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The margins for discretion: Crisis management under a fixed exchange rate regime – the case of Norway under the gold standard

Lars Fredrik Øksendal (Norwegian School of Economics and Business Administration)

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Introduction and argument

Under a fixed exchange regime, monetary policy is believed to be endogenous. To the extent that monetary authorities can pursuit discretionary policies this takes place on the margins. How wide these margins are is not written in stone, but differ over time and among countries with the specific character of the regime and the individual constraints in question. Thus, these margins in fact display the room for policy manoeuvre in times of economic or financial crises.

With the coming of the present financial crisis, originating in the sub-prime market, the demand for insights from history has surged. Suddenly the past is seen as the key to understand the origins of financial instability as well as the source of potential remedies in terms of crisis management and stabilisation measures. Virtually no crisis has been left behind in the drive for lessons learnt. However, although associated with monetary authorities, most often central banks, crisis management is seldom addressed in light of the constraint of the monetary policy regime. In historical analyses there is, arguably, a tendency to see financial crisis as contingency situation where the monetary regime is easily set aside only to be enforced again with the return of normality. Many episodes would obviously fit such a bill, but leaving out the policy constraints altogether seems problematic. After all, central bankers, of the present as well as the past, responding to a crisis hardly loses an eye for the long-run. When providing quantitative easing today, central bankers do not stop worrying about the future and the ability to maintain their celebrated inflation target policy. Present crisis management, I would argue, involve a trade-off of between potentially conflicting objectives, in this case financial and price stability, but without losing the other objective out of sight altogether. Thus, the renewed interest in historical analyses of financial crisis would benefit from taking into account the constraints on crisis management represented by monetary policy and how conflicting objectives were meet.

In this article I address central bank crisis management in Norway under the constraint of a fixed exchange rate commitment in the decades of the classical gold standard before 1914. These four decades of successful adherence to the gold standard are of particular interest as they coincide with the formative phase of central banking in the country; the period in which Norges Bank was gradually transformed from a bank of issue to a central bank with characteristics not unfamiliar to the present. In these decades the bank moved away from long-term lending, assumed a more professional governing structure and at the end of the period opened the discount window for banks on a more regular basis. Albeit hardly a lender of last resort, Norges Bank commenced in 1899 her first rescue operation aimed at banks in distress.

In terms of financial crisis only the 1899 burst of the Christiania boom qualify in the strict sense. My application of the term *crisis*, however, deviates somewhat from the current research emphasis in the wake of the sub-prime burst on financial crisis proper. Such a broader interpretation of corresponds better to the prevailing perception of central bank objectives in the 19th century. Let me explore this: Today, most will single out price and financial stability as the two key targets for monetary authorities. Many, in particular among central bankers searching for lessons learnt, would from the present derive that these targets have always been at the heart of central banking. This is overly simplistic. Objectives with a likening to the present ones have for long been at the core of central banking, but making them one and the same would easily result in key differences being lost in translation.

Price stability, with the coming of inflation targeting easy the most important central bank objective, as such had little meaning for 19th century banks. Their long-term price expectation, to use modern parlance, was stability. Fluctuations merely reflected the business cycle, in good times prices went up, in bad times they went down, and it was little central banks could do about that. What was paramount for central banks, or rather banks of issue which is a better term for most of the 19th century, was to prevent a depreciation of the value of their banknotes in relation to the nominal monetary anchor, usually gold or silver. Thus, stability was to maintain the fixed exchange rate and the convertibility of the currency in specie.

Financial stability as an objective, implying monetary authorities taking on a systematic responsibility for the integrity of the financial sector and often associated with central banks taking on the role as lender of last resort, was slow to mature.. What concerned banks of issue in most countries before 1914 was how to prevent major disruptions of the domestic system of payments. The nucleus of this concern was the risk of a sharp reduction in liquidity. This might entail the potential of banking runs, but at the forefront was the fear of economic standstill. Such a contraction might origin from the financial sector, but in 19th century this might as well reflect abrupt macroeconomic changes. For a small open economy like the Norwegian this most often took the form of dramatic shift in the fortunes of the export sectors. Moreover, in Norway commercial banking was comparatively slow to develop and for most of the period covered in this article Norges Bank actually was the most important commercial bank in the country.

The point of departure for this article is that crisis management before 1914 differed from crisis management today. The spectre of monetary authority attention was broader and not confined to financial intermediaries. Crisis management was shaped by the two fundamental objectives facing banks of issue, maintaining the fixed exchange rate through the commitment to honour bank notes in specie at demand and avoiding a major disruption of the domestic payments system. In the two objectives an obvious source of conflict was present, not least in times of crises. Quantitative easing in order to avoid a disruption of the payments system might put the fixed exchange rate commitment at risk, thus making the latter a constraint on the ability of the bank of issue to act as crisis manager.

Under a fixed exchange rate system, central bank discretion takes place on the margin. In this article I will show how Norges Bank in practise played these margins as a crisis manager in order to avoid a major disruption of the payment system.

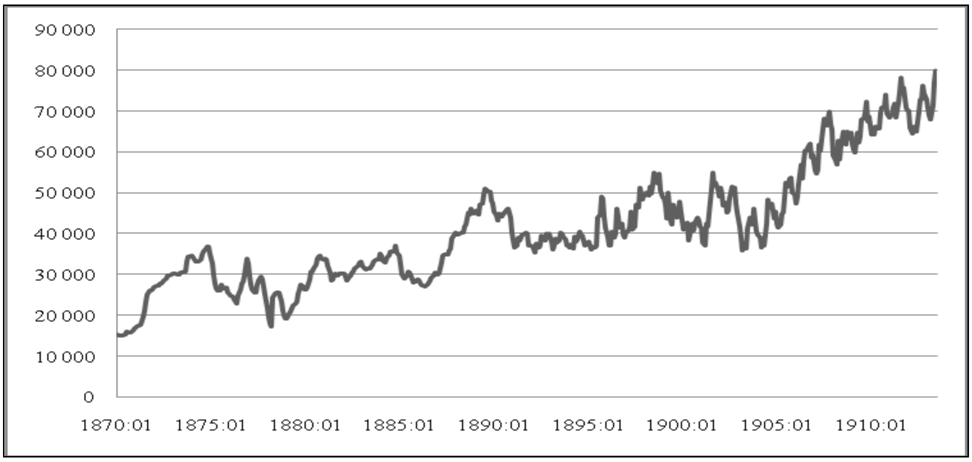
Policy constraints

Norges Bank was founded in 1816 to provide a stable domestic currency. Monetary stability under the bullion standards of the long 19th century equalled maintaining the relative international purchasing power of the domestic currency. Instrumental in achieving this was to link the currency to gold or silver through the commitment to redeem notes in specie on demand.

Bullion as external anchor or monetary reference created a link to the international payments system effectively establishing a fixed exchange rate commitment. However, to see banks of issue merely as cogs in an international system is to miss out on their origins. They were set-up, with a few notable exceptions, in the first half of the 19th century with one key task; to furnish the domestic economy with stable means of payments. Thus, although banks of issue under the gold standard seemingly were fixated on maintaining gold convertibility this was derived from a domestic commitment. Bankers never forgot that they were managers of the domestic currency as well guardians of the fixed exchange rate. Avoiding a major disruption of the payments system was close to heart for banks of issue like Norges Bank.

A bullion standard obviously constitutes a constraint on monetary policy: the bank of issue must at all times be able to honour her notes in silver or gold on demand. This dictated the need for ample metallic reserves in relation to the circulating note stock. However, two questions arise from that commitment: What was an ample reserve? And how was the commitment translated into practical monetary policy?

Figure 1: Norges Bank foreign exchange reserves 1870:1-1914:6 (in 1000 NOK)



Sources: Klovland, 'Monetary aggregates'

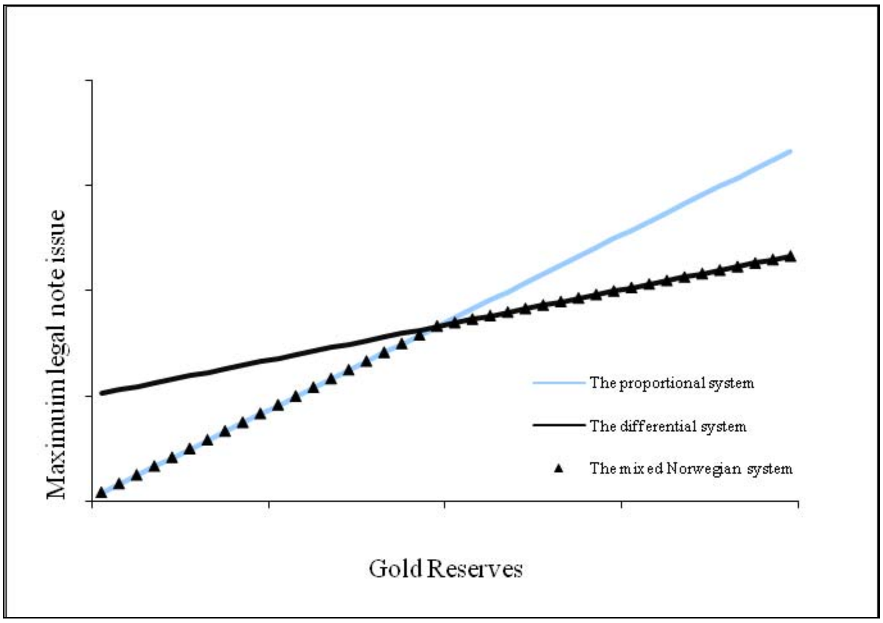
What constituted an ample reserve differed between countries based on economic situation, particular concerns and traditions. In Norway, with no tradition for circulation of full bodied coins and with a substantial circulation of small denomination notes, the domestic need for reserves was limited – at least as long as the commitment to gold was credible with the public. Thus, in practise the gold reserves beyond backing the note issue, inherently a credibility exercise, had on key function, as the mean to settle persistent balance of payments deficits with. With a economy subjected to volatile changes in the terms of trade, the calls on the reserves for this purpose were at times quite substantial. Conversely, the reserves might with improved fortunes for the export sectors increase strongly in a near windfall fashion. Figure 1 displaying the foreign exchange reserves of Norges Bank 1870-1914 illustrates the point nicely, prolonged periods of growth in reserves followed by periods of strong contraction.

