address)", Analytical Paper no. 9/1993, binder "Exchange Rate Policy", bookcase 94, Hermod Skånland's archives; Documentation of calculations from the annual address were also published in the Bank's quarterly journal *Penger og kreditt* 1993 (1): Amund Holmsen and Arent Skjæveland, "The relationship between inflation and unemployment".

<sup>20</sup> In his annual address, Skånland's analysis of inflation and unemployment, particularly his proposition that the Phillips curve was vertical in the long run, was subject to controversy and fuelled debate. See, inter alia, "Død over Phillips" [Demise of Phillips] in *Dagens Næringsliv* 19 February 1993 and "Død over Skånland?" [Demise of Skånland?] in *Dagens Næringsliv* 5 March 1993.

<sup>21</sup> Annual address in February 1993, published in *Economic Bulletin* 1993 (1).

order to prevent excessive external inflationary impulses.<sup>22</sup> With the ECU index applied at that time, where 100 was the fixed rate, the value of the krone should thus fall to no more than 106-107. As a result of policy tightening, in January 1993 it was suggested that a depreciation of the krone should be limited to a maximum of 105-106 measured against the ECU index.<sup>23</sup> Directly following the suspension of the intervention limits, the krone exchange rate depreciated by 5.5 percent against the ECU. But in the days that followed, the krone appreciated somewhat again and remained stable at around 3-4 per cent weaker than its former fixed exchange rate level. At the beginning of March, the Government therefore deemed that the conditions were appropriate for moving to phase two – a managed float with a view to establishing a more fixed range for the krone exchange rate. In a draft memo from the Government to Norges Bank for comment, it was proposed that the exchange rate be kept within an interval of 103-109 against the ECU index. With the exchange rate level that had prevailed in January and February, the Economics Department of Norges Bank interpreted this as “a guideline allowing the krone exchange rate to depreciate”.<sup>24</sup> Norges Bank reacted critically to the Government memo as it was not formulated in accordance with the official framework for exchange rate stability, whether it be that indicated in internal communication or the account provided by the Minister of Finance to the Storting on 11 December 1992. In a memo from the Economics Department to Skånland, it was argued that Norges Bank should not accept internal guidelines that departed to such a considerable degree from publicly stated guidelines for monetary policy.<sup>25</sup> Nevertheless, only minor changes were made to the Government memo; the fluctuation margins were unofficially set at 103-108 and the aim was to “steer the krone exchange rate over time towards the middle of the specified interval”.<sup>26</sup>

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<sup>22</sup> “Mål for og gjennomføringen av pengepolitikken i et midlertidig flyteregime” [Objectives and implementation of monetary policy under a temporary floating exchange rate regime], Economics Department memo of 22 November 1992, Skånland’s archives.

<sup>23</sup> “Penge- og valutakurspolitikken” [Monetary and exchange rate policy], memo to Government conference on 2 March 1993, Arent Skjæveland’s archives.

<sup>24</sup> To Skånland from the Economics Department, “Retningslinjer for penge- og valutapolitikken” [Guidelines for monetary and exchange rate policy], memo of 3 March 1993, bookcase 140, binder ”Notater ØKA 1/11-92-30.9.94”.

<sup>25</sup> To Skånland from the Economics Department, “Retningslinjer for penge- og valutapolitikken” [Guidelines for monetary and exchange rate policy], memo of 3 March 1993 in Skjæveland’s archives. A memo that deals with this issue on a more general basis is ”Regjeringen og Finansdepartementets instruksjons- og omgjøringsmyndighet i forhold til Norges Bank” [The right of the Government and the Ministry of Finance to instruct Norges Bank], memo by Steinar Tjomsland, 19 May 1989.

<sup>26</sup> Analytical Paper no. 89/1993 in Skjæveland’s archives, “Scenarier for det europeiske valutasamarbeidet og konsekvenser for norsk penge- og valutakurspolitikk” [Scenarios for European exchange rate cooperation and consequences for monetary and exchange rate policy in Norway].

### 3. Reorientation within Norges Bank

Following the turbulence in summer and autumn 1992, foreign exchange markets stabilised somewhat in winter and the following spring. In summer 1993, however, exchange rate turbulence resurfaced and as a result bilateral currency fluctuation margins in the European Exchange Rate Mechanism (ERM) were temporarily widened from plus/minus 2.25 percent to plus/minus 15 percent. These developments reduced the possibility of reintroducing a fixed exchange rate for the Norwegian krone in the short or medium term and paved the way for a reorientation of monetary policy at Norges Bank. The realisation began to take hold that Norway might have to operate a floating exchange rate for some time, and economists sought to understand how to conduct monetary policy with a view to maintaining price stability under a floating exchange rate regime.<sup>27</sup> As academic research in Norway in this area was limited, inspiration had to be sought abroad.

A number of economists, primarily from Sweden, were invited to Norges Bank in autumn 1993. In October, Lars Svensson, professor of economics at Stockholm University and one of the leading academic experts in the field, visited Norges Bank and gave a talk based on a lecture he had held a few weeks earlier at the European Economic Association's conference in Helsinki.<sup>28</sup> Bent Vale, economist at Norges Bank, had attended the conference and had subsequently suggested that Svensson should be invited to Oslo. In December, Lars Hörngren and Krister Andersson from Sveriges Riksbank visited Norges Bank and explained about Riksbanken's work on its inflation forecasts and the inflation targeting process. Andersson, who had previously worked at the IMF, had played a key role in preparing the Swedish authorities' transition to inflation targeting. He had taken the initiative to seek advice from other countries and made use of his contacts in Washington D.C. and the central banks in Canada and New Zealand.<sup>29</sup> Jan F. Qvigstad established close contact with Andersson and in many ways followed the same approach.

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<sup>27</sup> Another factor contributing to the reorientation was the fall in oil prices in late autumn 1993. There was an urgent need to clarify what should be done if the krone again were to be exposed to strong and persistent depreciation pressures. See "Retningslinjer for pengepolitikken" [Guidelines for monetary policy] of 30 May 1994, in Skjæveland's archives.

<sup>28</sup> The lecture was published in *European Economic Review*, volume 38, 1994.

<sup>29</sup> Krister Andersson, "Utformingen av inflasjonsmålet och den penningpolitiska analysramen" (Designing the inflation target and the monetary policy framework of analysis) in Lars Jonung (ed.), *På jakt efter ett nytt ankare. Från fast kronkurs til inflasjonsmål* [The search for a new anchor. From a fixed krona exchange rate to an inflation target], SNS forlag, Stockholm, 2003.



In the second half of 1993, Norges Bank prepared a number of reports and articles on price stability objectives and inflation targeting with a view to providing information and to some extent influencing the Norwegian authorities and public opinion. In December, an article based on an analytical paper written by the Economics Department of Norges Bank describing the inflation targeting framework in a group of selected countries was published by Arent Skjæveland and Nina Langbraaten in Norges Bank's quarterly journal *Penger og kreditt* (*Economic Bulletin*).<sup>30</sup> Moreover, the two last issues from that year of the Norwegian journal *Sosialøkonomen* (*Norwegian Journal of Economics*) featured a debate between Skjæveland and economics professor Steinar Holden about the relationship between inflation and unemployment and the influence of monetary policy on these variables.<sup>31</sup>

In autumn 1993, Norges Bank also prepared a Festschrift for Hermod Skånland, who was soon to retire as central bank governor.<sup>32</sup> Inflation targeting was among the subjects of several of the contributions in the book, which was published in January 1994.<sup>33</sup> The book received widespread publicity in the media and in academic circles.<sup>34</sup>

In Norges Bank's submission on economic policy for 1994, the Bank's Governor and Deputy Governor, Hermod Skånland and Kjell Storvik, wanted to give weight to price stability as an explicit long-term objective of monetary policy. This view met with opposition in the Ministry of Finance.<sup>35</sup> After Norges Bank's Executive Board had discussed the draft submission, the text on monetary policy was therefore adjusted. As mentioned earlier, it had been standard practice throughout the post-war period for Norges Bank's Executive Board to be very cautious about, or preferably avoid, publicly advising changes in economic policy if the Ministry of Finance or the political executive disagreed on the measures the Bank

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<sup>30</sup> Arent Skjæveland and Nina Langbraaten, "Inflasjonsmål for pengepolitikken – hvordan gjøres dette i andre land?" (An inflation targeting framework for monetary policy – how is this done in other countries?) in *Penger og kreditt* 1993 (4).

<sup>31</sup> Steinar Holden, "Inflasjon og arbeidsledighet – Om tolkning av empiriske funn og implikasjoner for økonomisk politikk" [Inflation and unemployment – on the interpretation of empirical findings and implications for economic policy] in *Sosialøkonomen* 1993 (9); Arent Skjæveland, "Inflasjon og arbeidsledighet – Hva kan pengepolitikken bidra med?" (Inflation and unemployment – how can monetary policy contribute?) in *Sosialøkonomen* 1993 (10); Steinar Holden, "Om inflasjon, arbeidsledighet og pengepolitikk: Svar til Arent Skjæveland" [On inflation, unemployment and monetary policy. Response to Arent Skjæveland] in *Sosialøkonomen* 1993 (10).

<sup>32</sup> Kjell Storvik, Jan F. Qvigstad and Sigbjørn A. Berg, *Stabilitet og langsiktighet. Festschrift til Hermod Skånland* [Stability and long-termism. Festschrift for Hermod Skånland], Aschehoug, Oslo, 1994.

<sup>33</sup> See in particular Hörngren's article and the contribution from Qvigstad and Skjæveland.

<sup>34</sup> See for example Einars Lie's review of the Festschrift in the journal *Tidsskrift for samfunnsforskning* 1994 (2).

