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CHAPTER 6

The Scandinavian Monetary Union 1873–1924

*Lars Jonung*¹

Introduction

At the close of the twentieth century, three Scandinavian countries – Sweden, Norway and Denmark – chose to tread different monetary paths. Sweden adopted a floating exchange rate cum inflation targeting in 1992. Norway maintained a pegged exchange rate during the 1990s, eventually moving to explicit inflation targeting in 2001, while Denmark has for all practical matters been a member of the euro area since its inception. This picture of monetary diversification stands in striking contrast to the monetary unity that once marked Scandinavia. The three countries were united in the Scandinavian Monetary or Currency Union (SMU) from the early 1870s until shortly after the First World War.

SMU is commonly regarded as successful for several reasons. It worked smoothly, with a minimum of tension among its members. It accomplished a high degree of monetary integration, most likely higher than any other monetary union involving sovereign states during the nineteenth century. The monetary marriage survived the political divorce of Norway from Sweden in 1905 that threatened to cause a military conflict. Contemporary commentators, like Knut Wicksell, wished the union to be maintained when it was put under stress.

The purpose of this chapter is to give an account of SMU, describing its origins, its evolution, its impact and its collapse. A number of questions are addressed: Why was the union founded? What effects did it have on nominal and real developments in Scandinavian countries, and what forces caused its break-up? Scant attention has hitherto been paid to SMU in economic research. Thus, the answers given here should be viewed as preliminary, since much work, in particular with a comparative perspective, remains to be undertaken on Scandinavia's gold-standard experience.²

1 I have received valuable comments from Michael Bergman, Michael D. Bordo, Thomas Hagberg, Cecilia Hermansson and Krim Talia. This article builds upon my joint work with Michael Bergman. Carl-Göran Lemne most kindly gave me access to material from the archives of the Riksbank on the Scandinavian monetary union. Göran B. Nilsson commented on my earlier work in a most constructive way, emphasizing the political forces contributing to the formation of the union. Karel Havik skillfully prepared the figures.

2 Research on the Scandinavian monetary union is concentrated in two periods: a first phase occurred around 1920, see for example E. Heckscher, 'Penningväsendet och penningpolitik', in E. Heckscher (ed.), *Bidrag till Sveriges ekonomiska och sociala historia*

The creation of the Economic and Monetary Union (EMU) in Europe has aroused an interest in the record of past monetary unions. There is now a considerable literature addressing the experience of monetary unification, often trying to draw lessons for the future of EMU from history.³ The present study is inspired by this literature.

SMU's origins

During the 1860s there was a major effort for cooperation across Europe in the sphere of currency matters.⁴ France was the driving force behind the establishment in 1865 of the Latin Monetary Union (LMU) based on gold and silver. Its members comprised Belgium, France, Italy and Switzerland, with Greece joining in 1868. The German states and Austria were united in the German monetary union, based on silver. Furthermore, in Scandinavia there was a lively debate over the proper choice of monetary arrangements. The issues were dealt with explicitly at three meetings of Scandinavian economists: in Gothenburg in 1863, in Stockholm in 1865 and in Copenhagen in 1872. Bankers and politicians were also involved.⁵

Several alternatives were brought out in the public debate, which generally emphasized that any future monetary system should be based upon the decimal system, common to all the Scandinavian countries, and should be international, that

(Stockholm, 1926), and a second in the 1990s. This chapter is based primarily on recent work by M. Bergman, S. Gerlach and L. Jonung, 'The rise and fall of the Scandinavian currency union 1873–1920', in *European Economic Review*, 37, 1993, pp. 507–17; M. Bergman, 'Do monetary unions make economic sense? Evidence from the Scandinavian monetary union 1873–1913', in *Scandinavian Journal of Economics*, 1999; I. Henriksen and N. Kaergård, 'The Scandinavian currency union 1875–1914', in J. Reis (ed.), *International monetary systems in historical perspective* (London, 1995); L. Jonung, 'Swedish experience under the classical gold standard 1873–1913', in M. Bordo and A. Schwartz (eds), *The Classical Gold Standard in Retrospective* (Chicago, 1984); and K. Talia, 'Monetary integration and disintegration. Studies in the Scandinavian Currency Union', *licentiat thesis* (Stockholm School of Economics, 2001). Most work on the union has been carried out from a Swedish perspective. Henriksen and Kaergård, 'Scandinavian currency union', look at the union from a Danish position. There is no recent Norwegian study of the union, to my knowledge.

3 See for example M. Bordo and L. Jonung, 'Lessons for EMU from the History of Monetary Unions?', IEA, Readings 50, London, June 2000; B. Eichengreen, 'One money for Europe? Lessons from the US Currency Union', in B. Eichengreen (ed.), *European monetary unification* (Cambridge, 1997); and L. Jonung, 'EMU – the first 10 years. Challenges to the sustainability and price stability of the Euro-area – What does history tell us?', in M. Buti (ed.), *The functioning of EMU. Challenges of the early years* (London, 2002), for monetary-union lesson-drawing.

4 For a thorough review of the European monetary unification process of this period, see L. Einaudi, *Money and politics. European monetary unification and the international gold standard, 1865–1873* (Oxford, 2001).