Most countries on the gold standard had legal restrictions governing the relationship between monetary reserves and the circulation of notes. One notable exception was France where this was left to the discretion of the central bank. From 1844, England operated on the so-called differential system; above a certain legally stipulated fiduciary sum, notes had to be backed on a one-to-one basis by gold. Other countries operated the so-called quotient system; banks issued notes according to a fixed relationship between metallic reserves and notes, for instance three-to-one or two-to-one.

Both principles of issuing had inherent flaws. The quotient system had a fundamentally pro-cyclical bias: in a typical upswing, gold inflows would enable banks to expand the note issue by two or three times the actual increase in reserves, thereby producing a strong potential for monetary expansion in an already booming economy. On the contrary, in times of dwindling reserves, banks had to withdraw notes from circulation in the order of two or three times the actual loss of reserves. If the economy was already in recession, the central bank would strengthen the forces of economic contraction. It was this kind of bias that led observers to argue that Norges Bank's legal constraints in a downturn operated as a "strangulation mechanism". The differential system shared the pro-cyclical bias of the quotient system, but the inherent effect was less extreme as notes only had to be withdrawn or supplied on a one-to-one basis relative to the movements in gold.

These legal constraints have often been the point of departure for criticism of bullion standards. I believe such criticism tends to exaggerate the impact of the differences, and fails to understand the practicalities of central banking under the gold standard. Under any system of note issuing, the legal constraints describe what happens at the margin; i.e. what happens when a central bank that issues notes to the maximum of its legal note issuing power suffers a reduction in its metallic reserves. This is a theoretical case rarely observed in the real world. Central banks were eager to avoid a situation where the legal constraints dictated the pace of adjustments. The prudent course for a central bank was to operate with a monetary buffer and steer clear of the legal maximum for note issuing. This was the case independent of the system chosen. These systems must be seen as different ways of assuring credibility by adopting a formal linkage to the metallic anchor. However, having first adopted these linkages, bank policy was nevertheless more about prudent management than automatic adjustments proscribed by legal constraints. These only came into force when central banks ran the risk of violating them. These situations, usually connected with some kind of financial crisis or severe change of fortune, obviously were the critical tests for the credibility of monetary authorities and cannot easily be dismissed. Nevertheless, to rely on the crises exclusively would be to miss a key point, that policy in practice was concerned with avoiding these.

Figure 2: Illustration of maximum legal note issue under the differential and proportional system



In the literature, Norway is portrayed as having a quotient system replaced by the differential system in 1893. This is a misconception. The only period Norway had a pure quotient system after establishing currency convertibility in 1842 was between 1857 and 1873. After new legal provisions in 1873, Norway operated a mixed system: on the basis of Norges Bank's equity held in differing funds for bookkeeping purposes, the bank might issue notes in the order of between 2.5 and 1.5 to the reserves, thus in line with the quotient system. However, on the so-called 'extra fund', basically created by inbound gold flows, Norges Bank could only issue notes at one-to-one basis. The impact on the legal maximum of note issuing under the various systems is illustrated in the diagram above (figure 2). Thus, as long as the 'extra fund' was not empty, Norges Bank actually operated a differential system. This happened on only one occasion (March 1878) for the period from 1873-92.

However, there is one important caveat. In times of a shrinking or a low 'extra fund' the potential of an empty fund and thereby the prospect of a *de facto* move to the quotient system would have influenced monetary authorities. Nevertheless, for most of the gold standard the 'extra fund' was at comfortable levels compared with the outstanding commitments of Norges Bank. For the period 1873-90 this fund dipped below ten per cent of the circulating note stock only for 6 out of 216 monthly observations and the average level was 35 per cent. Thus, the move to the differential system in 1893 did not imply a de facto change in the principles for note issuing besides that the fiduciary sum was increased by somewhat more than one third. This sum was increased further in 1900 and 1912. Moreover, the 1893 law gave an escape clause. Norges Bank might exceed the legal maximum of the note issue subject to a penalty fee to the government. In such a case the bank was further obliged to report to the Treasury to give an account for the violation. However, the threshold for using the escape clause was high in terms of credibility losses.

For a number of reasons Norges Bank wanted a comfortable margin between the legal limits on the issue and the actual note circulation. This margin, called the note reserves, can be defined as legally backed notes not in circulation. One important reason was the need to have a buffer to maintain freedom of manoeuvre for the bank; operating on the edge of the note issuing power would have demanded a very swift curbing of credit in the case of any outflow of gold. Another reason was sufficient latitude so that Norges Bank was able to accommodate the strong seasonal changes into the demand for money. This was particularly important because the recurring seasonal change in demand for money did not correspond to the seasonal pattern of the flows of foreign exchange through Norges Bank.

The fundamental problem with linking the domestic circulation of means of payment to bullion is that bullion also functions as the means to settle international claims. Although there is a relationship between the fortunes of the export sector and domestic economic activity, the activity of the foreign trading sector is not the only thing that influences the demand for money. Moreover, to the degree that there is a relationship, this materialises in the real economy as a lagged response and not instantaneously. In the case of Norway, the typical version of this constraint created in the cross-section between the domestic economy and the foreign economy was seasonal. For instance, in March and April a regular low point for foreign exchange reserves occurred at the same time as an important seasonal peak in demand for money. Moreover, while the recurring seasonal shifts in the demand for money throughout followed a stable pattern, the flows of foreign exchange were much more unpredictable. Thus, a bad catch for the fishery fleet or a bad harvest leading to extraordinarily high import of grain, might lead to a monetary policy constraint even when this was not called for by the state of the domestic economy.

Through the note reserve the core of Norges Bank’s management of the domestic payments system was to shelter the domestic circulation of notes from variations in her gold reserves. This management was obviously most efficient at addressing short-term challenges like smoothing out seasonal differences or unexpected short-term gold drains. When challenged by a direct threat to the payments system, either stemming from the financial sector or a long-term cyclical fall in foreign reserves, the freedom for manoeuvre came under substantial strain. Until 1899, Norway did not face a banking crisis with the potential for turning into a countrywide disruption of the payment system. Earlier bank failures or bankruptcies of major local economic agents, had led to strained liquidity, but only in the affected areas. Thus, the worst threat to the domestic payments system earlier had been imposed by the constraints of the monetary system in case of a long-term cyclical dwindling of the gold reserves.

Early crisis management, 1848 and 1857

In order to understand 19th century crisis management some structural feature of the credit sector must be appreciated. First, the key role played by Norges Bank as countries leading bank. Until the late 1850s, the total liabilities, i.e. notes and deposits, of Norges Bank outpaced the total assets of all commercial and savings banks in the country. Not until 1879 were the combined deposits of commercial banks on level with the liabilities of Norges Bank. Not until the 1900s, was a single commercial bank capable of matching the presence of the central bank in the lending market. Moreover, not until the first few years before the war was the discount window of Norges Bank opened for other financial intermediaries on a regular basis. Basically, Norges Bank lent directly to the public. With such a strong role in domestic credit for the central bank, the monetary policy constraints obviously had a potential for strong impact on the domestic payment system. Second, with a domestic commercial banking sector slow to develop, foreign markets for short-term credit, particularly Hamburg, had for long been pivotal for financing Norwegian foreign trade Third, the structure established in through the formative period of commercial banking in the decades after 1870 was based on numerous high leveraged unit banks. Moreover, local credit was often based of chains of mutual underwriting of accommodation paper. Thus, the failure of one major player could easily lead to a local illiquidity crisis.

Before discussing crisis management under the gold standard period, some words on the crises of 1848 and 1857 are necessary. Both these international financial crisis hit Norway hard. Under both crises, monetary policy constraints crisis led to widespread liquidity troubles with an economy on the verge of payment standstill. However, there is significant difference. In 1848, Norges Bank was not up to the task and crisis management ended up been exercised by the government. By 1857, the less than successful handling of the previous crisis had rendered Norges Bank with some lessons learnt and the bank took part in crisis management in concert with the government. Concerted action became to model for future crisis management.

The *crisis of 1847/8* was international in origin stemming from the United Kingdom and strengthened by the French February revolution of 1848. The demand for Norwegian exports tumbled while the price of imports increased leading to balance of payments problems. The exchange rate of the speciedaler depreciated making it profitable to export silver. With silver running out, Norges Bank already in the summer of 1847 was in violation of her note issuing rights. After the revolution, the situation deteriorated further, the reserves held abroad had been so depleted that the bank stopped selling drafts on Hamburg altogether and by the end of March 1848 the Board of Directors asked the branches to restrict lending to discounting only.[1] These measures, restricting credit and foreign payments, could not stem the conversion of notes into silver. By July 1848, 1.2 million speciedaler or roughly a quarter of the note circulation was without legal backing. Norges Bank now stopped all new long-term loans, decided to reduce the volume of short-term lending by half and restricted the selling of drafts on foreign markets. Moreover, notes were long longer redeemable any other place than at the headquarters in Trondhjem, far removed from the more important trading cities of Christiania and Bergen; i.e. a method for widening the silver points.[2]

This represented a severe challenge for the domestic economy and grave troubles for the payment system. The constraints of the silver standard, or at least how they were assessed by her management, had led Norges Bank to all but stop rendering credit at a time when money was extremely tight. In this situation it was parliament and government who took responsibility for the domestic payments system and provided the necessary quantitative easing to avoid economic standstill. A short term government foreign loan of 600, 000 speciedaler at 7.5 per cent, later converted to a 1.5 million speciedaler long-term public bond at 4.9 per cent, was sufficient restore public credibility. The loans secured legal silver coverage for the note issue, supported Norwegian private credit in Hamburg and eased the situation in the domestic discounting market. By 1850, the crisis was overcome.