<sup>35</sup> To the Executive Board from ØKA, "Revised draft of Norges Bank's submission on economic policy for 1994", 27 October 1993, archive "Notater ØKA 1/11-92-30/9-94".

intended to propose.<sup>36</sup> The Ministry promised, however, that monetary policy issues would be reviewed in the Revised National Budget in spring 1994.<sup>37</sup>

Hermod Skånland was succeeded by Torstein Moland as Governor of Norges Bank at the turn of the year 1993/94. Moland shared the view that price stability should be a long-term objective of monetary policy. When the new central bank governor took office, with the press interviews that had been planned, the Economics Department introduced the concept of “non-inflationary growth”. The department held the view that a situation had presented itself where it would be possible to “sell the advantage of price stability to the public”.<sup>38</sup>

For the Government, incomes policy cooperation played a key role in achieving low price and cost inflation. Against the background of an official report on employment challenges in Norway, the Government and LO (Norwegian Confederation of Trade Unions) had agreed on a strategy to ensure wage moderation in the years ahead.<sup>39</sup> As quid pro quo for wage moderation, the government would set aside funds for job creation measures. The solution was called the “Solidarity Pact”. The view that incomes policy cooperation could ensure low price and cost inflation generated less optimism at Norges Bank. Governor Skånland had previously been involved in working on this issue, but had to some extent lost faith in this approach after the period of high cost inflation in Norway in the 1970s.<sup>40</sup> Norges Bank’s forecasts from 1993 reflected some scepticism as to whether the social partners would be able to restrain wage and price inflation in Norway when labour market pressures increased.<sup>41</sup>

Based on its assessments of the division of responsibility for economic policy, the Ministry of Finance still regarded exchange rate targeting as appropriate, but wished to avoid operating with absolute limits. In a speech delivered on 28 January 1999, then Governor of Norges

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<sup>36</sup> NOU (Official Norwegian Report) 1983: 39 *Lov om Norges Bank og pengevesenet* (Act relating to Norges Bank and the Monetary System): 323-326.

<sup>37</sup> To the Executive Board from ØKA, “Revidert utkast til brev om det økonomiske opplegget for 1994” (Revised draft submission on economic policy for 1994), 27 October 1993, archive “Notater ØKA 1/11-92-30/9-94”.

<sup>38</sup> To Moland from ØKA, “Inflasjonsfri vekst” [Non-inflationary growth], memo of 15 December 1993, Skjæveland’s archives.

<sup>39</sup> NOU (Official Norwegian Report) 1992: 26 *En nasjonal strategi for økt sysselsetting i 1990-årene* [A national strategy for higher employment in the 1990s].

<sup>40</sup> This pessimism is reflected in Skånland’s book published in 1981, *Inntektspolitikken dilemma – kan det løses?* [The dilemma of incomes policy – can it be resolved?], Cappelen, Oslo, 1981.

<sup>41</sup> See for example Hermod Skånland’s editorial in *Penger og kreditt* 1993 (4): ”Mens inflasjonen hviler” [While inflation is quiescent].

Bank, Svein Gjedrem, described the challenges posed by exchange rate interventions in the 1990s:

From a somewhat longer term perspective the experience of large-scale and persistent interventions is mixed. When the central bank intervenes heavily to defend the krone, market participants may easily move into a game situation and perceive central bank intervention as an interesting opportunity to make a profit. Market operators know that a situation in which the krone is perceived as "artificially strong" because Norges Bank is buying kroner cannot persist. It is then tempting to take reverse positions in the foreign exchange market in relation to the central bank. This means that heavy and prolonged interventions may be self-reinforcing over time, steadily increasing the necessary volume of intervention purchases required to maintain the krone exchange rate.

The foremost example of such a game situation in Norway's exchange rate policy history was Friday, 20 November 1992 when we made intervention purchases for NOK 37 billion from the time the market opened until the market closed.

Norges Bank does not want to intervene in such a way that this type of game situation arises. However, the Bank will use interventions if the krone moves substantially out of line with what we consider to be reasonable based on fundamentals or in the event of exceptional short-term volatility. It may also be appropriate to reinforce a desired development in the exchange rate that has already been observed in the market. In such a situation, it is assumed that the risk of ending up in a game situation against exchange market players is marginal. However, we must take into account that the krone exchange rate cannot in the long run deviate substantially from the level implied by economic fundamentals.<sup>42</sup>

As the Ministry of Finance had announced that it would review the issue of the orientation of monetary policy in the Revised National Budget in spring 1994, the Economics Department in Norges Bank prepared a strategy document with "stops" plotted in for the winter and spring.<sup>43</sup> After Torstein Moland took office at the beginning of the year, the first stop was the annual address in February. In his address, the new Governor followed up Skånland's message from the previous year about the need to define a long-term monetary policy objective even under a floating exchange rate regime and that this objective should be price stability. Moland also argued for greater independence for the central bank, but emphasised that more important

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<sup>42</sup> "Challenges to economic policy", address by Svein Gjedrem, Gausdal, 28 January 1999.

<sup>43</sup> "Arbeidet med pengepolitikken fram mot RNB" (The work on monetary policy in the period to the Revised National Budget), Economics Department memo, 17 December 1993, Skjæveland's archives.

than autonomy was broad political and general acceptance of the importance of low inflation.<sup>44</sup>

The market's response to Moland's first annual address was unexpectedly negative. The krone depreciated immediately by half a percent against the ECU index. For Norges Bank, this was a reminder of the importance of not sending unclear signals to the markets. Just before he retired at the end of the previous year, Skånland had raised the interest rate by a quarter percentage point to give the new Governor "an easier start".<sup>45</sup> Shortly before the annual address, Moland had lowered the interest rate again to the previous level on the recommendation of the Market Operations Department. It would seem that for market participants this interest rate reduction did not harmonise with the Bank's communication. The speech and the market response were discussed in a memo from the Market Operations Department. It was pointed out that it would be difficult for market participants to have confidence in a price stability objective in Norway because there was no tradition of giving weight to price stability as an objective in the formulation of Norwegian economic policy. The low level of inflation at this time could not be said to reflect a specifically Norwegian desire for low inflation, but rather a combination of low activity in the Norwegian economy and tight monetary policy in the last few years of the fixed exchange rate regime.<sup>46</sup>

The Norwegian authorities had succeeded in keeping the krone exchange rate relatively stable after the ERM crisis in 1992 and 1993. Nonetheless, a permanent and credible solution for the orientation of Norwegian monetary policy would eventually have to be found. In spring 1994, prior to the adoption of the Revised National Budget, a number of meetings were held between the Ministry of Finance and Norges Bank where these issues were addressed.<sup>47</sup> The representatives of the central bank were of the opinion that an exchange rate target still was recommendable, provided that some more flexibility should be allowed with regard to short-term fluctuations in the exchange rate, and as long as the long-term objective for monetary policy was price stability.<sup>48</sup> The Ministry of Finance was still sceptical about explicitly giving monetary policy responsibility for price stability. The cooperation with the social partners

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<sup>44</sup> Moland's Annual Address, published in *Economic Bulletin* 1994 (1).

<sup>45</sup> Conversation with Torstein Moland at Norges Bank on 15 June 2011.

<sup>46</sup> "Kronekursen i flyteregimet. Troverdighet i valutapolitikken" (The krone exchange rate under a floating rate regime. Credibility of exchange rate policy), Market memo no. 17/1994, 28 February 1994, Skjæveland's archives.

<sup>47</sup> See "Monetary policy under floating exchange rates", 11 March 1994, in Skjæveland's archives.

<sup>48</sup> Expressed in, for example, Norges Bank's submission to the Ministry of Finance of 19 April 1994.

called for a continued primary focus on a fixed exchange rate as the operational target of monetary policy. A fixed exchange rate had been a basic premise for the official report on employment, mentioned above. If wage moderation was to be achieved, it was important that the exchange rate did not contribute to changes in competitiveness.

Against the background of the discussions that spring, a new exchange rate system for the Norwegian krone was established in May 1994 in connection with the Revised National Budget. Sections 1 and 2 of the Exchange Rate Regulation read as follows:

§1

The international value of the Norwegian krone is determined by the exchange rates in the foreign exchange market.

§2

Norges Bank's implementation of monetary policy shall be aimed at maintaining a stable krone exchange rate against European currencies, based on the range of the exchange rate range maintained since the krone was floated on 10 December 1992. In the event of significant changes in the exchange rate, monetary policy instruments will be oriented with a view to returning the exchange rate over time to its initial range. No fluctuation margins are established, nor is there an appurtenant obligation on Norges Bank to intervene in the foreign exchange market.<sup>49</sup>

The turbulence in 1992 in particular had shown that a unilateral fixed exchange rate regime with tight fluctuation margins was not sufficiently robust now that capital movements had been fully liberalised. Speculation against the krone had to be made less tempting. The new Regulation provided for more flexibility, as Norges Bank had called for.<sup>50</sup> However, the main responsibility for keeping wage and price inflation at a competitive level was still assigned to incomes policy, while fiscal policy was to be used to smooth the business cycle.

Even though the Norwegian authorities did not establish an inflation target in May 1994, a fairly broad understanding had nonetheless formed in the Government and the Storting that low inflation was a precondition for achieving economic policy objectives and that the various policy components had to pull in the same direction to achieve this.<sup>51</sup> The Governor of

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<sup>49</sup> St. meld. nr. 2 (1993-94) Revidert nasjonalbudsjett 1994 [Report no. 2 to the Storting (1993-94) Revised National Budget for 1994].

<sup>50</sup> The Norwegian exchange rate regime of May 1994 has been referred to in different ways; some have emphasised its stability, others its flexibility. See e.g. Skånland 1999 and Straumann 2010: 326-335.

<sup>51</sup> "Vår rådgivende rolle i penge- og valutakurspolitikken" [Our advisory role in monetary and exchange rate policy], Economics Department memo of 20 August 1993, in Skjæveland's archives.