5 In Sweden the banker A. O. Wallenberg, founder of the Stockholms Enskilda Bank and of the Wallenberg dynasty, was deeply involved in the debate on the choice of monetary standard for Sweden. See G.B. Nilsson, 'Drömmen om universalmyntet', in *Pecunia*, 1, 1990, pp. 59–74; and Talia, 'Monetary integration'.

is based on gold. The three small Scandinavian countries at the periphery of the European continent had the options of adopting the monetary system of one of the then major financial powers of Europe: Great Britain, or France or Germany. The British option was ruled out since it was not based upon the decimal system. The French alternative, namely to join LMU, had many proponents. Indeed, Sweden and Denmark seriously considered membership; but the Franco-Prussian war put an abrupt end to these plans. France lost its monetary initiative with its defeat in the war, while the German Reich adopted the gold standard, partly financed by the war indemnity from France. Anti-German sentiments in Denmark, following war with Prussia in 1864, blocked an approach to the monetary system of the German Reich. Thus, the Scandinavian countries were induced by outside circumstances to consider a 'domestic' solution. At this juncture thoughts turned to a SMU that had no explicit ties to any of the major monetary powers in Europe.

SMU was established over the period 1872–5.⁶ Its members were Denmark, Norway and Sweden, with Denmark and Sweden pushing for its establishment.⁷ An intergovernmental monetary commission met in Copenhagen in August 1872, and an agreement to establish a common monetary system was signed in Stockholm on 18 December by the three future members. Surprisingly, the Norwegian parliament refused to ratify the treaty, but Denmark and Sweden went ahead, forming a monetary union on 23 May 1873. Norway finally joined two years later by treaty on 16 October 1875.

Several factors contributed to SMU's formation. First, it provided a method for standardizing the coinage of the three countries. Each had a long tradition of similar currency units that had assisted in generating an extensive exchange of notes and coins between them. Norway had been part of Denmark until 1816, when it was forced into political union with Sweden. Their currencies were all based on silver. Prior to 1873, the three countries used the riksdaler as their currency unit. One Norwegian speciedaler was approximately equivalent to two Danish rigsdaler, in turn more or less equivalent to four Swedish riksdaler. As a result, part of the volume of money circulating in each country comprised notes and coins issued by the two other countries. The divergence between the silver values of the Danish and Norwegian currencies was sufficiently small to make any arbitrage profits from foreign-exchange dealings negligible. However, this was not the case for Swedish silver coins, whose value exceeded 0.5 Danish rigsdaler or 0.25 Norwegian speciedaler to an extent that it gave rise to an inflow of Danish and Norwegian coins into Sweden – an influx that was regarded as an inconvenience by the Swedes, as their currency had a higher silver weight.⁸

6 The official term was *den skandinaviska myntunionen* – translated here as the 'Scandinavian monetary union'.

7 Finland was at that time a Russian Grand Duchy. Iceland was governed by Denmark. Norway was formally in a political union with Sweden but enjoyed far-reaching political independence.

8 In the bill in the Swedish Parliament in 1873, the argument that the influx of Danish and Norwegian silver currency created permanent costs for Sweden was explicitly used.

The intra-Scandinavian flow of currencies was one motive behind the creation of a common monetary system. But there were others. In all three countries, the debate over the choice of a monetary standard had created support for moving the Scandinavian silver currencies onto a common gold standard, based upon the decimal system. This was recommended for reasons of expediency and rationality. Only the Swedish coinage was based on the decimal system. Other European countries were concurrently adopting the gold standard, most prominently Germany. This put pressure on the Scandinavian countries also to go onto gold. There was a fear that the price of silver would become less favourable if the decision to adopt gold were postponed. The gold standard was regarded as suitable since Scandinavia's leading trade partners, namely Britain and Germany, were also on gold. The adoption of gold was also viewed by some as the first step towards a universal monetary system.

Political factors were at work as well. These prevented an approach to either LMU or the German monetary union. Nationalistic currents, which permeated Europe during the nineteenth century, were expressed within Scandinavia as 'Scandinavianism', an endeavour to bring Denmark, Sweden and Norway closer to each other. A common currency system and a common currency unit were viewed as important symbols of Scandinavian unity and cooperation.

All these factors – a desire to standardize the coinage, imbalances in cross-country flows of currencies, the perceived superiority of the gold standard and the decimal system, the international movement towards gold and the political climate – contributed towards Sweden, Norway and Denmark entering into an agreement to create a common currency union in 1872.

SMU was based on a common view regarding the conduct of monetary policy. Its aim was straightforward: a fixed rate of exchange between the common domestic currency and gold should be maintained. There were then no other conceptions of alternative stabilization-policy arrangements: fiscal policies, labour-market policies and regional policies being constructions of more recent times. Monetary policy was 'denationalized' or 'depoliticized', which made international arrangements easy to accomplish.

The legal framework of the union

SMU's rules were set out in a currency agreement (myntkonvention) reached in December 1872 and given legal force in May 1873. The following should be noted. A common currency unit – the Scandinavian krona – was introduced, equivalent to the old Swedish riksdaler in all three countries. One krona was made up of 100 öre, while the krona's value was expressed in terms of gold, equal to 1/2480 kilo of gold. The basis of SMU was thus the gold standard, putting an end to the silver standard in Scandinavia.

New gold coins were minted in 20 and 10 kronor denominations. Subsidiary coins, coins of lower denominations, were minted in silver (with a silver content of 90 per cent), and copper. All subsidiary coins were legal tender in the three Scandinavian countries. No restrictions applied to the amount of silver and copper coins that could be minted and put into circulation by each member. Initially, such limitations had

been considered but found difficult to construct. Each national treasury accepted unlimited quantities of such coins regardless of their country of origin. The only limitation imposed in relation to the validity of the currency was a maximum level in respect of the payment of private debts.⁹

SMU had also an explicit escape clause. Any member state wanting to leave the union had to give other members notice of withdrawal at least one year in advance. This clause was never invoked.