When the tide of the so-called *Ohio-crisis of 1857* reached the Norwegian shores, the country had already experienced a strong tightening of the domestic money market. The freight rates were down after the bloom of Crimean War, the harvest of 1856 had gone wrong resulting in increased imports of grains and the herring fisheries in the spring of 1857 had

[1] At the time discounted bills of exchange constituted less than one sixth of her lending portfolio.
[2] Rygg I: pp.289-308; Jahn pp. 61-2

been below expectations. The tightened domestic market had already before the crisis reached Europe led to a scramble for liquidity with savings and commercial banks competing for deposits and pushing the interest rate on deposit upward. By late October 1857, *Christiania Bank og Kreditkasse* offered 6 per cent on six months deposits, by 4 December 7 per cent. By the end of the year all branches of Norges Bank but one had exceeded their lending warrant, in several cases with more than ten per cent, in one smaller branch with as much as 39 per cent. The general tightening throughout 1857 had hit the savings banks particularly hard as they for the first time met competition for deposits from the commercial banks. The savings bank in Christiania lost one third of deposits that year while Bergen by December stopped lending above 100 speciedaler and Trondhjem had become so illiquid by withdrawals that by February 1858 they had no cash to pay costumers who wanted to withdraw and had to obtain a loan with Norges Bank.

Tight as the domestic money market might have been, the real danger of turning the payments system illiquid came from the international financial crisis. The old hansa city of Hamburg had been the key financial market for those involved in Norwegian foreign trade for long. By early December 1857, most banking houses involved with Norwegian clients had ceased payments and the few remaining struggled. Two London houses strongly involved with Norway followed suit. In consequence, mounting pressure was put on Norwegian debtors: new loans were not available and older debts recovered as quickly as possible. This latter point was a particular problem due to the structure of much of the Norwegian credit in Hamburg. Norwegian merchants had often long-term relationship with a house and enjoyed blank credit; a form of book credit with no underlying negotiable paper and no fixed maturity date. Thus, debtors although possibly perfectly solvent were presented with a claim to pay earlier than expected. Norwegian exporters, one the other hand faced two risks. First, that their outstanding claims might be caught up in bankruptcy proceedings and thereby at the best frozen. Second, in the case that they had discounted received bills of exchange in Hamburg and or London, they now risked that the papers were returned for payment. Thus, the whole of the export sector was threatened by illiquidity.[3]

The crisis in Hamburg was equal to a domestic banking crisis and might arguably be regarded as the first Norwegian banking crisis. In this situation, Norges Bank demonstrated that they had learnt something from the debacle of 1848. On 8 December 1857, steamer travelled from Christiana with a representative of the bank and 500,000 speciedaler in silver

[3] Rygg II pp. 17-26

to support Norwegian credit in Hamburg. At the same time, silver were transferred from the bank's agent in Copenhagen and the Christiania branch had earlier sent 125,000. More shipments followed. All in all, from the end of November to the end of December, the physical silver reserves were reduced by 28 per cent, the strongest negative change recorded for a single month. This might be seen merely as an intervention in the foreign exchange market to support the fixed exchange rate. However, Hamburg was at the time so intimately interwoven with the domestic money market that crisis management might be a more fitting description. The object was not to help bankers in distress, but to avoid a serious threat to the domestic payments system caused by the rampant illiquidity of key economic agents. Nonetheless, it is a paradox that first major central bank rescue operation in Norway under a financial crisis was not aimed financial intermediaries and actually took place in another country.

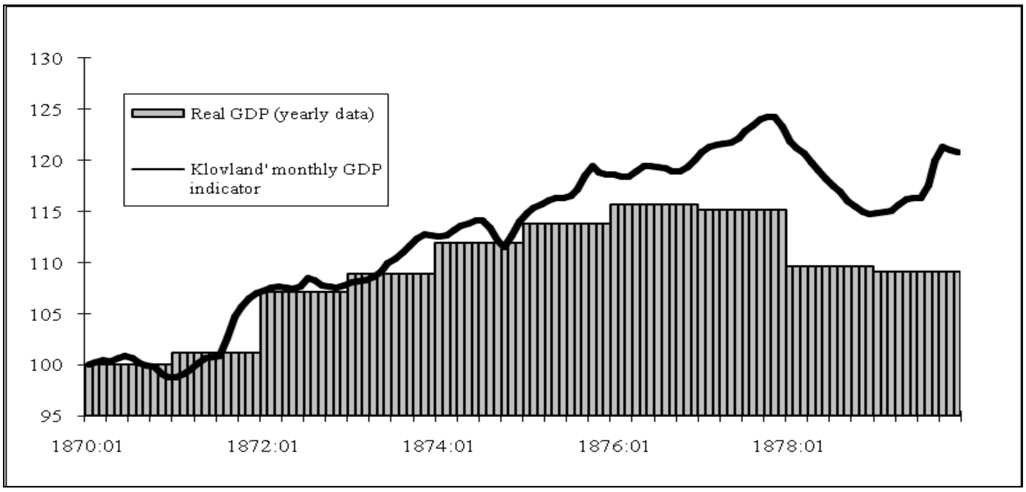
With the crisis of 1857 the tradition of the government and the bank working in tandem began. While Norges Bank bought up Norwegian papers abroad, the government again raised a £ 20,000 short-term – half to be repaid in a year, half in 18 months – crisis loan with Baring Brothers & Co at 8 ¼ per cent effectively. The loan was to be used for domestic discounting through the government discounting commission, but would at the same time strengthen the reserves of Norges Bank at a time that such inflow was much appreciated.

Crisis management in the turbulent 1870s and 80s

The two earlier crisis discussed above are close to the present understanding of crisis management. In the period discussed in this section, the turbulent 1870s to 1880s, although some banks certainly failed and others faced severe difficulties, Norway experienced no financial crisis threatening the stability of the economy or putting the domestic payments system at risk. Failures led to crisis restricted to the affected area. They could be severe, involve substantial liquidity problems but did not put the financial system as such in jeopardy. However, they are of interest from the perspective of crisis management for two reasons: First, because in some cases the branch of Norges Bank itself was the nucleus of the local crisis. Second, although the systemic danger obviously was less, how Norges Bank dealt with threats of disruption of the local payments system can shed light on crisis management in general. I will return to these later on.

However, the most challenging threat to the payments system in this period came from the constraints of the monetary system. In the course of the 1870s, Norway went from one of the strongest period of economic expansion hitherto experienced to the deepest recessions of the long 19th century. The recession of 1877 to 79 put such a strain on the domestic payment system that crisis management label is fitting. The following decade or so became a period of sluggish growth and rather volatile cycles.

Figure3: Monthly GDP-indicator versus yearly real GDP, 1870-1879 (1870=100)



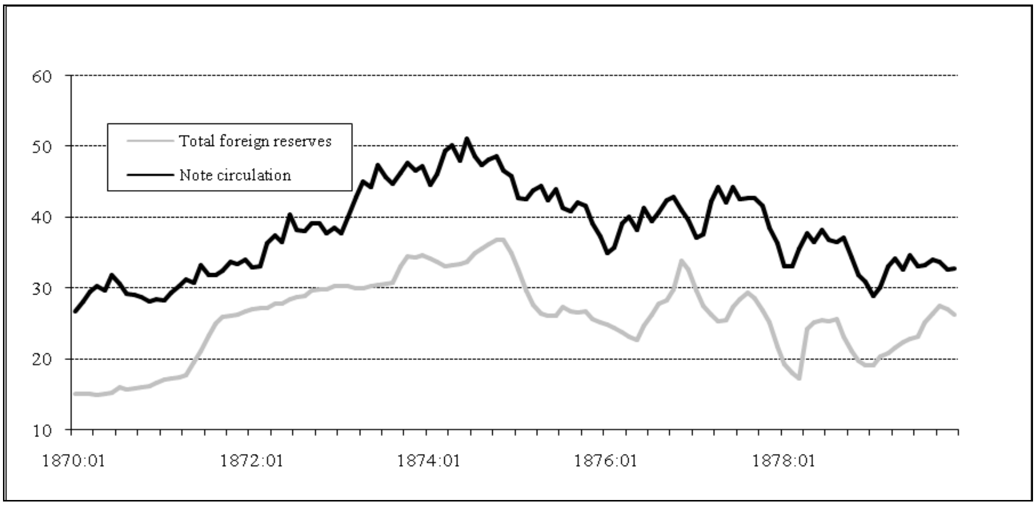
Source: The GDP-indicator is computed on basis of data provided by Klovland; otherwise: Grytten, 'Gross domestic product', 241-288

From the summer of 1871, Norway entered *"into an unusual prolonged period of sustained growth'* that despite shorter periods of more sluggish performance lasted until November 1877.[4] The first part of this period must be seen in light of the international boom 1871-3 following the end of Franco-Prussian war. The year 1872 witnessed an increase in the volume of Norwegian exports of 19 per cent, in export revenues of 23 per cent and in GDP measured in fixed prices of 5.9 per cent. The following year the export volume fell slightly while revenues increased by 19 per cent.[5] The external impetus for growth spilled over in a domestic boom that continued for four years after the international business cycle turned in 1873. The domestic boom also led to a strong growth in imports, a growth which was not arrested by the ebbing of the export revenues. From 1871 to 1877, the volume of imports increased by 61 per cent while the volume of exports was still only 19 per cent higher than in 1871.[6] The downturn was very strong. In the twelve months following November 1877, real GDP fell by 7.4 per cent according to Klovland. Although the trough in the growth cycle was reached in December 1878 there was hardly any growth until the summer of 1879.