Norges Bank therefore decided, on the advice of the Economics Department, that the Bank would publish quarterly inflation reports in the Bank's journal as from autumn 1994 in order to provide motivation for the necessary economic policy measures.<sup>52</sup> One of the most important instruments for inflation targeting was thus established, even though the Norwegian authorities had decided to continue to operate an exchange rate targeting regime.<sup>53</sup>

Norges Bank nonetheless continued to explore the conduct of monetary policy under a floating exchange rate regime and the operationalisation of an inflation target. A number of articles and doctoral dissertations written by economists connected with the Bank touched upon or addressed the issue. In 1994, Birger Vikøren and Arent Skjæveland wrote a working paper called "The Conduct of Monetary and Exchange Rate Policy. Previous Studies and New Problems".<sup>54</sup> Three years later, Ingunn M. Lønning submitted a dissertation on inflation targeting.<sup>55</sup> Øistein Røisland wrote a doctoral dissertation entitled "Rules and institutional arrangements for monetary policy".<sup>56</sup> Kai Leitemo worked on a dissertation on inflation targeting in the same period as Røisland.<sup>57</sup> Moreover, new staff members were appointed to work on the issue. Early in 1995 Qvigstad recruited Jon Nicolaisen from the OECD in Paris. Nicolaisen was later to succeed Qvigstad as the leader of the Economics Department. On the other hand, some colleagues left the Bank: one of the key contributors to the work done on inflation targeting, Arent Skjæveland, left Norges Bank in spring 1995 to take up a position at the Ministry of Finance.

The various international fora where Norges Bank was represented provided many new impulses. The monthly meetings of central bank governors at the Bank for International Settlements (BIS) were particularly important for discussions and networking, as were the meetings at the OECD and the preparatory meeting for a future European central bank where the Norwegian authorities took part for a period. In June 1994, Moland and several other representatives of Norges Bank attended a meeting of the Nordic central bank governors on

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<sup>52</sup> Torstein Moland, "Sentralbankens rolle" [The role of the central bank] in *Penger og kreditt* 1994 (2).

<sup>53</sup> See comment on this point in Andersson 2003: 263.

<sup>54</sup> Published as *Arbeidsnotat* [Working Paper], Norges Bank 1994. Other works by Vikøren from this period include: "Argumenter for og mot en uavhengig sentralbank" [Arguments for and against an independent central bank] in *Sosialøkonomen* [Norwegian Journal of economics], 1994 (9).

<sup>55</sup> Ingunn M. Lønning, "Controlling inflation by use of the interest rate: the critical roles of fiscal policy and government debt" in *Norges Bank's Occasional Papers* no. 25, Oslo, 1997.

<sup>56</sup> Øistein Røisland, "Rules and Institutional Arrangements for Monetary Policy" in *Norges Bank's Occasional Papers*, no. 29, Oslo, 2000.

<sup>57</sup> Kai Leitemo, "Inflation targeting and monetary policy" in *Norges Bank's Doctoral Dissertations in Economics* no. 2, Oslo, 2000.

Gotland where the Nordic countries' experience after the transition to floating exchange rates was discussed.<sup>58</sup> In August 1994, the Economics Department sent a representative to a week-long conference at the Bank of England, where 14 countries participated and where a range of highly topical central banking issues were discussed.<sup>59</sup> In September, Qvigstad and other staff members visited the Bank of England and the Treasury in London. In this period Qvigstad established contact with several experts on monetary policy who were to become "important discussion partners". Among them were the head of the Economics Department in the Bank of England, Mervyn King, Deputy Governor of the Bank of Canada, Chuck Freedman, and Chief Economist of the BIS, Bill White. Thus, by the mid-1990s, Norges Bank had established a broad network of international contacts with expertise on inflation targeting that the Bank was to draw on to a great extent in the years ahead.

One of the factors that contributed to the uncertainty around the future Norwegian exchange rate regime was the issue of Norway's role in the European process of integration.<sup>60</sup> Norwegian membership of the EU would require an adjustment to the Norges Bank Act. As mentioned above, Skånland had referred to the legal basis for monetary policy in his last annual address in February 1993. The subject had been discussed in a meeting between Norges Bank and the Ministry of Finance a few days after the address. According to Norges Bank's minutes of the meeting, Secretary General of the Economics Department at the Ministry of Finance, Svein Gjedrem indicated that capacity constraints at the Ministry precluded a change in the legal basis unless this became relevant in the event of EU membership.<sup>61</sup> The Norwegian authorities nevertheless had to keep two scenarios in mind: In the event of EU membership, Norway would be expected to resume its participation in the increasingly binding fixed exchange rate cooperation in Europe. If Norway did not become a member, it would be possible to consider other solutions. The Norwegian people voted against joining the EU in November 1994 and the exchange rate regime from May continued for the present.

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<sup>58</sup> See "Nordisk sentralbanksjefmøte 27.-29. juni 1994" [Meeting of Nordic central bank governors 27-29 June 1994].

<sup>59</sup> See "Referat fra seminar i Bank of England. Med vekt på omorganiseringen av Bank of England og det pengepolitiske opplegget i UK" [Minutes from Bank of England seminar. With emphasis on the reorganisation of the Bank of England and the monetary policy regime in the UK], Analytical Paper no. 81/1994.

<sup>60</sup> Skånland 2004: 104.

<sup>61</sup> "Referat fra møte med Finansdepartementet 19 February" [Minutes of the meeting with the Ministry of Finance on 19 February], Analytical Paper no. 22/1993, in Skjæveland's archives (These minutes were written by Norges Bank and have not been approved by the other participants).

#### 4. Exchange rate stability versus real economic stability

The Norwegian economy fared well in 1993 and 1994. The exchange rate was stable and inflation low. In his last editorial in Norges Bank's journal *Penger og kreditt*, Hermod Skånland emphasised how unusual 1993 had been in that it had been easy to be the Governor of Norges Bank.<sup>62</sup> The Norwegian economy continued on a positive path in 1995. Inflation was low, at the European level, and it was relatively easy for Norges Bank to maintain a stable krone exchange rate with short-term rates in Norway at the same level as in Europe. The competitiveness of the Norwegian business sector had also improved. Many observers gave the credit for these favourable developments to the Solidarity Pact and the incomes policy framework. In his annual address of February 1995, however, Moland offered a different explanation. Moland primarily attributed the improvement in competitiveness since 1992 to the depreciation of the krone after the ERM crisis and a reduction in employers' national insurance contributions. Wage growth had not been appreciably lower than in other countries and productivity growth had been weaker. Moland concluded his speech by warning against the risks associated with the global economic recovery that was underway. He pointed out that competitiveness could deteriorate again if wage formation functioned as it had done during the upturns in the two previous decades, which could in the next round undermine the preconditions for maintaining a stable krone exchange rate.<sup>63</sup>

Of particular concern to Norges Bank at that time was the risk that monetary policy could have a pro-cyclical effect during an upturn. Subject to the prevailing regulation, the interest rate had to be set at a low level to counteract an appreciation of the krone exchange rate. Torstein Moland has later asserted that he "exchanged a few words with Minister of Finance Sigbjørn Johnsen" about this matter in spring 1995. The Minister is then said to have indicated that "the Ministry was aware of the matter".<sup>64</sup>

The risk that the focus on a stable krone exchange rate could become too rigid was mentioned again in the February 1996 annual address, this time by Kjell Storvik, who had taken over as Governor of Norges Bank when Moland resigned in autumn 1995. Storvik pointed out that even though a stable exchange rate against the ECU was important in order to keep price and cost inflation at a low level, an overly rigid interpretation could present a problem as the

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<sup>62</sup> Hermod Skånland, "Mens inflasjonen hviler" [While inflation is quiescent], editorial in *Penger og kreditt* 1993 (4).

<sup>63</sup> Moland's annual address February 1995, published in *Economic Bulletin* 1995 (1).

<sup>64</sup> Conversation with Torstein Moland at Norges Bank on 15 June 2011.



Norwegian economy was often out of sync with trading partners in the EU. A more independent interest rate policy might be necessary, as experienced after the reunification of Germany earlier in the decade. At the same time, Storvik highlighted the risk of allowing fiscal policy to bear the full burden of stabilising the economy as this might lead to public finance imbalances, thereby eroding the more long-term basis of economic policy. In the interest of ensuring economic efficiency and a predictable policy framework, there were limits to the scope for tax and benefit changes. This became even clearer in a world of free capital movements.<sup>65</sup>

The shift in many countries away from a fixed exchange rate as the operational target of monetary policy at the beginning of the 1990s came with the recognition that this policy was not necessarily consistent with economic stability. These countries had experienced substantial changes in the real exchange rate, or the real price of goods and services relative to trading partners. With a credible objective of low inflation anchored in the domestic economy, the exchange rate could be allowed to appreciate or depreciate as necessary and contribute to economic stability. As an oil exporter, Norway was particularly exposed to changes in its terms of trade.<sup>66</sup>

Storvik and Norges Bank continued to express concern about developments in the Norwegian economy through spring 1996. It appeared that the annual wage settlement would be more expensive than in the preceding years, and the central bank expressed the view that this constituted a clear departure from the policy of wage moderation, i.e. the Solidarity Pact. At the same time, sizeable tax revenues provided room for higher government spending, which would increase pressures in the economy. In a confidential letter to the Minister of Finance, Storvik warned that, in a worst case scenario, developments in the Norwegian economy might resemble those of the mid-1970s, when competitiveness deteriorated sharply.<sup>67</sup>

In May 1996, Norges Bank's advice concerning the orientation of monetary policy was taken into account in the Revised National Budget. This was at least how it was perceived by the Bank's executive management, as supported by both later conversations and correspondence

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<sup>65</sup> Storvik's annual address 1996, published in *Economic Bulletin* 1996 (1).

<sup>66</sup> See Erling Steigum, "Financial Deregulation with a Fixed Exchange Rate: Lessons from Norway's Boom-bust Cycle and Banking Crisis", in Thorvald G. Moe, Jon A. Solheim and Bent Vale (eds.) "The Norwegian Banking Crisis", *Norges Bank's Occasional Papers* no. 33, 2004.