There was no rule concerning any central coordination of monetary policies – or any other policies – within the union agreement. SMU was a truly decentralized union with its three member central banks, the Bank of Denmark, the Bank of Norway and the Bank of Sweden, being independent of each other, only united by the agreements of 1873–5.¹⁰ Actually, much suggests that there was, initially, surprisingly little communication between the three central banks.

SMU meant that the three Scandinavian countries formed a common monetary area – the krona area – within the domains of the gold standard that was then increasingly covering most of Europe. The union represented a tighter form of monetary cooperation than the gold standard, as Scandinavian subsidiary coins, and later Scandinavian notes, circulated freely and extensively within the three countries, especially in border areas.

The evolution of the union

During its 40 years' existence SMU evolved, as any institution does. (For a chronology of the major events see Table 6.1). Although the union was based on gold, the gold standard in Scandinavia did not become a 'pure' one, since gold coins did not circulate in general business. Actually, they were quite rare. They were minted in higher denominations than banknotes, and the use of notes was popular and extensive, particularly in Sweden.¹¹ Consequently, the holding of gold was concentrated in private note-issuing banks and the central banks, serving as legal reserves backing the volume of notes in circulation. The public trusted the note-issuing banks. Bank runs and financial panics were not common features of the Scandinavian experience during the gold standard, although the international crises of 1877–8 and 1907 did influence the three countries.

9 Henriksen et al., 'Scandinavian currency union', p. 94, conclude that no 'free-riding' occurred concerning the issue of subsidiary coins during the reign of the union.

10 The distinction between centralized and decentralized monetary unions is a crucial one when analysing the sustainability of monetary unions. History suggests that monetary unions with a centralized control of the money supply, and thus of the setting of interest rates, tend to be lasting ones, while decentralized unions like the SMU have a significantly higher risk of breaking up when put under stress. See Bordo et al., 'Lessons', and Jonung, 'EMU'.

11 Jonung, 'Swedish experience'.

Table 6.1 A chronology of the Scandinavian monetary union (*Skandinaviska myntunionen*), 1873–1924

Date	Monetary Arrangements
1873	The Scandinavian monetary union is established. Sweden and Denmark accept each other's gold coins as well as subsidiary coins as legal tender. A common denomination is introduced: one Scandinavian krona is equal to one hundred öre. One Swedish krona equals one Danish krona.
1875	Norway joins the Scandinavian monetary union. One Norwegian krona equals one Scandinavian krona.
Late 1870s	Bank of Sweden informally accepts Danish and Norwegian notes at par.
1901	Bank of Norway and Bank of Denmark formally agree to accept each other's notes at par.
August 1914	Sweden, Denmark and Norway leave the gold standard, while no changes are made in the treaty of the union.
February 1916	Sweden introduces a gold embargo.
1916–24	The Swedish krona is traded at a premium to the Danish krona and Norwegian krona.
April 1916	Denmark and Norway establish a gold embargo
June–July 1917	Denmark and Norway prohibit the export of Scandinavian gold coins at the request of Sweden. Scandinavian subsidiary coins still legal tender at pre-war parity in all three countries.
1923–4	Large inflows of Danish and Norwegian coins into Sweden.
October 1924	Danish and Norwegian silver and copper coins lose legal tender status at pre-war parity in Sweden. End of the Scandinavian monetary union.

Comments: The table exhibits major changes in the Scandinavian monetary union. A restoration of the union was discussed on a few occasions after 1924, but to no avail.

Source: Heckscher, 'Peningväsendet', E. Wilhelmsson, 'Den skandinaviska myntunionen', in *Bancoposten* (utgiven av Riksbankstjänstemännens förening), 8, 6, 15 Dec. 1923, pp. 155–61; and Talia, 'Monetary integration'.

SMU's first developmental modification came about in 1885, when the three central banks introduced a system of mutual drawing rights, facilitating financial transactions across the union, primarily for big business since a minimum payment of 10,000 kronor was required. Transactions between the central banks were to take place without interest or other charges. The central banks would not have concluded this agreement if their managements had expected that subsequent flows of notes and coins within the union might create a permanent disadvantage for any member. The 1885 agreement thus indicated that no country sought to obtain seigniorage profits at the cost of the others.

The flow of money among the Scandinavian countries consisted of notes. In fact, they did not always circulate at the same rates, which caused dissatisfaction since the union agreement did not contain provisions governing notes. The Bank of Sweden accepted Danish and Norwegian notes at par in the 1870s. Sweden and Norway further consolidated the union in 1894 by accepting each other's notes at par without any limitations, but the Danish central bank did not subscribe to this agreement until 1901.¹² By then, SMU was at its most developed stage: notes, gold coins and subsidiary coins of each member were in circulation at par in other member countries.

The dissolution of the political union between Norway and Sweden in 1905 probably induced the Bank of Sweden to withdraw from the clearing agreement of 1885 on 30 September 1905. However, a revised agreement immediately followed, allowing each central bank to charge the other banks fees when using the clearing facility. This option was not used for five years, when it was taken up by Norway and Denmark. This suggests that the Swedish decision of 1905 was motivated by a desire to make a mark in relation to Norway, which was then pushing for full independence from Sweden. For all practical purposes the union continued to function smoothly until the outbreak of the First World War.¹³

SMU does not appear to have been the subject of any notable political or financial tensions before 1914, with the exception of the independence of Norway in 1905. The gold standard ensured stability in monetary policy through its requirement of convertibility into gold, while its three member countries avoided issuing large quantities of silver and copper coins.