[4] Klovland, A Chronology'p. 28
[5] Grytten, 'Gross domestic product'
[6] Grytten, 'Gross domestic product'

During the early phase of the sustained growth period Norway experienced considerable monetary expansion. The money stock (M2) in 1871-4 grew at annual average of 11.9 per cent. In the same period the foreign reserves more than doubled to close to 35 million kroner while the note circulation expanded by two thirds. With the wind out of the international boom, the trend was reversed and gold reserves and circulation entered a period of strong decline. In 1877-9, the contraction of the gold reserves represented a potential threat to the payments system due to constraints of the fixed exchange rate commitment.

Figure 4: Foreign reserves and note circulation 1870:1-1879:12 (in million NOK)

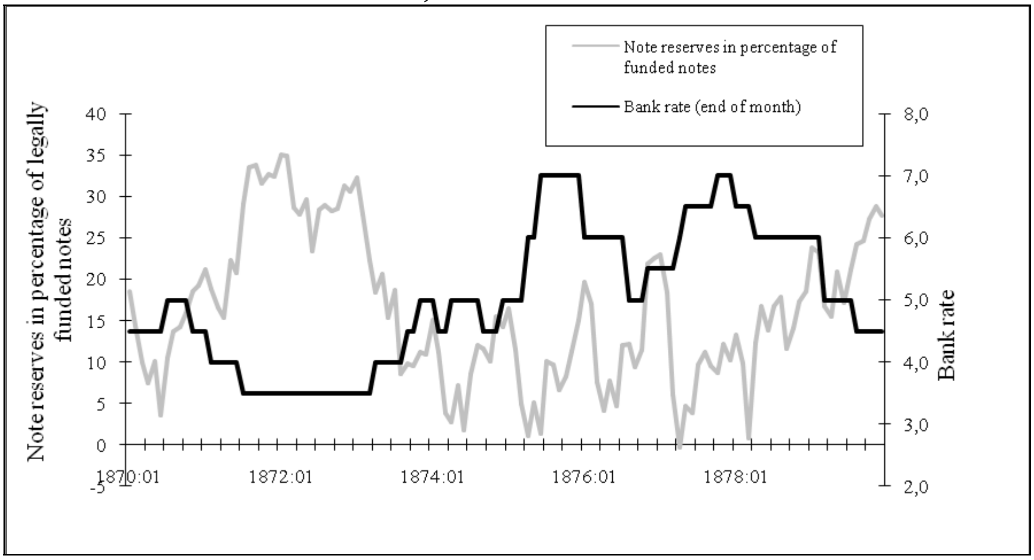


Sources: Klovland, 'Monetary aggregates'

The theoretically expectation is Norges Bank in the face of dwindling foreign exchange reserves would attempt to bring down the note circulation in order to safeguard the strict relationship between monetary reserves and circulating note stock. The method available for reducing the liabilities of the bank would be to tighten credit through the Bank Rate and the volume of central bank discounting. The figure above gives the impression that Norges Bank in fact managed to bring down the note circulation. After the peak in 1874 reserves and notes move downwards together in tandem. For the period displayed the correlation coefficient between the two variables is 0.87 and the result is statistically significant at the ten per cent level. The figure also testifies to the magnitude of the fall in key monetary variables. From an annual average high point of 47.9 million kroner in 1874, the note circulation was down by more than fifteen million by 1879. Correspondingly, the foreign exchange reserves fell by close to 13 million kroner between 1874 and 1878.

However, Norges Bank's policy in these troubled years is more multifaceted. In reviewing policy, one first has to take into account the constraints that dictated the room for policy manoeuvre. For this period, two variables discussed earlier measure the policy constraints, the size of the so-called extra fund and the size of the note reserves. As long as the extra fund displayed a positive balance, Norway operated legally on the principles of the differential system. When the fund was exhausted, the governing principles for note issuing became those of the proportional system. Thus, a low extra fund, or even more so, a fund in the red, would indicate a need for a sharp tightening of credit.

Figure 5: Notes reserves and bank rate, 1870:1-1879:12



Sources: Klovland, 'Monetary aggregates'; Historical Statistics 1994, table24.22

In diagram 8 I have inserted the development of the extra fund from 1870 to 1879 and the development of the Bank Rate in the same period. As expected, there is an inverted relationship between the two variables; the higher the fund, the lower the Bank Rate. The correlation coefficient is -0.47 and the result statistically significant at the one per cent level. The fund was reduced by half in the beginning of 1875 reflecting the strong outflow of foreign exchange, increased throughout 1876 and declined strongly in 1877 and the first quarter of 1878. In March 1878 the extra fund showed a *deficit* for the first time since 1870.[7] However, the next month, following an inflow of more than 7 million kroner in foreign currency, the fund showed a healthy balance.

The seven million kroner increase is something of a puzzle. First, in most years the foreign exchange reserves tended to go down between March and April. Second, seven million kroner is the single highest change in either direction in the foreign exchange reserves recorded for any month in the period 1850-1913. Thus, it is not likely that the improvement between March and April of 1878 reflected a drastic change for the better in the fortunes of

[7] This was the only deficit in the extra fund between 1870 and the introduction of the pure differential system in 1893 which abolished the fund.

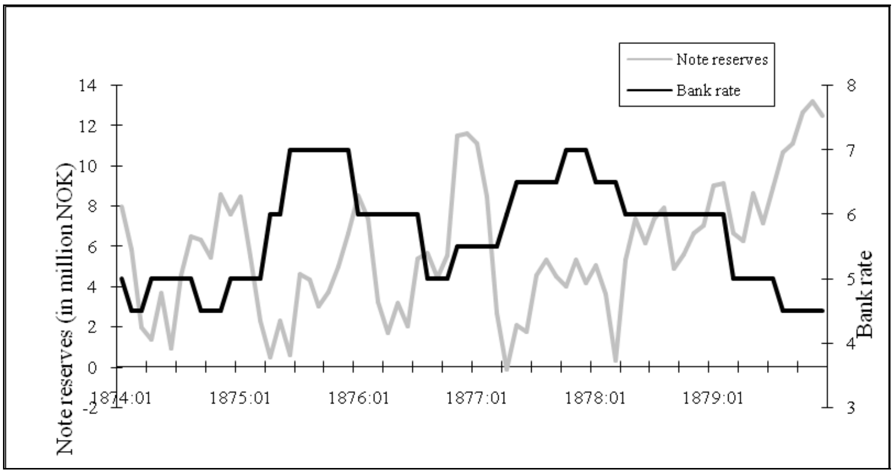
the export industries. Rather, the evidence points in quite another direction. Between 1874 and 1878 the Norwegian government floated bearer bonds in international markets amounting to 70 million kroner.[8] As the purpose of these issues was to finance import of equipment for railway construction, most of the money was kept abroad and did not enter the books of Norges Bank. However, on this occasion (April 1878) money was clearly remitted and deposited with Norges Bank. We lack solid monthly data for treasury deposits in Norges Bank, but the quarterly data reveals an increase from 500 000 to 4.4 million kroner from the end of 1st quarter to the end of 2nd quarter. Moreover, the monthly data for all deposits, as well as the data for foreign exchange, indicate that this increase in fact must have taken place between March and April.[9]

This move on behalf of the treasury is an illustration of joint crisis management between government and Norges Bank. The situation was indeed critical for the domestic payments system. The note reserves were below one per cent of the legal maximum and with an empty extra fund further reduction in the gold reserves would legally have forced Norges Bank to withdraw notes according to the quotient system. Moreover, all branches but Bergen and tiny Lillehammer had exceeded their lending warrant. And still the seasonal peaks in demand for means of payment in April and June were ahead. Thus, in the midst of the worst recession of peacetime 19th century, the combined monetary constraints were about to force Norges Bank to a draconic contraction of credit. However, the crisis was resolved by the government deposit of remitted funds from abroad. Thus, the constraints were removed, serious credit shortages avoided and the payment system was no longer on the verge of standstill.

The size of the extra fund was primarily significant in situations where the bank operated on the margin of its note issuing capacity; i.e. had a low note reserve as well as a diminishing extra fund. As long as the extra fund showed reasonable strength, note issuing was squarely within the principles of the less restraining differential system. However, the important measure for constraint was the size of the note reserves.