<sup>67</sup> From the Governor of Norges Bank to the Minister of Finance, "Innrettingen av den økonomiske politikken" [The orientation of economic policy], revised draft of confidential letter, 3 May 1996.

from 1996.<sup>68</sup> For example, a confidential memo from Storvik to the Minister of Finance from August 1996 reads: “Current guidelines, as formulated in the Revised National Budget for 1996, allow an adjustment of monetary policy instruments in the interest of stabilisation policy”.<sup>69</sup>

Through summer and autumn 1996, it became increasingly difficult to strike a balance between stabilising the krone exchange rate and ensuring economic stability and low and stable inflation. In response to signs of a slowdown in the German economy, the Bundesbank decided to lower interest rates. Developments in Norway, with large current account surpluses as a result of high oil prices and continued low inflation, fuelled investor interest in the krone. Norges Bank undertook extensive interventions to counteract the appreciation of the exchange rate. In view of the developments in the Norwegian economy through 1996, the central bank was reluctant to lower the interest rate.<sup>70</sup>

Nonetheless, the Government continued to place considerable emphasis on the potentially adverse effects of exchange rate fluctuations on cooperation between the social partners in wage negotiations.<sup>71</sup> Norges Bank therefore reluctantly lowered the key interest rate by a half percentage point in November. “The relaxation we thought had been included in the Revised National Budget was not there after all”, Jarle Berge, Deputy Governor from 1996, said later.<sup>72</sup>

In spite of the interest rate cuts and market interventions to bring down the value of the krone, appreciation pressures persisted through December and in the first few days of 1997.<sup>73</sup> Norges Bank therefore decided to suspend exchange rate interventions on 10 January, as provided for under the Exchange Rate Regulation of 6 May 1994 when pressures became too high in one or the other direction. The krone appreciated rapidly, reaching 95.5 against the ECU in February, 4½ percent in nominal terms above the exchange rate prevailing prior to the switch

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<sup>68</sup> Conversation with Jarle Berge at Norges Bank 13 April 2011.

<sup>69</sup> From the Governor of Norges Bank to the Minister of Finance, “Den økonomiske politikken” [Economic policy], confidential memo, 26 August 1996. See also “Handlingsrommet innenfor kursforskriften” [Room for manoeuvre within the Exchange Rate Regulation], 20 June, 1996.

<sup>70</sup> Conversation with Jarle Berge at Norges Bank on 13 April 2011.

<sup>71</sup> Torbjørn Jagland succeeded Gro Harlem Brundtland as Prime Minister in October.

<sup>72</sup> Conversation with Jarle Berge at Norges Bank, 13 April 2011.

<sup>73</sup> For Norges Bank’s assessments subsequent to the interest rate decision of November 1996: see letter to the Ministry of Finance, “Utformingen av penge- og valutapolitikken” [The formulation of monetary and exchange rate policy], 22 November 1996, Jarle Berge’s archives.

to a floating rate in December 1992.<sup>74</sup> As was the case in November and December 1992, developments in autumn 1996 and January 1997 confirmed once again that interventions could be a waste of money.<sup>75</sup> This strengthened the argument that a short-term exchange rate target was not a viable path to follow.<sup>76</sup>

Against the background of the developments through autumn and winter, Storvik's annual address in February 1997 primarily focused on the challenges facing Norges Bank in its conduct of exchange rate policy. Governor Storvik pointed out that the expansionary monetary stance that was needed in order to bring the krone back to its initial range would fuel domestic demand. At worst, this could lead to unsustainable growth concentrated in sheltered industries and an overheated Norwegian economy. This would in turn require monetary policy tightening and lower wage and price inflation than abroad. Previous experience had shown that the effects of such swings caused permanent effects, such as a long-lasting rise in unemployment. As he had already indicated, Storvik was concerned that fiscal policy had been given an excessive burden for stabilising the Norwegian economy. The possibility was again raised that monetary policy should to a greater extent weigh exchange rate stability against other economic considerations.<sup>77</sup>

As a result of the turbulence in winter 1996/97, Norges Bank requested further technical assistance from its contacts abroad. On this occasion, Qvigstad approached the Bank of England and the IMF. Mervyn King, mentioned above, sent one of his leading economists, Andrew Haldane, who spent four weeks at Norges Bank writing a report on Norwegian monetary policy.<sup>78</sup> The IMF sent three economists, William Alexander, John H. Green and Birgir Arnason, on a so-called "technical mission". In addition, the Economics Department at Norges Bank invited a group of Norwegian and international monetary policy experts to a seminar in spring 1997 to analyse the monetary framework in Norway and assess whether

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<sup>74</sup> *Inflation Report* for the first quarter of 1997, *Penger og kreditt* 1997 (1): 16-17.

<sup>75</sup> After the unsuccessful attempt to defend the krone exchange rate in autumn 1992, Norges Bank spent 1993 replenishing foreign exchange reserves. Between January and June 1993, Norges Bank purchased more than NOK 56 billion in foreign exchange while at the same time considerably reducing the interest rate. The exchange rate was stable in this period. It can therefore be said that there were underlying appreciation pressures on the krone in this period. In 1994 and 1995, minor interventions were sufficient to stabilise the krone exchange rate (see memo "Nordisk sentralbanksjefmøte 27.-29. juni 1994" [Meeting of the Nordic central bank governors 27-29 June 1994]).

<sup>76</sup> Conversation with Harald Bøhn at Norges Bank, 17 August 2011.

<sup>77</sup> Annual address February 1997, published in *Economic Bulletin* 1997 (1).

<sup>78</sup> Andrew Haldane, "The Monetary Framework in Norway", in Christiansen and Qvigstad 1997.

there were any alternatives. This was also an opportunity for Norges Bank to share its newly acquired knowledge with Norwegian academia.

In their assessments and recommendations, the experts divided into two groups: those who recommended inflation targeting and those who, partly in the interest of the division of responsibility for economic policy, argued in favour of continuing to operate an exchange rate targeting regime.<sup>79</sup> All the foreign experts recommended inflation targeting, as did Jan Tore Klovland and Erling Steigum of the Norwegian School of Economics (NHH) in Bergen.<sup>80</sup> In his contribution, Lars Svensson, referred to above, stated that Norges Bank already possessed the analytical capacity to support inflation targeting as the Bank published inflation reports of a high international standard.<sup>81</sup> The experts who strongly advocated a continuation of the exchange rate targeting regime were Norwegian economists at Statistics Norway (formerly the Central Bureau of Statistics) and the University of Oslo, including Steinar Holden, mentioned above. In addition, Eilev S. Jansen, director of the Research Department at Norges Bank, mentioned that there was still some scepticism about inflation targeting within the central bank administration.<sup>82</sup> He referred, as had the contributors from Statistic Norway and the University of Oslo, to the problems this might pose to cooperation between the social partners if exchange rate movements caused changes in competitiveness.

Norwegian money market rates remained three quarters of a percentage point below the ECU interest rate from January 1997. Pressures on the krone eased later that spring and the exchange rate depreciated. In June, the krone had returned to its initial range. It was still necessary, however, to keep the Norwegian three-month interest rate well below the three-month ECU rate.<sup>83</sup>

In Norges Bank's submission on economic policy in autumn 1997, it was argued that the Exchange Rate Regulation should be adjusted to provide scope for a less expansionary

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<sup>79</sup> The contributions from the seminar were published in autumn 1997 in *Choosing a Monetary Policy Target*, ed. Anne Berit Christiansen and Jan F. Qvigstad.

<sup>80</sup> Economists from the University of Bergen were also in favour of inflation targeting at this time. See Kvilekval and Vårdal 1997.

<sup>81</sup> Lars E. O. Svensson, "Exchange Rate Target or Inflation Target for Norway?" in Christiansen and Qvigstad, 1997: 135-136.

<sup>82</sup> Eilev S. Jansen, "Comment on 'Exchange Rate Target or Inflation Target for Norway?' by Lars E. O. Svensson" in Christiansen and Qvigstad, 1997: 141-142.

<sup>83</sup> "Videre arbeid med inflasjonsmål" (Inflation targeting work ahead), memo by Jan F. Qvigstad, 22 August 1997.

monetary stance.<sup>84</sup> In the first draft of the submission, this had been expressed even more clearly, but had, according to Jarle Bergo, been diluted after Executive Board discussions.<sup>85</sup> Nonetheless, the Bondevik Government stated in the National Budget for 1998 that the division of responsibility between monetary, fiscal and incomes policy had produced positive results and that current practice would be upheld.<sup>86</sup>

Norges Bank continued its efforts to gather impulses abroad. Storvik and Bergo visited the Bank of England at the end of January 1998. After Tony Blair's election victory in 1997, the Bank of England had been granted operational independence in interest rate setting and a new central bank body had been established – the Monetary Policy Committee (MPC).<sup>87</sup> The MPC convened once a month to assess whether an interest rate change was required. Storvik and Bergo attended the preparatory part of the meeting where background material was presented by economists in their field of expertise. This visit was to provide important inspiration for a number of the changes in procedure that would later be introduced at Norges Bank.<sup>88</sup>

In his annual address in February 1998, Governor Storvik stated in clear terms that the Norwegian political authorities disagreed with Norges Bank as to the orientation of monetary policy in the current situation. Yet, Storvik did not spend much time on this issue in his address. He emphasised that Norges Bank had “taken note” of the authorities' view and that the Bank would loyally follow the guidelines that had been laid down.<sup>89</sup> However, Norges Bank was relatively active in promoting inflation targeting among members of the Storting in other fora. For example, Storvik invited Urban Bäckström, Governor of Sveriges Riksbank, to give a lecture on the subject at a dinner hosted by Norges Bank and attended by the Standing Committee on Finance and Economic Affairs.<sup>90</sup>

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<sup>84</sup> The letter was printed in *Penger og kreditt* 1997 (4). It was not attached or referred to in the National Budget.

<sup>85</sup> Conversation with Jarle Bergo at Norges Bank, 5 April 2011.

<sup>86</sup> St. meld. nr. 1 (1997-98) *Nasjonalbudsjettet for 1998* [Report no. 1 (1997-98) to the Storting, the National Budget for 1998].

<sup>87</sup> In the initial years of inflation targeting after the ERM crisis, the Bank of England needed the approval of the Treasury to change its interest rates.

<sup>88</sup> In connection with the changes made in the UK, a seminar was arranged at the British embassy in Oslo at the end of January. Sir Alan Budd, member of the newly established monetary policy committee, gave a lecture on the change in UK monetary policy. The lecture was translated into Norwegian and published in *Penger og kreditt* 1998 (2).

<sup>89</sup> Storvik's 1998 annual address, published in *Economic Bulletin* 1998 (1).

<sup>90</sup> Conversation with Kjell Storvik at Norges Bank on 4 May 2011.