12 The relatively small quantities of notes in circulation in Denmark may have caused the Danish central bank to regard the matter as less pressing. In 1885, notes represented 26 per cent of the total quantity of money in circulation in Denmark, 41 per cent in Norway and 57 per cent in Sweden, according to Henriksen et al., 'Scandinavian currency union'.

13 The survival of the monetary union in the face of the break-up of the political union between Norway and Sweden is remarkable. There is hardly a case of this nature in history where two countries of roughly equal size have continued a monetary cooperation after political separation. The recent political disintegration of Czechoslovakia and Yugoslavia has been followed by monetary disintegration as well. The case of Ireland in 1922, where the Irish maintained the British pound, is an example of continued monetary cooperation in spite of political independence. However, the Irish in 1922 had far fewer options than the Norwegians in 1905.

Macroeconomic developments within the union

The union operated within a favourable macroeconomic environment. The Scandinavian countries underwent rapid and sweeping change from the mid nineteenth century until the First World War. Economic growth was high and stable, higher than in the United Kingdom, a country that can be taken as a benchmark for comparisons (see Table 6.2). The flow of capital into the area was considerable. The three Scandinavian countries were able to finance their industrializations by importing capital from London, Paris and Berlin. The mobility of labour was considerable, mainly in the form of emigration to the United States. The world economy was not exposed to any major macroeconomic disturbances during the classical gold standard.

Table 6.2 Real per-capita income growth in Denmark, Norway, Sweden and the United Kingdom, 1881–1913, Annual data

Country	Average growth rate
Denmark	1.8
Norway	1.5
Sweden	2.2
United Kingdom	0.9

Source: Bordo and Jonung, 'return', Table 10.

The question that arises is: to what extent did SMU influence macroeconomic developments within Scandinavia? Let us first consider nominal variables, and then real factors.

Nominal effects

Standard economic theory of fixed-exchange-rate arrangements predicts close uniformity in the behaviour of nominal variables within a monetary union. This is also the picture that emerges when comparing the behaviour of the money supplies, the price levels, and the short-term and long-term interest rates across the union (see Figures 6.1–6.5). At this stage, however, no study is available separating the effects of the gold standard at large from the effects of SMU *per se*. Research into this area is lacking.

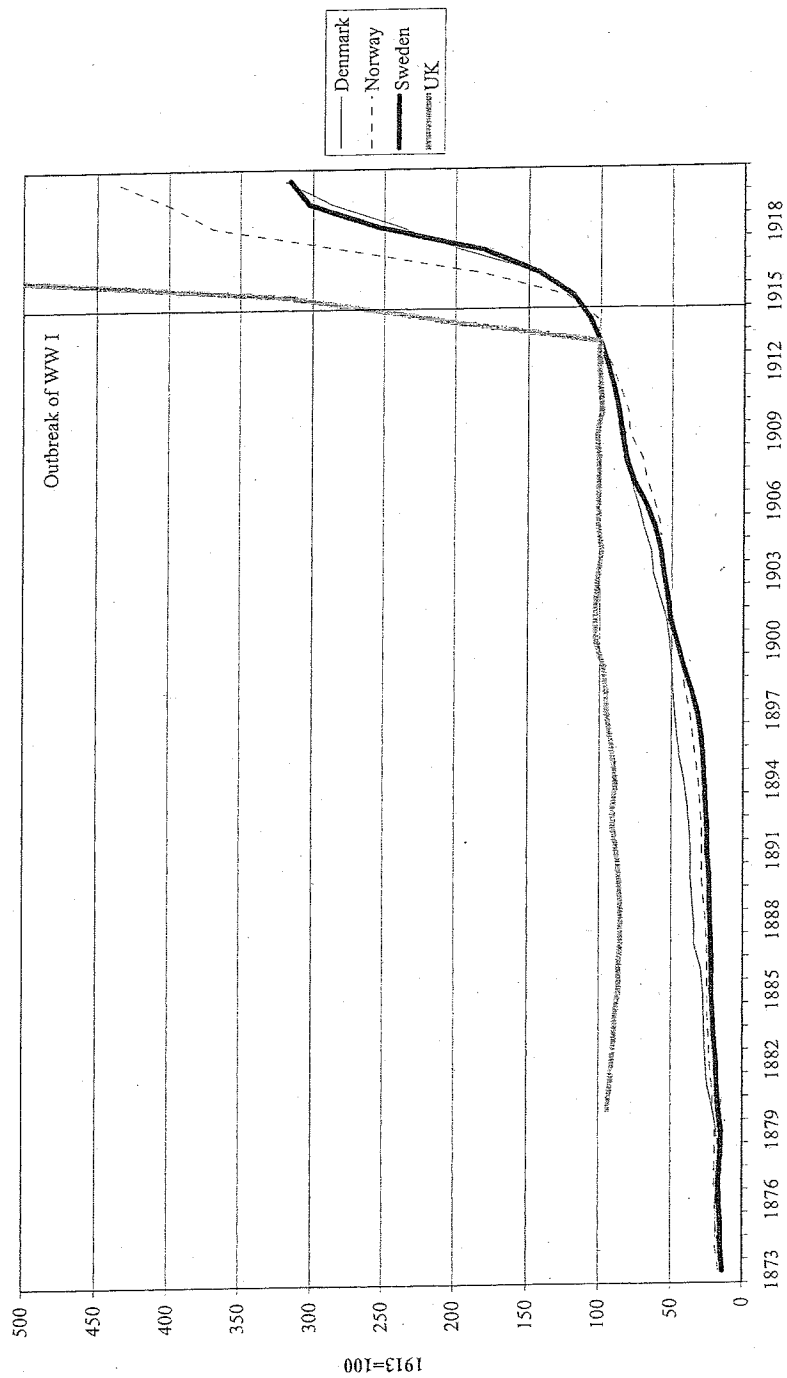


Figure 6.1 The money supply in Denmark, Norway, Sweden and the United Kingdom, 1873–1920. 1913=100
 Comments: The money supply in the United Kingdom is shown for the period 1879–1915.