[8] Klovland, 'Bond markets'
[9] Klovland, 'Monetary aggregates'

Figure 6: Norges Bank's note reserves and bank rate 1874:1-1879:1



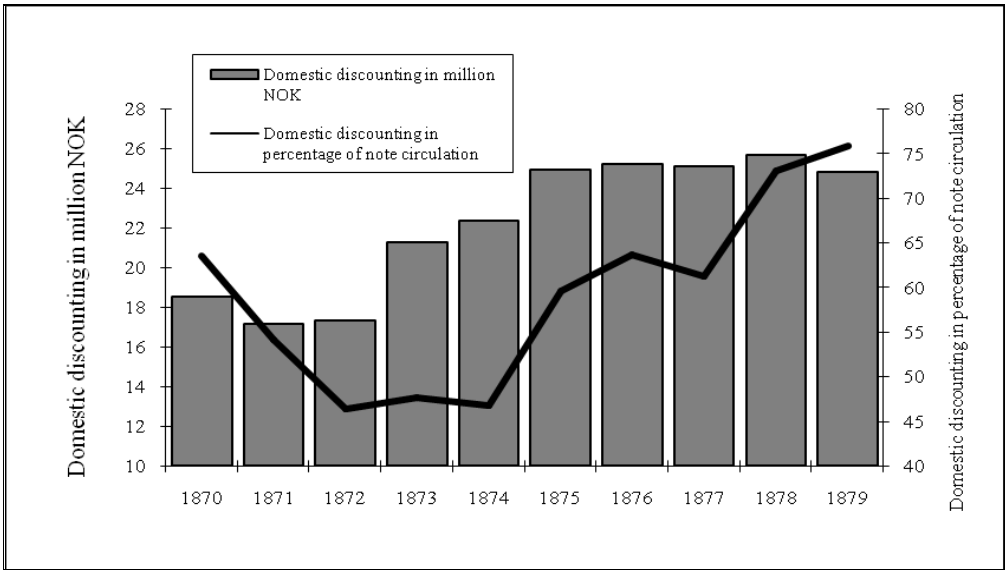
Sources: Klovland, ‘Monetary aggregates’; Historical Statistics 1994, table24.22

Diagram 9 displays the development of the note reserve and the Bank Rate for 1874 to 1879. There is a neat inverted relationship between the state of the reserve measure and the Bank Rate here as well, with a correlation coefficient of -0.43 and statically significant at the one per cent level. The sharp reduction in the note reserves in early 1875 was the starting point of a period of relatively high interest rates. Note in particular the long period in the second half of 1875 when the Bank Rate was kept at an alarming seven per cent for six months. During the relatively good year of 1876, the rate went down, but was still on a high level compared with the boom years. In April 1877, the note reserve was negative by 126 000 kroner and Norges Bank was in violation of its legal obligation. This violation was the result of two factors. Firstly, the ‘spring pinch’ of April was a seasonal phenomenon where the annual low ebb of the foreign reserves regularly coincided with a peak in the demand for money. This time, the ‘pinch’ was reinforced by a cyclical downturn for the export earning industries while the domestic boom was still at large. The result was as expected, an increase in the Bank Rate to 6.5 per cent and later to an alarming seven per cent in the last three months of the year. The high rate level at the end of the year is, however, more strongly associated with the dramatic fall in the extra fund following the turn of the business cycle that autumn than with the level of note reserves which had improved during the course of the year. Throughout the economic downturn of 1878 the Bank Rate was kept at six per cent. With the turn of the cycle and increased note reserves in 1879, the rate was steadily lowered.

This examination demonstrates that Norges Bank with regard to the Bank Rate reacted as expected in the face of dwindling reserves. Nevertheless, the Bank Rate policy is only one part of the story of how Norges Bank met the coming of troubled times. Another is how

Norges Bank's discounting, in this period provided liquidity to a strained money market. Diagram 10 displays the development of domestic central bank discounting throughout the 1870s measured as annual averages of monthly observations. Observe how the level of domestic discounting after a reduction during the early phase of the boom increased from 1872 to 1875 and thereafter was maintained at a high level during the troubled years. Thus, although the bank responded to declining reserves by increasing the Bank Rate she maintained lending at a high level. The counter-cyclical impact her lending policy becomes even more pronounced when domestic discounting is regarded relative to the circulating note stock (black line in diagram).

Figure 7: Domestic central bank discounting 1870-1879 (annual average of monthly observations)



Sources: Klovland, 'Monetary aggregates'; Historical Statistics 1994, table24.22

In these years the bank at times operated at the margin of the monetary policy constraints. On a number of occasions the lending limits stipulated for her branches were violated. However, these were violations the parliamentary scrutinisers met with some sympathy. In its remarks on the activity of the bank for 1877, the relevant parliamentary committee expressed understanding for branch managers that violated these limits on occasions where '*this appeared as close to a necessity in order to protect important industries*'.[10] In the parliamentary debate the following year, a representative on behalf of the committee expressed satisfaction with the careful way the Board of Directors of Norges Bank had handled branches that violated their lending limits under the prevailing economic

[10] Innstilling S. nr. 82 (1878)

hardship.[11] Thus, despite a number of grievances voiced at time, there was also a public recognition that Norges Bank exercised discretionary judgment, tried to accommodate the need for credit in face of an economic downturn and was sensitive how a curtailing of credit might put the payments system on the verge of standstill.

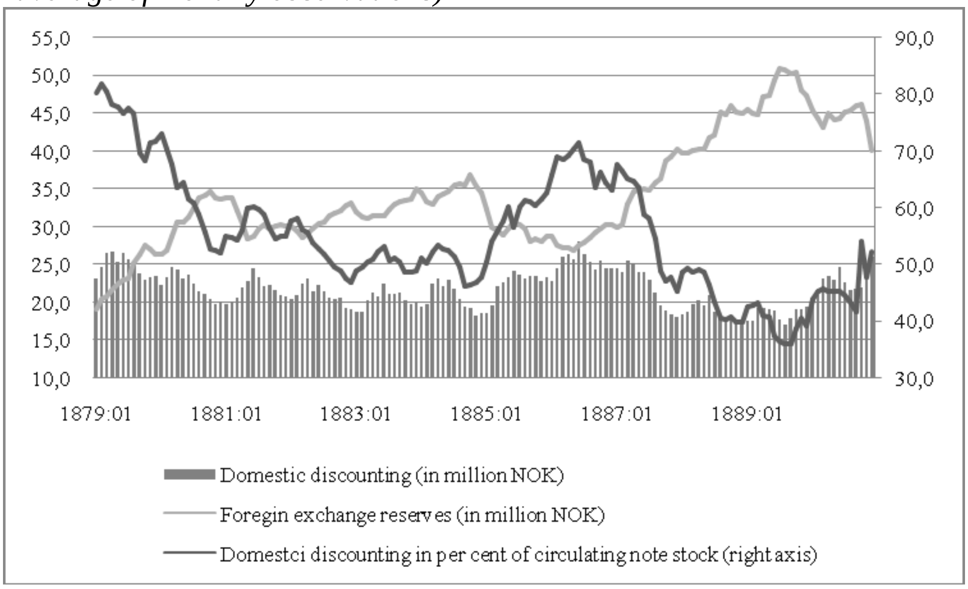
To summarise, the recession of the late 1870s was exceptional strong with a substantial fall in output and nominal prices leading to a record high numbers of emigrates to the United States. The international wave of deflation hit Norway in a most forceful way. From 1877 to 1879 the consumer price index fell by 18.2 per cent. If there was a "strangulation mechanism" at work in the late 1870s in addition to the fall in output, it was the impact of this dramatic decline: real values of debts increased, profits fell and liquidity was squeezed. In this situation, the constraints of the monetary policy could have left Norges Bank with no other alternative than to tighten credit even further in order to stay within the fixed exchange rate commitment. However, in concert the government and Norges Bank managed to keep the constraints at bay rendering some freedom for crisis management. Instead of credit restriction, central bank discounting was kept at a very high level. Norges Bank displayed sensitivity towards economic agents and her lending showed a remarkable counter-cyclical tendency. However, a central bank in an open economy pursuing a fixed exchange rate could not alter the fundamental challenge of the recession, the deep price decline; only arrest the worst of the illiquidity and provide more stability to the payments system.

Out of the recession, Norway experienced a mild recovery in the later parts of 1879 and in 1880 was soon arrested and 1881 became a year of further depression.[12] This proved to the pattern for the coming decade: sluggish growth and cyclical instability. However, the extra fund was never near read and note reserves most of the time displayed comfortable margins. Thus, a threat to the payments system caused by monetary constraints did not emerge like in the end of the earlier decade. Following the sluggish growth pattern, the money market was rather loose with long periods of a low Bank Rate. In terms of bank policy, however, much of the same features as in the 1870s were present but in a less pronounced way. In the figure below, the development of foreign exchange reserves and domestic central bank discounting are reported 1879-90. The business cycle can be seen through the development in the foreign reserves: first recovery from the recession of 1877-8 arrested by a fall in early 1881 and then slowly rebuilding until peaking in the autumn of 1884. Until the summer of 1886 the reserves

[11] Norwegian Parliamentary Papers. Stortingstidende (1879) pp.1037-8
[12] Klovland, 'A Chronology', p. 29

decline at steady rate only to be followed by a rather formidable increase, close to a doubling, until the fall of 1888. The domestic discounting displays a much less volatile development than the foreign reserves, but the relationship is clearly inverted with a correlation coefficient of -0.63. Thus, when the gold reserves went down, the demand for discounting facilities increased. This tendency becomes even more distinct when discounting in seen in relation to the note circulation. The relationship between foreign reserves and domestic discounting in per cent of note stock is clearly negative with a correlation coefficient of -0.87. Thus, when gold pours out central bank lending becomes more important for maintaining note circulation. Some of these catch the normal seasonal fluctuation, but given the strength of volatility of the foreign exchange reserves, a mild countercyclical element is probably present.