After returning to its initial range in summer 1997, the krone appreciated somewhat in the third quarter then depreciated somewhat in the fourth quarter. At the turn of the year 1997/98, the krone exchange rate was 101.4 against the ECU, while the three-month interest rate was 0.8 percent below the three-month ECU rate. The krone gradually depreciated in the first half of 1998 when oil prices fell as a result of the 1997 Asian financial crisis.<sup>91</sup> The crisis led to a global reassessment of risk that also affected the Norwegian financial market. An expansionary monetary stance and macroeconomic developments resulted in higher inflation expectations in Norway.<sup>92</sup>

In the course of spring 1998, Norges Bank's use of monetary policy instruments changed from the objective of bringing the krone exchange rate down to its initial range to preventing it from falling below the initial range. While the Norwegian three-month interest rate was three quarters of a percentage point below the ECU rate at the beginning of 1998, it was higher than the ECU rate at the end of June. A generous wage settlement, a sharp downward revision of the estimated current account surplus in the Revised National Budget and insufficient fiscal tightening did not go unnoticed by market participants and severely impaired confidence in the Norwegian economy.<sup>93</sup>

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<sup>91</sup> See "Endring i folioinnskudds og d-lånsrenten/foreleggelse for Finansdepartementet" [Changes in sight deposit and D-loan rates/submission to the Ministry of Finance], 18 March 1998.

<sup>92</sup> Grete Hammerstrøm and Jon Nicolaisen, "Konjunkturutviklingen og Norges Banks vurderinger 1996-1998" [Cyclical developments and Norges Bank's assessments] in "Sentralbanken i forandringens tegn" [A changing central bank] (Festschrift for Kjell Storvik), *Norges Banks skriftserie* nr 28, Oslo, 1999.

<sup>93</sup> From the Economics Department to the Executive Board, "Norges Banks virkemiddelbruk gjennom 1998" [Norges Bank's use of instruments through 1998], 12 October 1998; From the Market Operations Department to the Executive Board, "Utviklingen i valutamarkedet i Norge i juli og august – en markedsvurdering" [Developments in the foreign exchange market in Norway in July and August], 12 October 1998.

## 5. The currency turbulence in autumn 1998

In late summer and autumn 1998, there was a renewed conflict between ensuring exchange rate stability and promoting economic stability. For the second time since the introduction of the exchange rate regime in May 1994, market pressure forced the Norwegian authorities to allow the krone to float from its loosely defined range.

At the beginning of August, the krone was at around 105 against the ECU, which was weaker than it had been for a long time.<sup>94</sup> The global crisis in financial markets took a turn for the worse that month, driving large capital movements and an outright flight from less liquid currencies to currencies perceived as “safe havens”. Consequently, the Norwegian krone also depreciated. After having intervened with krone purchases at the beginning of the month, on 12 August, Norges Bank chose to raise its key rate by half a percentage point.<sup>95</sup> The depreciation pressure dissipated for a few days, but the krone resumed its decline the following week. Money markets promptly expected that the central bank would respond by raising the key policy rate by a further half percentage point. In an attempt to demonstrate that Norges Bank was serious about stabilising the krone exchange rate, the Governor argued for a bigger rate increase than market participants had priced in.<sup>96</sup> Before the markets opened on Friday 21 August, it was decided that the key policy rate would be raised by one and a half percentage points to seven percent.<sup>97</sup> However, the krone remained weak throughout the day Friday, despite heavy interventions. Right before currency trading closed for the weekend, Norges Bank registered a virtually limitless offer of NOK at asking price, and the Bank had to withdraw from the market.<sup>98</sup>

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<sup>94</sup> From the Market Operations Department (MOA) to the Executive Board, “Utviklingen i valutamarkedet i Norge i juli og august – en markedsvurdering” [Developments in the foreign exchange market in Norway in July and August – a market assessment], memo of 12 October 1998.

<sup>95</sup> From the Economics Department (ØKA) to the Executive Board, “Norges Banks virkemiddelbruk gjennom 1998” [Norges Bank's use of instruments through 1998], memo of 12 October 1998; From the Market Operations Department (MOA) to the Executive Board, “Utviklingen i valutamarkedet i Norge i juli og august – en markedsvurdering” (Developments in the foreign exchange market in Norway in July and August – a market assessment), memo of 12 October 1998. (These two memos are bound together). See also “Referat fra møtet mellom Norges Bank og Finansdepartementet torsdag 20. august 1998” [Minutes of the meeting between Norges Bank and the Ministry of Finance, Thursday, 20 August 1998], in a red binder.

<sup>96</sup> “Referat fra møtet mellom Norges Bank og Finansdepartementet torsdag 20. august 1998” [Minutes of the meeting between Norges Bank and the Ministry of Finance, Thursday, 20 August 1998], red binder, archive no. 415.

<sup>97</sup> Minutes of Norges Bank's Executive Board meeting, 21 August; “Sentralbanksjefens innledning / redegjørelse for hovedstyret 21.08.98” [Governor's introductory remarks / report to the Executive Board 21 August 1998], memo, in Bergo's archives.

<sup>98</sup> To the Minister of Finance from the Governor of Norges Bank, draft of letter, “Situasjonen i penge- og valutapolitikken” [The monetary and foreign exchange policy situation], 27 August 1998, in Bergo's archives.

Over the weekend, several meetings were held by the central bank administration and with senior civil servants in the Ministry of Finance. It was considered irresponsible to use large-scale interventions to resist the pressure, since this might become self-reinforcing and potentially involve substantial losses, as had been the case in autumn 1992. There also seemed to be little purpose in a sharp interest rate increase as it could not be sustained over time. Use of the emergency provision of the Exchange Rate Regulation appeared to be the only relevant response to a continued fall in the krone. The focus of the discussions was therefore at what exchange rate the krone would be allowed to float and the interest rate level the Bank should maintain.

Norges Bank's management and administration argued for giving weight to the interest rate level that could help to stabilise the Norwegian economy. Eight percent was deemed adequate to dampen inflation expectations over the long term. This would be in the order of around three percentage points over the corresponding ECU rate, a risk premium Norges Bank believed that the Norwegian economy could live with for a while.

The Ministry of Finance was seeking to determine the interest rate level that would be compatible with gradually returning the krone to its initial range. At meetings between the Bank and the Ministry, Ministry representatives expressed the view that the interest rate should be set somewhat higher than eight percent.<sup>99</sup> Nevertheless, Norges Bank would remain firm in its view, and the weekend's discussions concluded with an agreement on an interest rate level of eight percent. However, the Ministry of Finance made certain to emphasise that the objective of monetary policy remained unchanged and that the interest rate level chosen was intended to gradually return the krone to its initial range. With regard to the timing of allowing the krone to float, the Ministry and the Bank agreed that allowing a substantial depreciation of the krone before invoking the emergency provisions would weaken the credibility of the system. The threshold for abandoning the intervention was set at an ECU index of 107.<sup>100</sup>

During the morning hours of Monday, 24 August, the krone depreciated, quickly approaching the agreed float rate on the index. At noon, the threshold was crossed, and the Governor

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<sup>99</sup> Jan F. Qvigstad was present at the meetings between Norges Bank and the Ministry of Finance.

<sup>100</sup> Minutes of the meeting of Norges Bank's Executive Board, 27 August 1998.



immediately submitted the matter to the Ministry of Finance by telephone.<sup>101</sup> The decision to raise the key policy rate to eight percent and the suspension of the use of instruments until further notice was announced shortly afterwards.

The decision to raise the interest rate by one percentage point on 24 August 1998 was made by the Governor with the general authorisation of the Executive Board, after the matter had been submitted to the Ministry of Finance. After the Bank stopped operating within a narrow band after December 1992, there was more room for discretion in setting the interest rate. In time this paved the way for the subsequent participation of the Executive Board in monetary policy decision-making. Such a change in decision-making practice was endorsed in summer 1998 in a memo from Bernt Nyhagen, the Bank's general counsel, where it was pointed out that under the Norges Bank Act, interest rate decisions should be made by the Executive Board as a body.<sup>102</sup> On the basis of Nyhagen's memo, new routines were agreed upon at a working dinner on 19 August 1998 where the Executive Board would be convened in connection with interest rate decisions whenever possible. The substantial rate increase of one and a half percentage points on Friday, 21 August, was approved at a plenary meeting, under time pressure before the market opened.<sup>103</sup>

As we have seen, it was expected that Monday, 24 August, would bring a rate increase and that the krone would be allowed to float. Thus, that morning, in line with the new routines, a meeting of the Executive Board was called for 2:00 pm the same day. But the krone depreciated below the agreed float threshold before that time, and the Governor therefore made the decision with the general authorisation of the Executive Board. The planned meeting of the Executive Board at 2:00 pm was cancelled. The result was that several Executive Board members requested further clarification of the routines for interest rate decisions.<sup>104</sup>

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<sup>101</sup> See the memo "Referat fra møtet mellom Norges Bank og Finansdepartementet mandag 24. august 1998", [Minutes of the meeting between Norges Bank and the Ministry of Finance, 24 August 1998], in red binder, archive no. 415 (Title of memo may appear somewhat misleading. The meeting was only a conference call).

<sup>102</sup> Conversation with Kjell Storvik at Norges Bank, 4 May 2011.

<sup>103</sup> Minutes of Norges Bank's Executive Board meeting, 21 August; "Sentralbanksjefens innledning / redegjørelse for hovedstyret 21.08.98" [Governor's introductory remarks / report to the Executive Board 21 August 1998], memo, in Bergo's archives.

<sup>104</sup> Minutes of the meeting of the Executive Board, 27 August 1998; "Rutinene for Hovedstyrets rentebeslutninger" (Routines for the Executive Board's interest rate decisions), Economics Department memo, 23 October 1998.

Following the decision on Monday, 24 August to allow the krone to float, some media commentators began to raise doubts about whether Norges Bank was pursuing an objective of a stable krone exchange rate. Governor Storvik tried to refute these speculations in an address to foreign exchange traders at FOREX Norway on 28 August.<sup>105</sup> Several times in the course of the speech, the Governor insisted that the suspension of instruments was in accordance with the Exchange Rate Regulation and that the authorities' goal was for the krone to gradually return to its initial range.