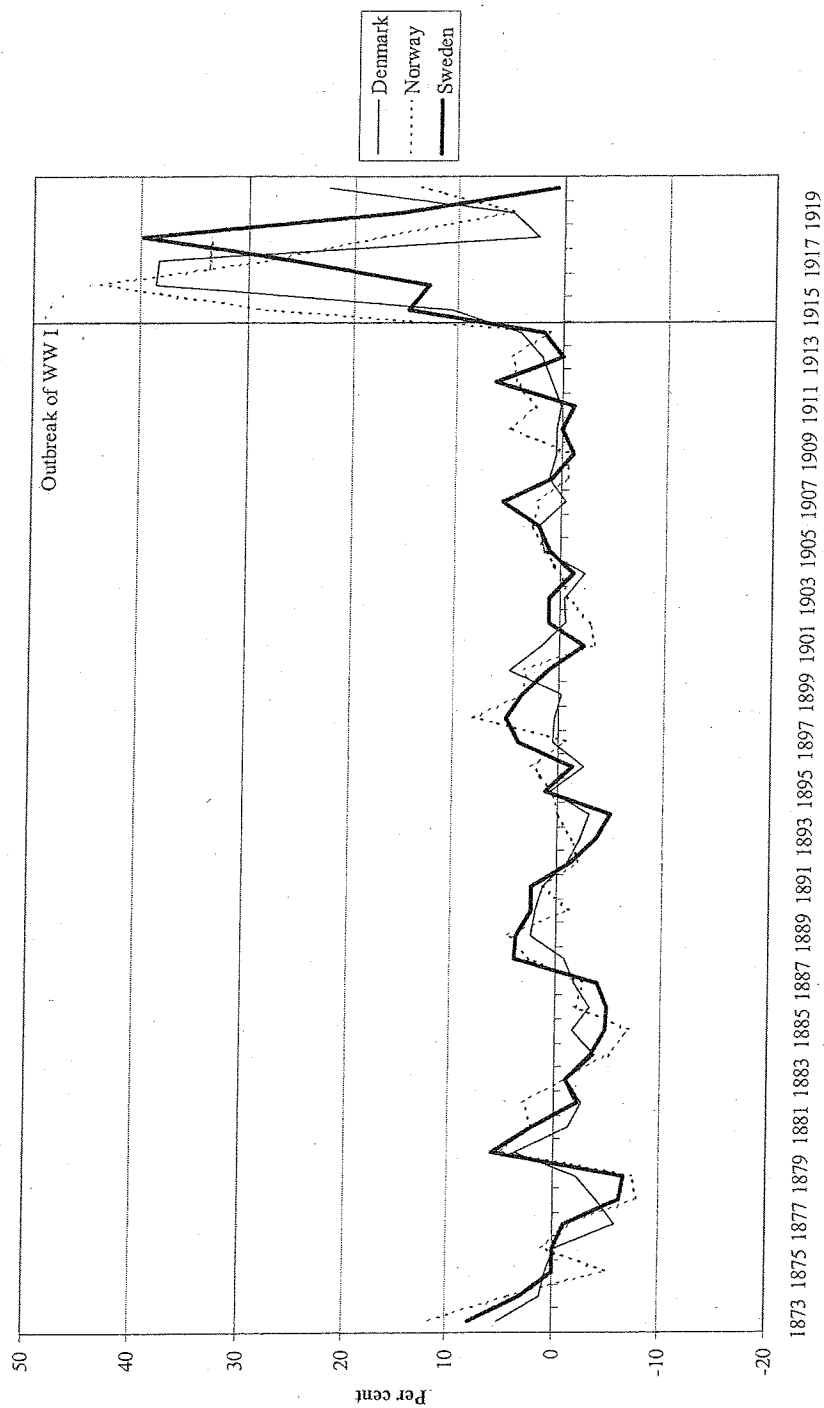


Figure 6.2 The rate of inflation in Denmark, Norway and Sweden, 1873–1920 (per cent)