Figure 8: Norges Bank foreign exchange reserves and domestic discounting 1879:1-1889:12 (annual average of monthly observations)



Source: Norges Bank – Monthly extracts of books 1879-1889

Although no countrywide threat to the payments system emerged in the 1880s, there was sufficient smaller crisis to warrant local crisis management by the branches of Norges Bank. As seen in the figure above, 1886 the most stressful year of the decade for the guardian of domestic currency: Foreign reserves at a low point and discounting high. That year also became the years of bank failures. A*rendal Privatbank*, operating out of the most important port for the declining Norwegian sail ship fleet, had the dubious honour of becoming the first private commercial bank in the country to fail. The falling profitability of sail might have played a role, but the major problem was insider lending and a manager who used the bank as cash till for his own and his accomplices' business ventures.[13] Shareholders lost everything and depositors 66 percent. The local savings bank and a local saving institution for artisans followed suit into bankruptcy proceedings. Norges Bank had no branch in the town, but responding to the deteriorating conditions in Arendal by extending the lending warrant of the branch in nearby Christiansand by 500,000 kroner and increasing discounting. The same year, the commercial bank *Stavanger Kreditbank* went bankrupt after having struggled for some years with losses and falling level of deposits. The local savings bank also went bankrupt, while the city branch of Norges Bank suffered substantial losses. The failures were a combination of depressed business conditions and bad banking. In the *Kreditbank,* the manager had lent 300 000 kroner– roughly one sixth of bank assets, two thirds of equity – to himself to fund undertakings that subsequently tumbled. The Stavanger crisis exemplifies a pre-war characteristic of unit-banking in small and medium sized cities, namely, how local elites through kinship and mutual guarantees constituted credit networks where the stumbling of one brought down the other.[14] In order to overcome the local difficulties the Stavanger branch was given a temporary extension of her lending warrant by Norges Bank of 300,000 kroner.

The two examples of local crisis management by Norges Bank underline an important point of banking policy at the time. Faced with a collapse; or near collapse in Stavanger as one commercial bank there was still standing, of the local payments with grave ramification for local industry and commerce, Norges Bank did not aim at rescuing banks. The focal point was to stabilise the local payments system by injection liquidity.

The Christiania burst of 1899 and its aftermath

In the monetary and financial history of Norway 1899 is conventionally portrayed as a watershed. For the first time, responding to the severe banking crisis following the burst of the major Christiania real estate and financial boom of the late 1890s, Norges Bank assumed systemic responsibility and acted as a lender of last resort.[15] Allegedly, with the crisis, a new understanding of the role of the bank was born. Norges Bank had turned from being seen as a

[13] Rygg, Nicolay, *Norges Banks historie*, volume II, Oslo 1954, pp 185-6. The action of the manger was in this case outright fraudulent and he was convicted.
[14] Rygg, *Norges Banks,* pp 176-8. The key player in the local credit chain and the man that brought it down, Consul Sømme, was a member of the management of the city branch of Norges Bank and a director in the Kreditbank while a son was a director in the savings bank.
[15] Gunhild/Sverre p. 41

bank of issue to a mature central bank.

There are some truths to this image. The year 1899 was a watershed in the sense that it was the test for Norges Bank as a crisis manager under a major financial crisis involving domestic banks in distress. However, to regard this as something fundamentally new is misleading. The core of 1899 was *not* that Norges Bank assumed the role of lender of last resort. A clear cut understanding of the systemic responsibility of the central bank for the integrity of the financial system was not developed in Norway before World War I. Rather it might be possible to see as 1899 as *continuity* from the crisis management from the decades before discussed earlier: In the case that illiquidity, in this particular case stemming from a wave of banking failures, threaten to the disrupt the domestic payments system, Norges Bank provided quantitative easing. At the forefront was the stability of the payments system and acute fear of economic standstill – not the integrity of financial system. In fact, Norges Bank did not save a single bank. Thus, 1899 was about providing quantitative ease and the orderly winding-up failed banks in order to avoid a general scramble for liquidity. As in similar cases before, the government bolstered the crisis managing abilities of Norges Bank remitting from abroad, thus making it possible to evade the monetary policy constraints. In the prolonged recession that followed the crisis Norges Bank run down her monetary buffers and kept discounting at a high level in the face of dwindling gold reserves, mirroring the late 1870s.

The boom of the late 1890s in the capital Christiania is often portrayed as a real estate boom. In the sense that real estate speculation was a driving force in the boom, this is obviously right. Moreover, the standstill in construction in the city, the high number of unoccupied flats, the falling rent levels and housing prices in the aftermath of the burst, testify to the severity and prolonged character of the crisis. By 1905 ten per cent of all flats in the city were left empty and rents were down by between 20 and 25 per cents.[16] By 1909 the price level had fallen by close to 60 per cent compared with the peak a decade earlier. In real terms, the housing price index for Christiania, by 1924 Oslo, did not reach the level of 1899 until around the turn of the next century.[17] However, the boom took place on a broad front involving a wave of new enterprises both in construction-related industries, general manufacturing and banking. Crucially, the intersection between stock market jobbing, real estate speculation, loose monetary policy and bad banking led to increased risk taking, created a pronounced *jobbing* atmosphere and a very fragile house of cards.

[16] Keilhau, hypotekbanken, p. 65-6
[17] Grytten et. Norwegian housing prices..

By 1897-8, the mood spread to the banking sector with a "*feverish tempo*".[18] In two years, six new banks were established in a city which was already served by seven to eight commercial and savings banks. Through initial public offerings, and for some banks subsequent new issues of shares, 21.1 million kroner had been raised. Although most established banks, led by *Den Norske Creditbank* (DNC) and *Christiania Bank and Kreditkasse* (CBK), maintained a conservative stand, an additional 10.9 million kroner were raised by new issues in the older *Christiania Handelsbank* and *Christiania Realkreditbank*. In comparison, the equity of the established banks in Christiania in 1897 stood at 10.6 million kroner. Given that 32 million kroner was raised in new banking capital, the stunning character of the 1899-burst is the fact that it was nearly all lost. All the new entrants went out of business and most paid only modest dividends to non-prioritised claimants. Christiania Handelsbank suffered the same faith in 1904 although the bank was solvent. Christiania Realkreditbank had a narrow escape, suffering heavy losses and had to restructure in 1904.

Some of the new banks, like *Discontobanken* and *Den Nordiske Aktiebank*, represented a continuance of the jobbing atmosphere on a grander scale. Others, like *Den Norske Vexel og Industribank*, originated in more established circles, but ended up being severely exposed to real estate and stock market jobbing. In addition to exposure to the riskier markets, *Discontobanken* and *Aktiebanken* exceeded in the art of bad banking. These banks never attracted much in terms of deposits and increasingly had to rely on rediscounting and credits from abroad. A bank like *Industribanken* enjoyed from 1897-1899 a funding from abroad varying between four and ten million kroner at any time.[19] Discontobanken in 1898 and the first half of 1899 had an average foreign short-term funding of three million kroner.[20] This gave mismatched balance sheets with short term foreign funding on one side and increasingly long-term lending on the other. The funding represented a challenge to monetary stability.[21] The access to foreign credit, in practise, rendered the jobbing banks with note issuing powers – at least as long as the gold continued to pour in from abroad. When the flows finally reversed, they became exposed to the liquidity trap.

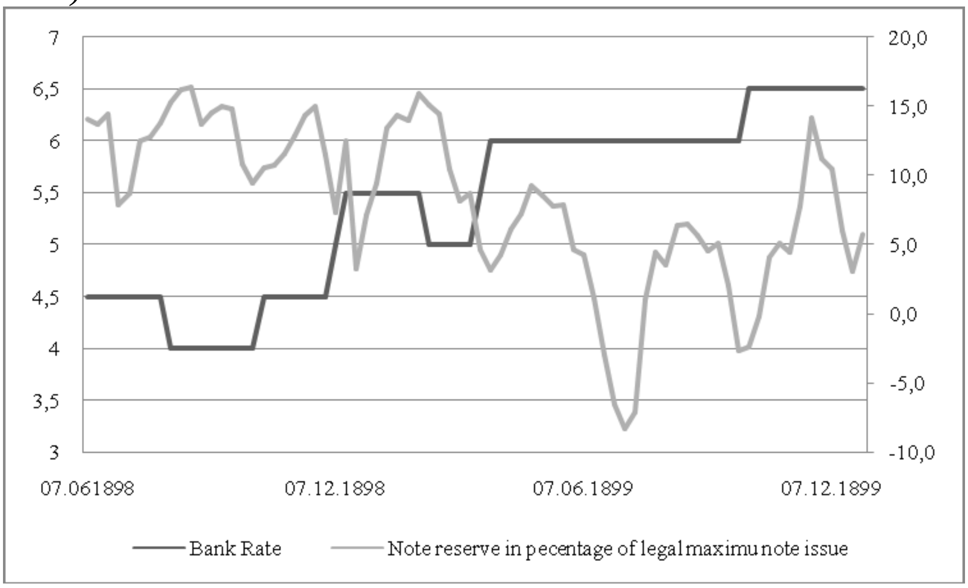
Although the magnitude of the risk exposure was not clear *ex ante*, there had been no lack of firm warnings. The financial weekly *Farmand* had from 1895 onwards campaigned against the jobbing mentality in general, the overexpansion in the banking sector and the

[18] Rygg 240
[19] In 1898 the bank had an end-of-year equity of 6.8 million kroner and deposits of 8.8 million kroner.
[20] In 1898 the bank had an end-of-year equity of 3.1 million kroner and deposits of 4.7 million kroner.
[21] Norges Bank – Annual Report 1898

personal character of the new men of business.[22] In the summer of 1898, they foresaw the crash, "(...) *which might take some time to materialise, but with infallibility will come*".[23] By the end of January 1899 the journal assured the jobbers that the day of reckoning would come.[24] At the same time as Farmand warned, established banks and older commercial interests had disassociated themselves from the speculators.