However, confidentially to the Ministry of Finance, Storvik left no doubt as to his opinion about the monetary regime in force. In a draft of a letter to Minister of Finance Gudmund Restad, which was drawn up on the basis of the discussions over the weekend 22 and 23 August, the Governor wrote:

I have concluded that the crisis at hand is largely attributable to the present exchange rate regime, which by its nature invites speculation against the currency. In addition, this regime forced us to pursue an expansionary monetary policy through 1997, which in itself has aggravated the current situation. Developments in international financial markets – including repeated, successful attacks on various fixed exchange rate regimes in the 1990s – suggest in my view that the monetary policy objective of a stable exchange rate in Norway has lost market credibility.<sup>106</sup>

During the first days after the Norwegian authorities decided to suspend the use of interest rate increases and interventions, the krone depreciated sharply. On the day before Storvik's address to the foreign exchange traders, it reached 115.2 against the ECU, a record low to date after the krone was forced to float at 100 in December 1992. To the authorities' relief, the krone subsequently appreciated somewhat. In September, it stabilised to some extent, moving within a corridor of between 108.5 and 111.5.

Even so, the turbulence in foreign exchange markets was not over, and from the end of September, it contributed to a renewed depreciation of the krone. At Norges Bank, further depreciation was regarded as particularly undesirable, since it could result in sharp

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<sup>105</sup> Address to the annual general meeting of FOREX Norway, 28 August 1998: “Current Economic and Monetary Policy Issues”. Published on Norges Bank's website: <http://www.norges-bank.no/en/about/published/speeches/1998/1998-08-28/>

<sup>106</sup> To the Minister of Finance from the Governor of Norges Bank, draft of letter, “Situasjonen i penge- og valutapolitikken”, [The monetary and exchange rate policy situation], 27 August 1998, in Bergo's archives.

inflationary impulses from abroad.<sup>107</sup> In turn, inflationary expectations could further amplify tendencies towards depreciation, leading in the worst case to a loss of control over developments. For that reason, on 13 October, the Governor decided to resume cautious foreign exchange market interventions to support the krone.<sup>108</sup> Since the guidelines in the Exchange Rate Regulation indicated that the use of instruments should be limited, without however specifying what that implied, following consultation meetings with the Ministry of Finance and within Norges Bank's administration, an intervention limit of NOK 25 billion was approved.<sup>109</sup> Further use of the interest rate as a means of preventing exchange rate movements in the very short term was deemed out of the question. This was still believed to be counterproductive, since it was not credible or sustainable over time.<sup>110</sup> A press release was issued in which the Bank pointed out that it regarded the depreciation of the krone as excessive and that it would resume foreign exchange trading in its conduct of monetary policy.<sup>111</sup>

The depreciation pressure from the end of September and beginning of October was primarily attributed to developments in international financial markets in the wake of the Asian crisis and the emerging crisis in Russia, with possible contagion to Brazil and the rest of Latin America.<sup>112</sup> International investors fled from risky to safer alternatives. However, there was also uncertainty regarding the Norwegian economy, including oil price and fiscal policy developments.<sup>113</sup> If, despite interventions, the krone were to show a marked tendency to weaken further, Norges Bank would have to consider whether more extensive use of instruments would be compatible with the Exchange Rate Regulation and appurtenant guidelines.<sup>114</sup> At the same time as these scenarios were being discussed, the Executive Board completed its discussion of the Bank's submission on the 1999 Budget Bill. The submission

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<sup>107</sup> See the Governor's memo of 15 October: "Situasjonen i penge- og valutapolitikken" [The monetary and foreign exchange policy situation], in Bergo's archives.

<sup>108</sup> See "Virkemiddelvurdering – oktober 1998" [Assessment of instruments – October 1998], memo of 15 October 1998, red binder, archive no. 415.

<sup>109</sup> See the Governor's memo of 15 October: "Situasjonen i penge- og valutapolitikken" [The monetary and foreign exchange policy situation], in Bergo's archives. Minutes of the meeting of Norges Bank's Executive Board, 15 October 1998.

<sup>110</sup> From the Economics Department to the Executive Board, "Strateginotat" (Strategy memo), 7 December 1998. See the Governor's memo of 15 October: "Situasjonen i penge- og valutapolitikken" (The monetary and foreign exchange policy situation), in Bergo's archives.

<sup>111</sup> Minutes from the meeting of Norges Bank's Executive Board, 15 October 1998.

<sup>112</sup> Conversation with Kjell Storvik, 4 May 2011.

<sup>113</sup> See the Governor's memo of 15 October: "Situasjonen i penge- og valutapolitikken" (The monetary and foreign exchange policy situation), in Bergo's archives.

<sup>114</sup> See "Virkemiddelvurdering – oktober 1998" [Assessment of instruments – October 1998], memo of 15 October 1998, red binder, archive no. 415.

did not differ substantially from previous submissions with regard to the Executive Board's overall recommendations. However, in a comment, one member, Torgeir Høyen, argued that it would have made sense to discuss a change in the monetary policy regime in the national budget.<sup>115</sup>

Although the interventions through the second half of October and first half of November succeeded in stopping the depreciation of the krone, the foreign exchange reserves that had been set aside gradually shrank.<sup>116</sup> At the meeting of the Executive Board on 18 November, members discussed how to deal with a situation where intervention reserves had been depleted. It was pointed out that under the guidelines, Norges Bank would be without effective instruments to prevent a further fall in the krone exchange rate. In that case, according to Section 3 of the Norges Bank Act, the Bank was required to inform the Ministry that there was a need for measures to be taken by others than the Bank in the field of monetary, credit or foreign exchange policy.<sup>117</sup> The Executive Board decided that if such a situation occurred, further interventions could be used in excess of the previously agreed limit, in an amount to be determined subsequently, until there was a clarification of future policy.<sup>118</sup> This extra amount was later set at NOK 15 billion.<sup>119</sup>

At the same meeting of the Executive Board, time was set aside to discuss alternative monetary policy regimes. The Economics Department had prepared a memo listing various solutions if the Exchange Rate Regulation were no longer to apply. Only an inflation targeting regime was considered a viable alternative.<sup>120</sup> However, several members of the Executive Board found it difficult to discuss the plausibility of the various alternatives and requested a

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<sup>115</sup> “Vedlegg til Norges Banks brev til Finansdepartementet av 21. oktober 1998. Særmerknad fra Hovedstyrets medlem Torgeir Høyen” [Enclosure to Norges Bank’s letter to the Ministry of Finance of 21 October. Comment by Executive Board member Torgeir Høyen].

<sup>116</sup> “Virkemiddelvurdering desember 1998” [Assessment of instruments, December 1998], Economics Department memo, 10 December 1998.

<sup>117</sup> To the Executive Board from the Economics Department, “Alternativer i en situasjon der kursforskriften settes ut av kraft” [Alternatives in a situation where the Exchange Rate Regulation is rescinded], memo of 17 November 1998.

<sup>118</sup> Minutes of the meeting of Norges Bank’s Executive Board, 18 November 1998.

<sup>119</sup> To the Governor from the Market Operations Department, “Intervensjonsstrategi for den ekstraordinære rammen på 15 milliarder kroner” [Intervention strategy for the extraordinary amount of NOK 15 billion], memo of 9 December 1998.

<sup>120</sup> To the Executive Board from the Economics Department, “Alternativer i en situasjon der kursforskriften settes ut av kraft” [Alternatives in a situation where the Exchange Rate Regulation is no longer in force], memo of 17 November 1998.

new meeting on the matter at a later date. The reason was that some members wanted to discuss the Economic Department's recommendations with their advisers.<sup>121</sup>

Members of the Executive Board were bound by a duty of non-disclosure regarding Board business. However, some members found some of the particulars so difficult that they needed to consult with their alternates before making a decision.<sup>122</sup> The Governor and Deputy Governor took a dim view of this practice, which they believed compromised the integrity of the Bank's policymaking body.<sup>123</sup> Storvik later described the Executive Board that he had chaired as a “miniature of the Norwegian parliament”: “Board members were not allowed opinions at variance with the parties they represented. Thus, decisions were made outside the Executive Board”.<sup>124</sup>

The question of the exchange rate regime was discussed further at the meeting of the Executive Board on 24 November.<sup>125</sup> However, no decision was taken to advise the government at this meeting either. Even so, the members agreed that the Governor could be requested at short notice by the Minister of Finance to make his views known before the Executive Board would be able to reconsider the matter. There was an understanding that the Governor's advice in that situation would be in accordance with the recommendations in the Economics Department memo submitted the week before – that is, a recommendation to adopt an inflation target.<sup>126</sup>

Interventions to support the krone continued through November, and the reserves set aside were quickly reduced. By the beginning of December, the original amount of NOK 25 billion was exhausted.<sup>127</sup> Several meetings were held with the Ministry of Finance and internally at

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<sup>121</sup> Conversation with Jarle Berge, 13 April 2011.

<sup>122</sup> See Bernt Nyhagen, “Sentralbanklovgiving – utviklingslinjer og endringsbehov” [Central bank legislation – development trends and the need for amendments], in *Norges Bank's Occasional Papers* no. 28, 1999, memo of 2 February 1996, in Berge's archives; Memo to management team from Kjell Storvik, 18 March 1996.

<sup>123</sup> For that reason, shortly after succeeding Governor Moland in autumn 1995, Storvik began an effort to circumscribe the role of Executive Board members and whom they represented (To management team from Bernt Nyhagen, “Norges Banks rådgiverrolle – særlig om forholdet mellom hovedstyret og sentralbanksjefens uttalelser” [Norges Bank's advisory role – in particular regarding the relationship between the Executive Board and the Governor's statements], memo of 12 October 1995).

<sup>124</sup> Conversation with Kjell Storvik at Norges Bank, 4 May 2011.

<sup>125</sup> Minutes of the meeting of Norges Bank's Executive Board, 24 November 1998.

<sup>126</sup> Minutes of the meeting of Norges Bank's Executive Board, 18 November 1998.

<sup>127</sup> From Område 1/Economics Department to the Executive Board, “Strateginotat” [Strategy memo], 7 December 1998.