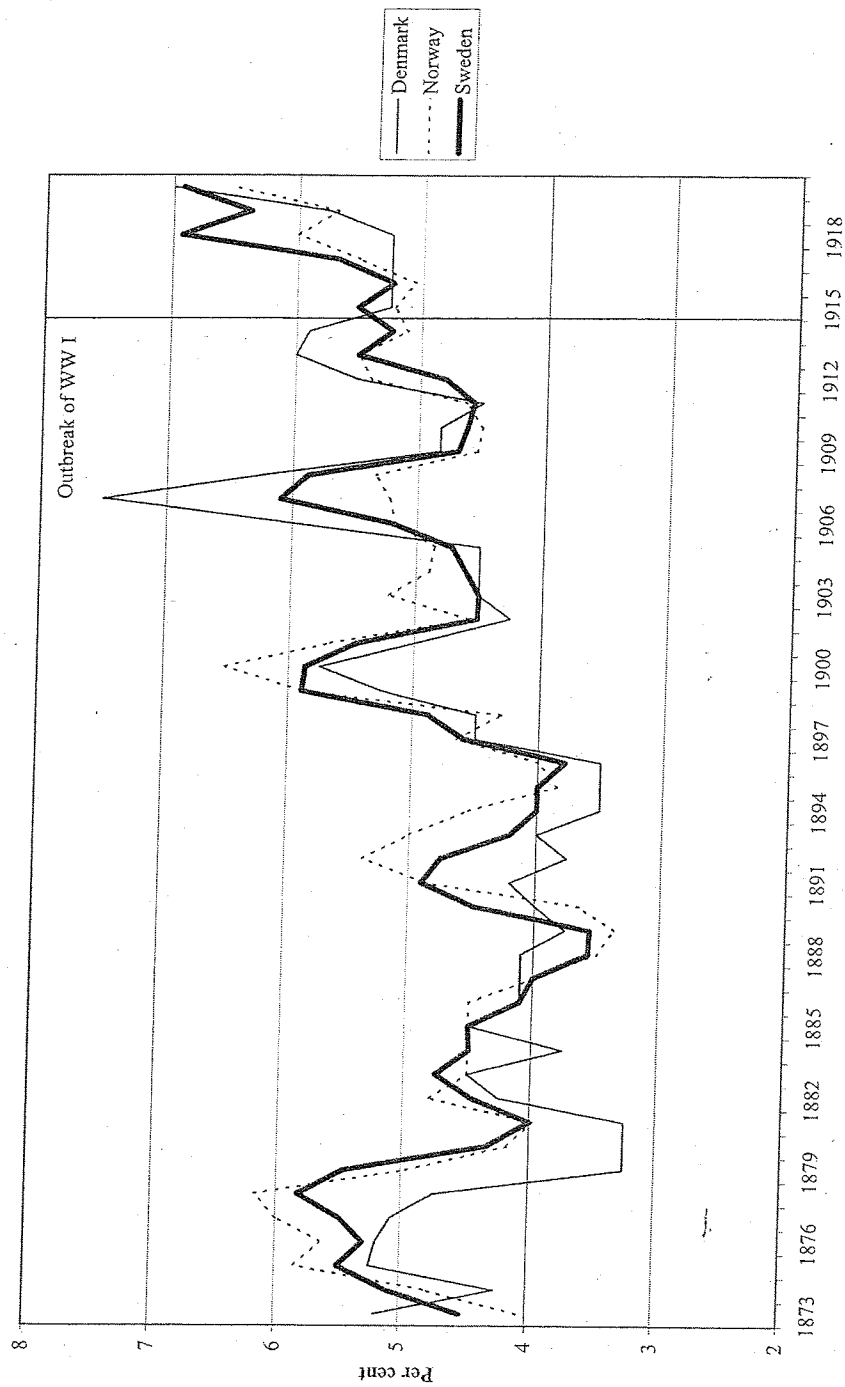


Figure 6.3 The discount rate in Denmark, Norway and Sweden, 1873–1920 (per cent)