A crisis was on the horizon, but the timing and the spectacular force of the onslaught were unpredicted. After a tightening in the autumn of 1898, a temporary ease in the beginning of the year was arrested by the money market again suddenly turned increasingly tight in March. The seasonal increase in demand for money coincided with a strong outflow of gold caused by the need of banks to settle their short-term loans in Sweden. By the end of March, the note reserve was down to a mere 2.9 million kroner while it had stood at more than 15 million kroner a year earlier.[25] Correspondingly, the Bank Rate was increased to six per cent – a level not seen in seven years.

Figure 9: Norges Bank's note reserves and bank rate June 1898-December 1899 (weekly observations)



Source: Farmand June 1898 – December 1899

Yet it was still only a question of a severely tight money market. However, the combination of a very tight market, the frenzy of the prolonged jobbing atmosphere and the fundamentally unhealthy balance sheets of the new banks created an explosive situation just

[22] See for instance: Farmand, 12 July 1895, 20 July 1895, 23 May 1896, 27 February 1897, 18 June 1898, 17 September 1898
[23] Farmand, 18 June 1898
[24] Farmand 28 January 1899
[25] Farmand, 29 March 1899

waiting for the spark to ignite.

That spark came on 11 June 1899. The firm of General Consul Chr. Christophersen notified its creditors that it ceased payments, and filed for bankruptcy a week later. The firm had for years been a major player in the pulp wood industry, but had struggled for some time. The winding-up showed liabilities of more than twelve million kroner and the creditors received only a six per cent dividend.[26] *Discontobanken* had already for some time been in troubled waters. Rumours circulated and the bank called upon their debtors to settle in a rather heavy-handedly manner. Moreover, the unusually high deposit rates offered signalled to a bank in liquidity problems.[27] However, it was the fall of Christophersen that brought the bank down. The day after the General Consul ceased payments, the managers of Discontobanken informed Norges Bank that they had three million kroner outstanding, roughly equal to the equity of the bank, on the firm and asked for relief. Believing that the bank was still solvent, Norges Bank, in understanding with the treasury, immediately granted support through rediscounting. Moreover, 1.1 million kroner in treasury deposits in the bank was frozen. The initial credit of two million kroner soon proved to be insufficient and later in the year Norges Bank had to take over the whole portfolio, a total of 4.8 million kroner. By the beginning of the next year it was clear that bank in fact was insolvent.[28] Following the troubles of Discontobanken, *Den Nordiske Aktiebank* soon followed. On 10 July 1899, five banks led by Norges Bank, put up a guarantee for the orderly liquidation of Aktiebanken. By the end of 1899 the bank had rediscounted bills for 840.000 kroner in Norges Bank.

Christophersen's fall triggered a chain of events that would produce the worst banking crisis hitherto seen in Norway. The impact on the money market, Farmand editor Einar Sundt, rather flourishingly likened to withdrawing ten million kroner in gold and throwing it all into the sea.[29] The timing of the bank crisis could not have been worse, the money market was already unusually tight and the annual peak in demand for money was still ahead.[30] In this situation, Norges Bank found itself in violation of the legal gold standard requirements. On 22 June the bank had issued notes in excess of its legal rights to a value of 1.8 million kroner, increasing to 5.4 million kroner by 7 July. Although the bank, as a result of the habitual reduction in note circulation over the summer was in the clear with regard to the legal

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[26] Rygg, p.252
[27] Hofstad, p174
[28] Rygg 244-5
[29] Sundt, p 450
[30] For the 21 year period 1893-1913 that we have weekly data on the note circulation the third week of June regularly represented the peak in note circulation. This correspond to the knowledge that Midsummer day was an important day for settling of debts as well with increased demand connected with the Midsummer market in Christiana, traditionally the most important timber market in the country.

commitments by 22 July, the problems were far from over. The gold reserves continued the downward trend while domestic central bank credit increased strongly. For the six last months of 1899 the latter was on average 35 per cent higher than for the same period a year earlier. By the end of September, the bank was again in violation of the note issuing rights and finally responded by increasing the Bank Rate to 6.5 per cent, the highest level seen since April 1878.[31] The rate was maintained for fifteen months.

In their annual report for 1899 Norges Bank dwelled on the banking crisis and its own response.[32] Overall gross discounting had increased from 226 to 343 million kroner and the number of bills discounted had grown by more than 30,000 to 122,000. Compared to earlier years, a disproportionally high share of the discounting had been bills with short outstanding maturity and renewed bills rediscounted for the private banks. This is important to understand the extent of the bank relief. Earlier, the rediscounting had been a very limited affair. In relative terms the increase in lending towards banks was much higher than the 35 per cent increase in overall domestic credit.

How much liquidity Norges Bank provided to the banking system during the crisis is not quite clear. Discontobanken obviously was the main benefactor peaking with around five million kroner, while Aktiebanken received one million kroner. No other banks are actually named as recipients, but the general image Norges Bank conveys is that she discounted rather freely. Another point is that Norges Bank did not act alone. In the annual report the bank stresses that the intervention providing quantitative ease had not been possible without nine million kroner placed at the disposal of the bank by the treasury. Without this being stated explicitly, a large part of the increase in treasury deposits probably was government loans remitted from abroad ahead of schedule to bolster the note issuing capacity of Norges Bank. In other words, without this support, Norges Bank would have been in violation of its note issuing rights more frequently, and with larger amounts, at least if the bank-support policy had been carried out in the ambitious fashion that it actually was. This kind of government bolstering of the position of the bank was probably pivotal to escape the constraints of the gold standard regime and avoid putting the credibility of the fixed exchange rate mechanism at risk.

How did Norges Bank assess the situation? Norges Bank obviously believed a major economic disaster was pending in June 1899. As the bank wrote to the treasury that summer,

[31] In connection with the September violation of note issuing rights, Norges Bank secured a 2 million kroner in gold short-term loan from the Danish Nationalbanken (at a six per cent interest rate)to maintain the gold backing. In the end this loan was not necessary and the bank was again in the clear by the end of the month.
[32] Norges Bank – Annual Report 1899

the rediscounting for the private banks, and in particular Discontobanken, was undertaken "*in order to avoid or at least limit the economic disaster that a banking crisis and subsequent panic would bring about*" and argued that the bank *"out of consideration for the commercial world"* would have to breach their legal note issue rights.[33] Moreover, Norges Bank had a clear understanding of the dynamics of a banking crisis and the liquidity problem:

> The tightening of the money market continued not only because the situation demanded an extraordinary large circulation of means of payments, but the fear of not being able to get money when needed, made people hold on to their money as long as it was not absolutely necessary to let it go (...).[34]

Twice in the report, Norges Bank refers to its duty, in connection with the support rendered the banks. However, it is not quite clear to which constituency Norges Bank refers to. In retrospect, the rescue attempt has been hailed as the first lender of last resort operation. In terms of a general story telling how the bank of issue gradually took on a more mature central bank approach, this interpretation fits well and their duty was to the financial *system*. I am not sure whether it is the right interpretation. Clearly, Norges Bank, through its very actions in fact took responsibility for the financial system. But I believe, the sense of duty was as managers of the domestic payments system Norges Bank was not in the business of saving banks, they were in the business of hindering imminent economic standstill. In this case, shoring-up troubled banks was the *instrument* to prevent a major disruption of the payment system. Thus, the instrument was new, not the objective.

This might be a point on the pedantic side. No lender of last resort argument I have ever come across has been based on the love of banks, but rather on the imperative function they have in an economy and the devastating impact of a financial meltdown. However, in this case, where Christiania 1899 has been seen as a breakthrough for the lender of last resort, what the contemporary actors believed to be their duty is of interest. In the parliamentary debate on the annual report of 1899, Mr. Gunnar Knutsen, major ship-owner, industrialist, leading star of the Liberal Party and subsequent Prime Minister for close to a decade, stressed the special obligations of Norges Bank:

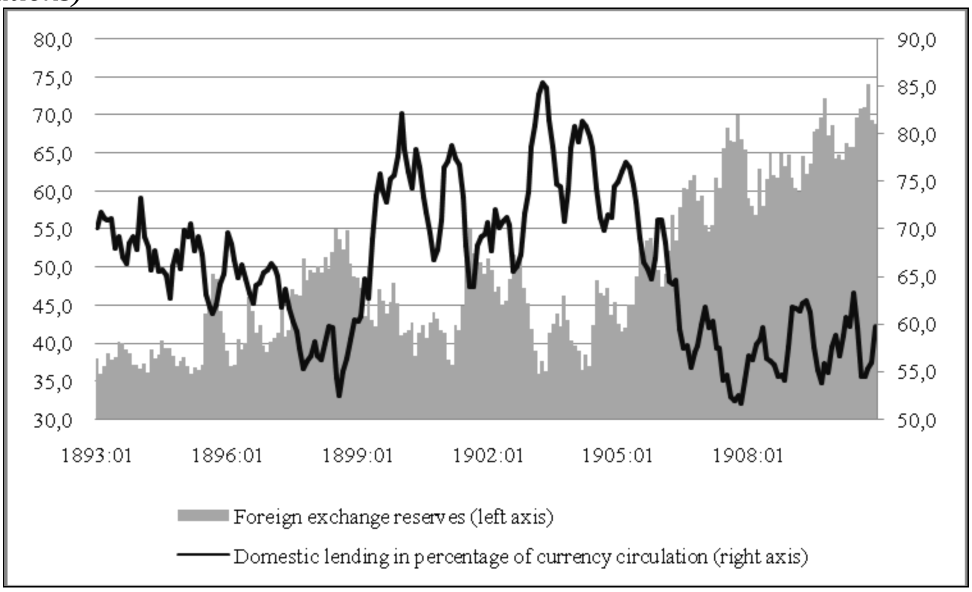
> Norges Bank is a public bank with a higher mission whose first task is not earn money for its stockholders, but to serve the economy of the country and serve the country's industries, in such a manner that when they are exposed for dangers the private banks are not able to handle, then Norges Bank always must be in position to answer the call. [35]

[33] Norges Bank – Annual Report 1899
[34] Norges Bank – Annual Report 1899
[35] Parliamentary procedings (Stortingstidende) 1900/01 pp. 959-969

Knutsen paid no tribute for saving the banking system and he certainly did not formulate a lender of last resort argument. Moreover, those who argue 1899 as the starting point systemic responsibility, tend to omit the fact Norges Bank in 1904 choose not to support Christiania Handelsbank – an illiquid, but solvent institution – on the ground that they were not able to form a group of guarantee banks. [36]Now the economic situation was much improved, a liquidation of Handelsbanken was not seen to be of a contagious nature, and Norges Bank decided against a rescue operation.