Norges Bank to try to clarify what was to be done now.<sup>128</sup> At the meeting of the Executive Board on 9 December, Storvik pointed out that only external circumstances, such as higher oil prices or a stabilisation of international financial markets could return the krone to its range. He warned against basing monetary policy on such an eventuality taking place. Storvik recommended that the Board advise the government to switch to an inflation targeting regime and for this advice to be given as expeditiously as possible.<sup>129</sup> The Board did not reach agreement this time either on advising the government, despite the strong urgings of the Governor. NOK 15 billion of extra allocation still remained unused for exchange rate intervention. According to the minutes, the discussion would continue at the next meeting.

On the following day, 10 December, a meeting was held between Norges Bank's management and administration and the Ministry of Finance. According to Jarle Bergo, the Ministry's representatives stated emphatically that they were familiar with the views of Norges Bank's management, but that political considerations dictated that they would be unwilling to accept advice at this juncture. It was argued that the government would be put in "a very difficult situation" if Norges Bank advised it to change the monetary policy regime.<sup>130</sup>

On 14 December, the Executive Board met again. The krone had depreciated in the preceding days. NOK 2 billion of the additional allocation of NOK 15 billion had been used. The exchange rate regime question was no closer to resolution. At the meeting, the Governor presented the outline of a possible decision invoking that Norges Bank's was to make it known when there is a need for measures to be taken by others than the Bank in the field of monetary, credit or foreign exchange policy. Following a discussion, the Executive Board again decided to defer such a decision. Present at that meeting was Svein Gjedrem, who would become Governor at the turn of the year.<sup>131</sup> However, he was "merely an observer at this point, and did not take part in the discussion".<sup>132</sup>

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<sup>128</sup> See "Virkemiddelvurdering desember 1998" (Assessments of instruments, December 1998), memo of 10 December; From Område 1/Economics Department to the Executive Board, "Strateginotat" (Strategy memo), 7 December; Draft letter/memo from Område 1/Economics Department to the minister of finance, "Utforming av penge- og valutapolitikken" [Formulating monetary and exchange rate policy], 9 December 1998.

<sup>129</sup> See "Talepunkter for KS Hovedstyre 9.12.98" [Talking points for KS, Executive Board, 9 December 1998], Bergo's archives.

<sup>130</sup> Conversation with Jarle Bergo at Norges Bank, 18 March 2011.

<sup>131</sup> Meeting of the Executive Board, 14 December 1998.

<sup>132</sup> Conversation with Svein Gjedrem at the Ministry of Finance, 7 July 2011.

According to Eystein Gjelsvik, who was an alternate on the Executive Board between 1996 and 2002, LO (Norwegian Confederation of Trade Unions) was sceptical towards amending the Exchange Rate Regulation in autumn 1998. “LO wanted incomes policy cooperation and the exchange rate to serve as a nominal anchor”. Even so, Gjelsvik believes that Storvik was too rigid in implementing the exchange rate policy in autumn 1998.<sup>133</sup>

The uncertainty surrounding the Norwegian monetary policy regime and krone exchange rate fuelled speculation in the first half of December.<sup>134</sup> Conflicting statements by the Minister of Finance and the Governor about what the krone's initial range was supposed to be sowed confusion among market participants.<sup>135</sup> On 15 December, the krone reached a record low of 116 against the ECU, but thereafter the situation started to improve. On 16 December, Norges Bank published a new *Inflation Report*, which was favourably received by the market.<sup>136</sup> At the same time, the situation in international financial markets began to calm down somewhat, resulting in a somewhat stronger krone.<sup>137</sup> At the meeting of the Executive Board on 16 January, Storvik noted that there was not a Board majority for a recommendation to change the monetary policy regime. No further initiatives were taken for changes in monetary policy in the run-up to the New Year. The krone stabilised, appreciating to 110 at the end of the month, owing to higher oil prices and a shift in focus by market participants towards the successor to the theoretical ECU, the euro, on 1 January 1999.<sup>138</sup>

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<sup>133</sup> Conversation with Eystein Gjelsvik at Norges Bank, 8 June 2011.

<sup>134</sup> “Ute av kurs” [Off course], *Dagens Næringsliv*, 16 December 1998.

<sup>135</sup> “Markedsaktørene fortviler – skjønner ingenting” [Market participants despair – at wit’s end] in *Dagens Næringsliv*, 18 December 1998.

<sup>136</sup> Until autumn 1998, members of the Executive Board had received the *Inflation Report* at the same time as it was published. As a consequence of new routines, it was announced in a memo from October that with effect from the December *Report*, the main points in the *Report* would be presented to the Board prior to publication. Thus, members of the Board may have had knowledge of the main conclusions of the *Report* for some time before publication on 16 December (See “Rutinene for Hovedstyrets beslutninger” [Routines for the Executive Board’s Decisions], memo of 23 October 1998).

<sup>137</sup> “Norges Bank og oljerapport styrket kronen” (Norges Bank and oil report boost krone) in *Dagens Næringsliv*, 17 December 1998.

<sup>138</sup> “Høyere oljepris styrket kronen” [Krone appreciates on higher oil prices] in *Dagens Næringsliv*, 31 December 1998.

## 6. From a de facto to a de jure inflation targeting regime

Svein Gjedrem assumed the position of Governor at the turn of the year 1998/99. For three years, he had been Secretary General of the Ministry of Finance and throughout the 1990s had played a key role in discussions between the Ministry and Norges Bank regarding monetary policy. On Monday, 4 January, the new Governor met the press and outlined his views on the conduct of monetary policy. Maintaining a stable exchange rate was an objective, but fine-tuning it was neither necessary nor possible at all times. Instead, Gjedrem noted that a fall in price and cost inflation towards the level aimed at by euro area countries was essential for a stable exchange rate in the longer run.

Reactions to Gjedrem's press conference were not long in coming. Already at 11:18 am, Reuters published the new Governor's statements, concluding that he had changed the focus of monetary policy to inflation targeting.<sup>139</sup> This was the signal the market had been waiting for, and money market rates fell immediately.

Gjedrem's statements were consistent with what Norges Bank's management and administration had long been advocating. However, Kjell Storvik was of the opinion that the regulation needed to be amended before the Bank could diminish its focus on short-term exchange rate developments. Jarle Berge, who was Deputy Governor under both Storvik and Gjedrem, later admitted that Norges Bank's management "may have read the regulation too literally" in autumn 1998.<sup>140</sup> In any case, Gjedrem would interpret the current regulation more broadly than his predecessors. At the same time, developments in the last quarter of 1998, when global yields fell and there were signs of a slowdown in the Norwegian economy, warranted a reduction in the key policy rate. Gjedrem had discussed the orientation of monetary policy with the Bank's Economics Department during the weeks before assuming office.<sup>141</sup> This is clear, for example, from two Economics Department memos from 23 December, with margin comments from the soon-to-be Governor.<sup>142</sup> However, subsequently,

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<sup>139</sup> "Norway c.bank says can change rates before NOK up", Reuters press release, 4 January 1999.

<sup>140</sup> Conversation with Jarle Berge at Norges Bank, 13 April 2011.

<sup>141</sup> See the memo "Utforming av inflasjonsmål for Norge" [Devising an inflation target for Norway], Øistein Røisland, 15 September 1998. This was an important background memo in the discussions Gjedrem had with the Economics Department.

<sup>142</sup> To Gjedrem from Område 1/Economics Department, "Gjennomføringen av pengepolitikken i 1999 – noen momenter" [Conduct of monetary policy in 1999 – some factors], memo of 23 December 1998; To Gjedrem from the Economics Department, "Spørsmål og svar" til nyttårsintervju av den nye sentralbanksjefen" ["Q and A" for New Year's interview with the new Governor], memo of 23 December 1998.



many of those involved, including Jarle Bergo and Jan F. Qvigstad, stated that they perceived the preparations for Gjedrem's assumption of his post as “business as usual”.<sup>143</sup>

In January 1999, Gjedrem introduced the system that Storvik had long advocated. Gjedrem did this by extending the time horizon for exchange rate stability. Storvik wanted to do the same, but wanted a new regulation first. This was stopped by the deliberations of the Executive Board. On the other hand, when Gjedrem presented his solution, there was not a trace of resistance among Executive Board members. Alternate Eystein Gjelsvik subsequently stated, “We had no problem with Gjedrem's solution – as long as it did not cause a persistent appreciation of the krone exchange rate, because that would undermine incomes policy cooperation and weaken the basis of the manufacturing sector”.<sup>144</sup>

Even if after 4 January 1999, some newspapers and commentators were stating that Norges Bank was now operating with a de facto inflation target and that Gjedrem had staged a “coup”, nothing in this vein was conceded by the Norwegian political authorities.<sup>145</sup> When during the Storting's Question Time, in reference to a commentary by Prime Minister Bondevik in *Dagbladet*, Carl I. Hagen of the Progress Party questioned the Minister of Finance, Gudmund Restad, on the status of the exchange rate regime, the Minister replied that the guidelines for monetary policy remained unchanged, as the Exchange Rate Regulation from May 1994 had not been amended.<sup>146</sup> At the same time, the Minister of Finance underlined that the current Exchange Rate Regulation gave the central bank and Gjedrem the flexibility needed in the conduct of monetary policy.<sup>147</sup>

In his inaugural annual address, in February 1999, Gjedrem expanded on his and Norges Bank's monetary policy views:

Norges Bank shall orient its instruments towards maintaining a stable krone exchange rate. We must not allow ourselves to be blinded by daily exchange rate quotations. The experience of recent years shows that Norges Bank must take into account the

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<sup>143</sup> Conversation with Jarle Bergo at Norges Bank, 13 April 2011.

<sup>144</sup> Conversation with Eystein Gjelsvik at Norges Bank, 8 June 2011.

<sup>145</sup> See e.g. “Setter Norges Bank fri” [Setting Norges Bank free], interview with Svein Gjedrem in *Aftenposten*, 5 January 1999.

<sup>146</sup> According to Skånland 1999 “there were contacts [in early 1999] between the Norwegian authorities and the [European] Commission about the possibilities for cooperation with respect to exchange rate policy”. However, “it resulted in nothing more than polite statements of positions”.