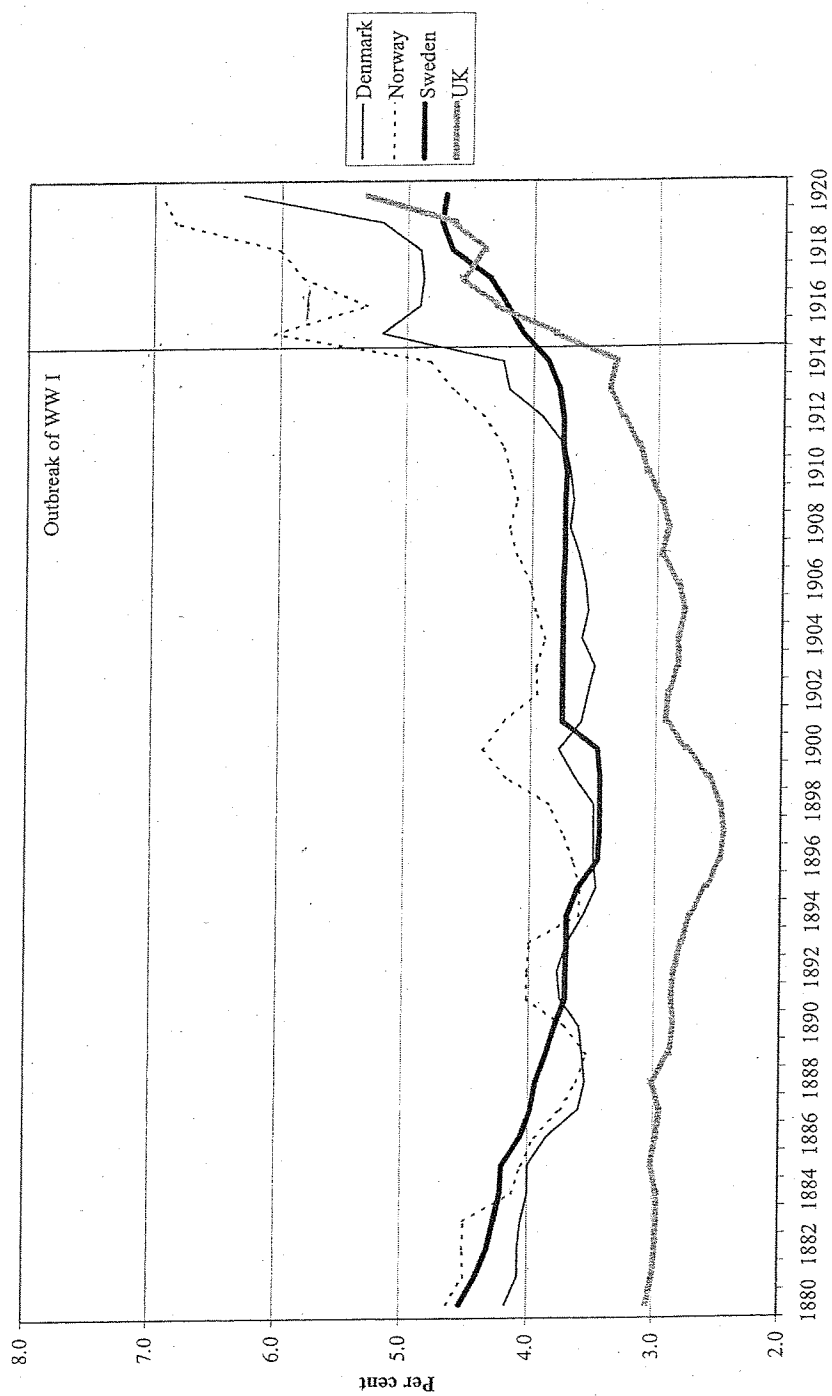


Figure 6.4 The long-term rate of interest in Denmark, Norway, Sweden and the United Kingdom, 1880–1920 (per cent.)

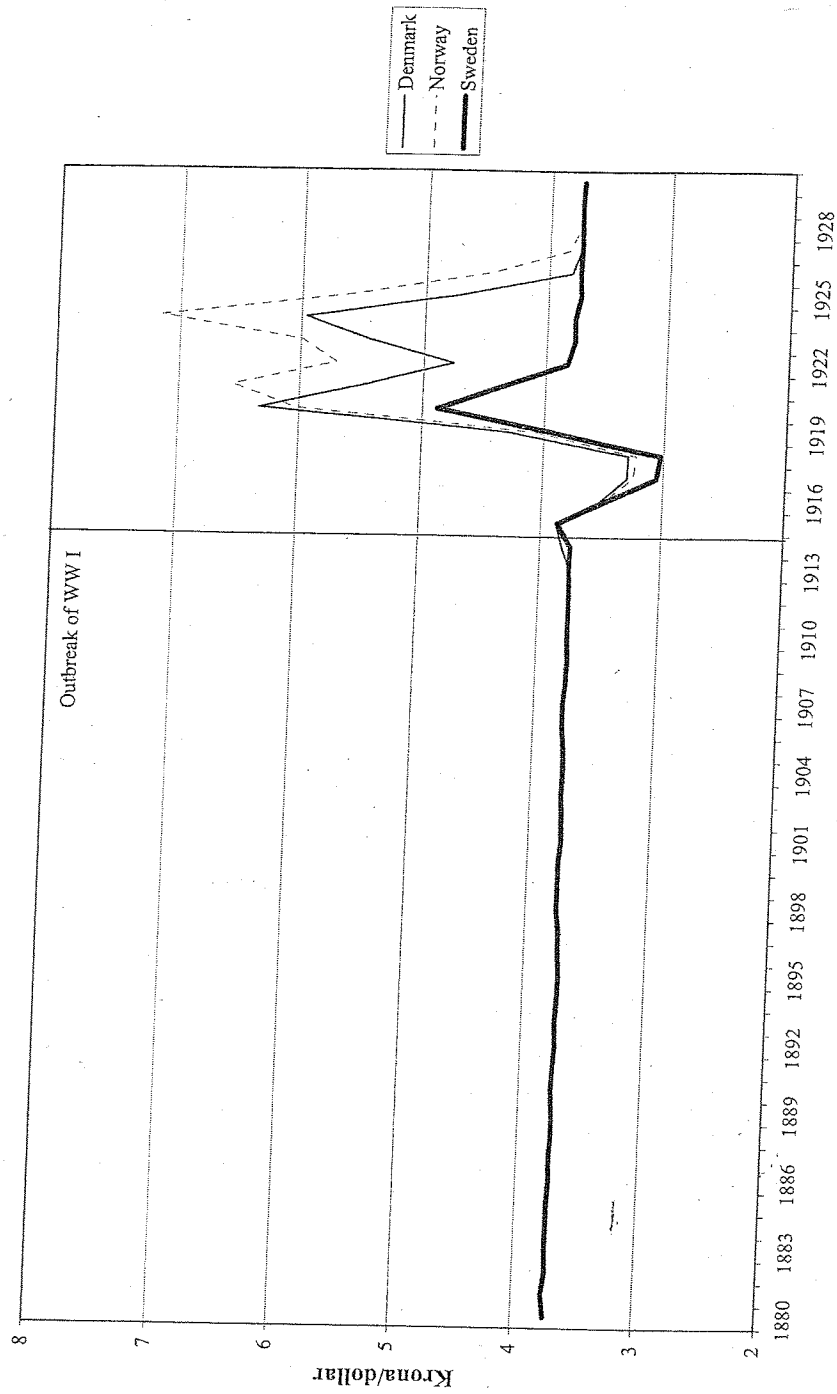


Figure 6.5 The krona/dollar rate of the Danish, Norwegian and Swedish currency, 1880–1930

The long-run behaviour of the money supplies in the three countries is displayed in Figure 6.1 for the period 1873–1920, normalized to 1 for 1913. The rate of growth was roughly identical within the union, around 5 per cent per year.¹⁴ After the outbreak of war, the pattern changed significantly. Money supply expanded at an extremely rapid pace, particularly in Norway where it more than quadrupled in six years. The Scandinavian countries experienced a rapid process of monetization and of financial sophistication during the classical gold standard, as witnessed by the high rate of money-supply growth compared to the United Kingdom. This is evident from Figure 6.1 as well, demonstrating the almost constant level of the British money supply prior to 1914.