The Christiania burst became the starting point of a five year prolonged recession reinforced by a deteriorating international business cycle from 1901 onwards. Domestically, the most pregnant expression of the crisis was the falling prices of real estate and the virtual end of construction activity, together with the winding up of many jobbing enterprises. The boom had already peaked before the banking crisis started in June, but the scramble for liquidity had made it burst. One after another, the recent entrants to the banking world went out of business. Aktiebanken so early as 1899, Discontobanken the year after. The common denominator for the failed banks was that they had been strongly exposed to real estate. Even those that had a more solid business fundament, got caught when the floor fell out of the property market. Of the older banks of some note, only *Christiana Bank og Kreditkasse* and *Den Norske Creditbank* were still standing.

Figure 10: Norges Bank's note reserves and bank rate June 1898-December 1899 (weekly observations)



Source: Farmand June 1898 – December 1899

Many scholars are preoccupied by how Norges Bank saved the day in 1899, but have

[36] Hofstad, p. 191

put little emphasis on her policy in the following years of economic downturn and stagnation. Although not faced with a situation as severe as the recession of the late 1870s, and with probably less risk to the payments system, the approach of Norges Bank in the period 1900-1905 mirrors earlier crisis management. In face of dwindling foreign reserves, as seen in the figure above, Norges Bank maintained discounting at the high level established in the summer of 1899 throughout the troubled years. This becomes particular clear when domestic central bank lending is seen *in lieu* of the total currency circulation (black line). Regardless of whether this should be labelled crisis management or embryonic countercyclical policy, it demonstrates a central bank that played another game than derived from the constraints of the fixed exchange rate regime.

Some concluding reflections

The point of the departure for this article was that I believed crisis management before 1914 meant something different than today. Financial stability as the present understands it as a key central bank objective had little meaning in the 19th century. Avoiding a major disruption of the payments system, however, was important since it derived directly from why the privileged banks of issues were established in the first place, to manage the domestic currency. The difference might seem pedantic, but are not. Banks of issue were not concerned as such with the wellbeing of a financial system in the meaning of banks, but rather with providing the economy with an adequate supply of stable means of payments. That was their public function. Crisis management, by and large in the form of quantitative easing, became a task for the banks of issue if illiquidity threatened the payment system or was at risk of leading the economy to standstill. Certainly, sometimes like in Christiania in 1899, bolstering banks in distress or securing their orderly liquidation became a part of crisis management, but as I argue more as instruments than as policy objectives. Norges Bank never saved a bank or saved a shareholder before World War I, the focal point was the payments system. In this perspective, 1899 as crisis management represents four decades of continuity going back to 1857. Is there a lesson here for the present? I shall, given my stated misgivings over learning from the past be careful. However, if monetary authorities in their capacity as crisis managers should learn something from the 19th century this is the core: in times of crisis aim at the basic function of central banking, to provide an efficient payment system. Sometimes this might entangle bank rescue operations; but not necessarily, and hopefully not all of the time. Letting banks fail, I would argue, is good for financial stability in the long run.

In the article I tried, signalled with strong confidence in its title, to examine crisis management under the constraints of a fixed exchange rate commitment. In the end, I am not certain whether I accomplished that ambition. What is certain is that the constraints of the bullion regimes made central bank discretion something that took place on the margin. Moreover, these margins, as this article testify to, were at their narrowest when they were called upon the most, i.e. in crisis situations. What is more, the constraints of the regime might by themselves contribute decisively to foster a crisis, as the illustrated by the narrow escape of April 1878. In this perspective, applying broader criteria for crisis management catches 19th century reality better. Only the handling of April 1878 fits the bill as crisis management as the payment system was at risk while overall 1877-1879 and 1900-5 reflected much of the same mood, but here the concern is more for the state of the economy. Embryonic countercyclical policy is perhaps a more fitting label. In general I will argue that with the careful management provided by Norges Bank, particularly through monetary buffers like the note reserves, the margins for discretion were rather healthy and broader than one might expect from a fixed exchange rate commitment. However, in all the crises discussed here - 1848, 1857, April 1878 and 1899 – the monetary policy constraint put breaks on Norges Bank ability to address the situation. With the exception of 1848, Norges Bank was not willing to call this a contingency situation and break with the commitment of the fixed exchange rate. Thus, long-tem credibility mattered. In all crises, and for the last three in concert with Norges Bank, it was the state that made crisis management possible, by lifting the constraints of the monetary regime by an infusion of silver or gold. Norges Bank was not a lender of last resort, but the state certainly was the lender of last resort for maintaining the payments system. Any possible lessons learnt? States matter in crisis management. A central bank is only as good as the credibility commanded by the state. In concurrence, two arguable points: First, having the Euro as currency, and thereby the European Union as ultimate backer, enhance the crisis management credibility of Greece, but might weaken that of Germany. Second, independence might work beautiful in normal times, but when crisis management is on the table, central banks might find themselves relegated to riding shotgun.

References

Aschehough, Torkel H., Den cirkulerende pengemængde som økonomisk barometer, *Statsøkonomisk tidsskrift* 1893

Aschehough, Torkel H., De økonomiske kriser og depressioner i det 19de aarhundrede, *Statsøkonomisk tidsskrift* 1898

Aschehoug, T. H. Socialøkonomik: en videnskabelig fremstilling af det menneskelige samfunds økonomiske virksomhed, Kristiania 1903-8, volume III

Bagehot, Walter, *Lombard Street. A Description of the Money Market*, 10th edition, London 1892

Bergh, Trond and Lange Even, *Foredlet virke: historien om Borregaard 1889-1989*, Oslo1989

Bordo, Michael D. and Rockoff, Hugh, The Gold Standard as a "Good Housekeeping Seal of Approval”, *Journal of Economic History*, Vol. 56, No. 2, pp. 389-428

Einarsen, Einar, *Gode og daarlige tider*, Gyldendal, Copenhagen and Kristiania 1904

Friedman, Milton and Schwartz, Anna J., *A Monetary History of the United States, 1867-1960,* Princeton UP 1963

Grytten, Ola H., The gross domestic product for Norway 1830-2003, 241-288, Chapter 6 in Eitrheim, Øyvind., Klovland, Jan Tore and Qvigstad, Jan F. (eds.), Historical Monetary Statistics for Norway 1819-2003, *Norges Bank Occasional Papers* no. 35, Oslo, 2004

Hertzberg, Ebbe, *En kritisk fremstilling af grundsætningerne for seddelbankers indretning og virksomhed med særligt hensyn til de skandinaviske seddelbanker i deres nuværende skikkelse*; Kristiania 1877

Hodne, Fritz and Grytten, Ola H., *Norsk økonomi det 19. århundre*, Fagbokforlaget 2000

Kiær, A. N., *Om seddelbanker : en kritisk fremstilling af grundsætningerne for seddelbankers indretning og virksomhed med særligt hensyn til de skandinaviske seddelbanker i deres nuværende skikkelse*; Kristiania 1877

Klovland, Jan Tore, A Chronology of Cycles in Real Economic Activity for Norway, 1867-1914, *Scandinavian Economic History Review*, 1989:1

Klovland, Jan Tore, Bond markets and bond yields in Norway 1820-2003, chapter 4 in Eitrheim, Øyvind., Klovland, Jan Tore and Qvigstad, Jan F. (eds.), Historical Monetary Statistics for Norway 1819-2003, *Norges Bank Occasional Papers* no. 35, Oslo, 2004

Klovland, Jan Tore, Monetary aggregates in Norway 1819-2003, chapter 5 in Eitrheim, Ø., Klovland, J. T. and Qvigstad J. F. (eds.), Historical Monetary Statistics for Norway 1819-2003, *Norges Bank Occasional Papers* no. 35, Oslo, 2004

Rygg, Nicolay, *Norges Banks historie*, volume II, Oslo 1954

Øksendal, Lars Fredrik, The Norwegian debate on the gold standard and monetary integration in the 1870s, *Scandinavian Economic History Review*, Volume 54, Number 2 / July 2006

Official publications

Norwegian Parliamentary papers. Innstilling S. nr. 83 (1871) Innstilling fra bankkomiteen angående Norges Banks bestyrelse og virksomhet i tidsrommet fra september 1868 til årets utgang 1870

Norwegian Parliamentary Papers. Ot.prp. no. 1 (1873) Om overgang til gullmyntfot. Betenkning fra den kongelige kommisjon om myntvesenet.

Norges Bank – Annual reports 1870-9

Norwegian Parliamentary Papers. Stortingstidende (1879)

Norwegian Parliamentary papers. Oth.prp. No. 24 (1882) Angaaende Forandringer i Lovgivningen om Norges Bank

*Gold and silver commission (*P.P. 1887 XII) First Report on the recent changes in the relative values of the precious metals

Historical Statistics 1978, Statistics Norway 1978

Historical Statistics 1994, Statistics Norway 1994