<sup>147</sup> Storting Question Time, 27 January 1999, Bergo's archives.

fundamental conditions for exchange rate stability over time [...] There are two fundamental conditions necessary for achieving stability against European currencies. First, price and cost inflation must fall to the level aimed at by euro countries. A high rise in prices and costs will in itself fuel depreciation expectations. Monetary policy must therefore be oriented with a view to bringing price and cost inflation in Norway down to the inflation target in Europe.

[...] Second, interest rates must not be set at such high levels that monetary policy contributes to economic downturns that undermine confidence in the krone.

[...] When both fiscal policy and monetary policy are oriented with a view to influencing the domestic economy, it is important that the two components of economic policy are complementary. However, there is a risk that a situation may arise where Norges Bank maintains a high interest rate level based on its evaluation of the economic outlook, while the government authorities increase spending in order to stimulate employment. This is a genuine dilemma.

In view of its mandate and responsibilities, the best way for Norges Bank to address this challenge is probably to promote transparency in its analyses and reaction patterns so that the government authorities can take into account the implications for Norges Bank's setting of interest rates when decisions concerning the government budget are taken. The objective of monetary policy and Norges Bank's remit are drawn up by the political authorities. It is essential that fiscal policy play an effective role for monetary policy to be successful.

These are the same arguments that had recurred in the annual addresses of the three previous governors, Skånland, Moland and Storvik.

The fall in market rates in January permitted a reduction in the key policy rate towards the end of the month. Therefore, on 28 January, Norges Bank lowered the rate by half a percentage point. The decision was made at a plenary meeting of the Executive Board. The fact that Gjedrem had emphasised that there was room for discretion in the conduct of monetary policy made such joint participation in interest rate decisions easier to arrange. The Bank would not have to react as reflexively as in the recent past to movements in exchange rates.<sup>148</sup> At its meeting on 19 May 1999, the Executive Board therefore approved amendments to the procedure for interest rate decisions. Norges Bank would henceforth publish the dates of the Executive Board's ordinary meetings, at which interest rate decisions would normally be

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<sup>148</sup> "Rutine for Hovedstyrets beslutninger" [Routine for decisions of the Executive Board], memo of 23 October 1998.

made. From 2003, the procedure for selecting members of the Executive Board was also amended. A new Board was appointed with effect from 1 January 2004. From that date, the Executive Board became a more professionalised and less politicised body.

In July 1999, Svein Gjedrem and Amund Holmsen were at the Bank of England to observe the preparatory work ahead of the monthly meeting of the Bank of England Monetary Policy Committee.<sup>149</sup> As mentioned, Storvik and Bergo had attended a similar meeting in January 1998, at which various bank economists presented data from their areas of concern. As from 1999, analogous meetings were scheduled in Norges Bank, called “reviews of recent developments” in connection with interest rate decisions. These reviews lasted three to four hours, and all departments were asked to present and comment on recent data. This drew Norges Bank’s departments more closely into the interest rate decision process.<sup>150</sup>

Developments in 1999 were favourable for the Norwegian economy. There was a moderate wage settlement, and oil prices rebounded. This helped to strengthen the krone, returning it to its initial interval. The key policy rate was reduced in several steps; in September it was at five and a half percent. The new discretion in setting the interest rate was put to the test for the first time following the wage settlement in spring 2000. Norges Bank chose to raise the interest rate while a proposed settlement reached by LO/NHO was being voted on.<sup>151</sup> The LO chief economist, Stein Reegård, went on the offensive against Gjedrem, pointing out that Norges Bank had to take more than the inflation outlook into consideration in its interest rate setting.<sup>152</sup> Gjedrem defended the decision by arguing that inflation in Norway was expected to be higher than in Europe, which would eventually have a destabilising effect on the Norwegian economy.<sup>153</sup> The rate increase was also controversial because in spring 2000, the krone was strong against the euro. But with greater acceptance of exchange rate fluctuations, Norges Bank would permit further appreciation as long as there was pressure on real economic resources and there were prospects of higher inflation.

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<sup>149</sup> See “Referat fra møtet i ”Pre-MPC Meeting” i Bank of England 2. juli 1999” [Minutes of ‘Pre-MPC Meeting at the Bank of England), 2 July 1999].

<sup>150</sup> E-mail from Amund Holmsen, 21 February 2012.

<sup>151</sup> This episode is discussed in Sejersted 2003.

<sup>152</sup> “LOs sjeføkonom om Norges Bank: Må vise politisk skjønn” [LO chief economist on Norges Bank: Needs to consider politics in its judgments] in *Aftenposten*, 21 June 2000.

<sup>153</sup> “Handlefrihet eller forutsigbarhet i pengepolitikken” [Flexibility or predictability in monetary policy], in *Aftenposten*, 9 June 2000.

Work continued on issues related to monetary policy regimes at Norges Bank. In spring 2000, a group of academics, primarily from Norway this time, were invited to analyse Norwegian monetary policy. There was still a divergence in attitudes towards inflation targeting among Norwegian economists. Advocates of an inflation target argued that the margin of manoeuvre in monetary policy could be increased if the political authorities issued a clear mandate for the central bank.<sup>154</sup> Again, the opposing camp pointed to the uncertainty of whether incomes policy cooperation could continue after the adoption of an inflation target.<sup>155</sup> The contributions were published the same year in the book *Perspektiver på pengepolitikken* (Perspectives on monetary policy), edited by Jan F. Qvigstad and Øistein Røisland.

In the course of 2000, oil prices rose considerably. Since 1996, the Norwegian authorities had been setting aside portions of the government's oil revenues in a government petroleum fund.<sup>156</sup> The added revenue resulting from higher oil prices increased pressure to spend "oil money". This would eventually exert further pressure on an already tight Norwegian labour market, pushing up price and cost inflation. Because the projections for the following years showed large budget surpluses, the Ministry of Finance began work on the principles for oil revenue spending. Norges Bank was not involved in the work.<sup>157</sup> The solution the Ministry of Finance arrived at, which eventually gained broad support in the Storting, involved gradually phasing in oil revenues into the Norwegian economy in an amount equal to the expected real return on the petroleum fund. This fiscal rule thus gave fiscal policy a more long-term aim. Moreover, the rule allowed the authorities to spend more than the real return when the economy was weak and less during good times. The Ministry of Finance did acknowledge, however, that there were limits to how effectively fiscal policy could be used to stabilise the economy. In this connection, the Ministry also decided to introduce an inflation target for monetary policy, so that monetary policy assumed some of fiscal policy's responsibility for

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<sup>154</sup> Aanund Hylland, "Er en uavhengig sentralbank udemokratisk?" [Is an independent central bank undemocratic?] in Jan F. Qvigstad and Øistein Røisland, *Perspektiver på pengepolitikken* [Monetary policy perspectives], Gyldendal, Oslo, 2000; Jan F. Qvigstad and Øistein Røisland, "Hva er så spesielt med pengepolitikken?" [What is so special about monetary policy], Jan F. Qvigstad and Øistein Røisland, *Perspektiver på pengepolitikken* (Monetary policy perspectives), Gyldendal, Oslo, 2000.

<sup>155</sup> See Steinar Holden, "Inntektspolitikk ved et inflasjonsmål" [Incomes policy under an inflation targeting regime], Jan F. Qvigstad and Øistein Røisland, *Perspektiver på pengepolitikken* [Monetary policy perspectives], Gyldendal, Oslo, 2000.

<sup>156</sup> The fund was created in 1990. Since 1998, the fund has been managed by Norges Bank Investment Management (NBIM) and is now called the Government Pension Fund Global.

<sup>157</sup> Bastian Klunde, "Fra reell til nominell. En analyse av pengepolitikken i Norge fra devalueringen i 1986 til innføringen av inflasjonsmålet i 2001" [From real to nominal. An analysis of monetary policy from the devaluation in 1986 to the introduction of the inflation target in 2001], master's thesis in history, University of Oslo, 2011: 102.

stabilising the economy.<sup>158</sup> The result was a new division of responsibility for Norwegian economic policy.

This meant that Norges Bank was given a clear mandate, its responsibilities were clearly spelled out and reporting routines were systematised.<sup>159</sup> For the actual setting of the key policy rate, the formal policy change was less important, “since a monetary policy response pattern was already in place that was consistent with an inflation targeting regime”, as Gjedrem subsequently put it.<sup>160</sup>

Norges Bank was not aware that the Government was planning a formal change to the Bank's mandate in late winter 2001. Section 2 of the Norges Bank Act, referred to as the instructions section, confers upon the Bank the right and the duty to state its opinion before resolutions regarding the operations of the Bank are passed. The Ministry of Finance thus sent a draft of a new regulation to Norges Bank, with a request for comments to be returned almost immediately.<sup>161</sup> Gjedrem, Bergo, Qvigstad and Nicolaisen subsequently drafted a letter, which was later approved by the Executive Board.<sup>162</sup> Thus, the requirement for involvement under the Act had been complied with. The Stoltenberg Government's white paper on new guidelines for economic policy, including a fiscal rule and inflation target, was approved by the Council of State on Thursday, 29 March 2001.<sup>163</sup>

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<sup>158</sup> Øystein Olsen and Arent Skjæveland, “Handlingsregelen for bruk av oljeinntekter” [The fiscal rule for petroleum revenue spending] in Arne Jon Isachsen. *Hva gjør oljepengene med oss?* [What are petroleum revenues doing to us?]: 73.

<sup>159</sup> See Jan F. Qvigstad's presentations at seminars arranged by Norges Bank and the Norwegian Academy of Science and Letters from 2008, 2009 and 2010: “On Keeping Promises”, *Norges Bank's Occasional Papers* no. 39; “On Transparency” *Norges Bank's Occasional Papers* no. 41; “On Making Good Decisions” *Norges Bank's Occasional Papers* no. 43.

<sup>160</sup> Conversation with Svein Gjedrem at the Ministry of Finance, 7 July 2011.

<sup>161</sup> From the Ministry of Finance to Norges Bank, “Guidelines for monetary policy”, letter of 26 March 2001.

<sup>162</sup> From Norges Bank to the Ministry of Finance, “Guidelines for monetary policy”, letter of 27 March 2001.

<sup>163</sup> Report no. 29 (2000-2001) to the Storting, *Guidelines for economic policy*.

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