The price levels of SMU members exhibited the same long-run pattern as all countries adhering to the classical gold standard. There was a secular fall from 1873 to around 1896, followed by a slight secular rise prior to the First World War. The annual rate of change in the price level – oscillating around zero – co-varied closely across the union (see Figure 6.2). During booms the rate of change was as a rule positive; during depressions it was negative. Changes in the price level were mean-reverting during the classical gold standard.

The behaviour of prices was completely transformed with the outbreak of war in 1914. Inflation became rapid and divergent across the union, with Norwegian and Danish inflation leading Swedish. This divergence in inflation rates contributed to SMU's break-up.

As expected, the short-term interest rates, as indicated by the discount rates of the Scandinavian central banks in Figure 6.3, moved in a closely coordinated way. The rates were also of identical levels. The cyclical pattern in Figure 6.3 demonstrates that changes in the discount rate were used as a tool of monetary policy. Here the union members closely followed the Bank of England rate, which remained clearly below the rates of the Scandinavian central banks.

The long-term rates of interest among union members, shown in Figure 6.4, reveal a pattern close to that of the short-term rate, secularly falling until the turn of the century, then gradually rising in unison. The outbreak of war was followed by a rapid rise in nominal rates. Figure 6.4 also displays the long-term rate in the United Kingdom, which remained at about one percentage point lower than the level in Scandinavia. This differential reflects Great Britain's role as centre of the financial system of the world. It served to induce a flow of capital from the centre to the Scandinavian countries prior to 1914.

Nominal exchange rates between the three countries remained 1:1:1 between 1873 and 1914, as the members used the same currency. Following the outbreak of war, they declared their currencies non-convertible into gold, so leaving the gold standard. Soon afterwards, the parity between the Scandinavian currencies was broken. The Danish and Norwegian currencies started to be traded below par – see Figure 6.5. Exchange rates diverged substantially during the war. Sweden officially returned to gold at the pre-war dollar rate in April 1924, the first country in Europe to take this step. Denmark and Norway eventually followed suit. At the end of the 1920s they

¹⁴ Correlations between annual growth rates of the money supplies within the union were high as well. See Table 1 in Bergman et al., 'rise'.

were all back on gold at their old parities. At that time, a resurrection of the union was considered. Real exchange rates were fairly stable during the classical gold standard as well – see Figure 6.6. However, after 1914 their volatility increased rapidly.

To sum up, nominal variables, such as money, prices and interest rates show – as expected – identical patterns across Scandinavia during the union period, demonstrating that the three countries constituted a common currency area as well as being members of the gold-standard ‘club’. No attempt has, to my knowledge, been made to disentangle the effects on nominal variables of the union from the effects of being on the international gold standard.

Real effects

The consequences of the monetary union cum the gold standard on nominal variables are fairly straightforward to explain. However, the effects of the union on real variables, such as growth and trade, remain an open issue. Hardly any research has dealt with this aspect of the union.

It is safe to conclude that the gold standard and SMU contributed towards monetary and financial integration and sophistication within Scandinavia. By being on gold, the Scandinavian countries could most likely obtain financing from abroad on better terms than otherwise.¹⁵ Within the union, financial systems expanded rapidly. Recent empirical work suggests a crucial link between finance and growth. A study in this tradition for Sweden indicates an independent role for financial factors behind economic growth from the mid-nineteenth century until the outbreak of the Second World War.¹⁶ This result is consistent with the view that the gold standard contributed to economic growth prior to 1914.

Commonly, a monetary union is viewed as a way of increasing trade among its members. This is a major benefit of EMU as epitomized in the concept of ‘one market – one money’. The effect of SMU on trade flows within Scandinavia is an open issue.¹⁷ According to contemporary sources, border trade between members benefited, although the total extent of trade within Scandinavia declined during the period.¹⁸ SMU was not combined with a free-trade area, thus limiting the benefits

15 This argument is developed and tested by M. Bordo and H. Rockoff, ‘The gold standard as a “good housekeeping seal of approval”’, in M. Bordo (ed.), *The gold standard and related regimes* (Cambridge, 1999).

16 P. Hanson and L. Jonung, ‘Finance and growth: The case of Sweden 1834–1991’, *Research in Economics*, 51, 1997, pp. 275–301.

17 See O. Krantz, ‘Den svensk-norska unionens betydelse för Sveriges ekonomiska utveckling’ (‘The impact of the union between Sweden and Norway on the economic development of Sweden’), *Meddelande från Ekonomisk-historiska institutionen, Lunds universitet*, 49, 1987; and Henriksen et al., ‘Scandinavian currency union’. Krantz concludes that the political union between Norway and Sweden had marginal effects on Swedish economic growth.

18 D. Davidson, ‘PM rörande den skandinaviska myntkonventionen’, report to the Riksbank, 6 February 1917, stresses the positive impact of the union on border trade.

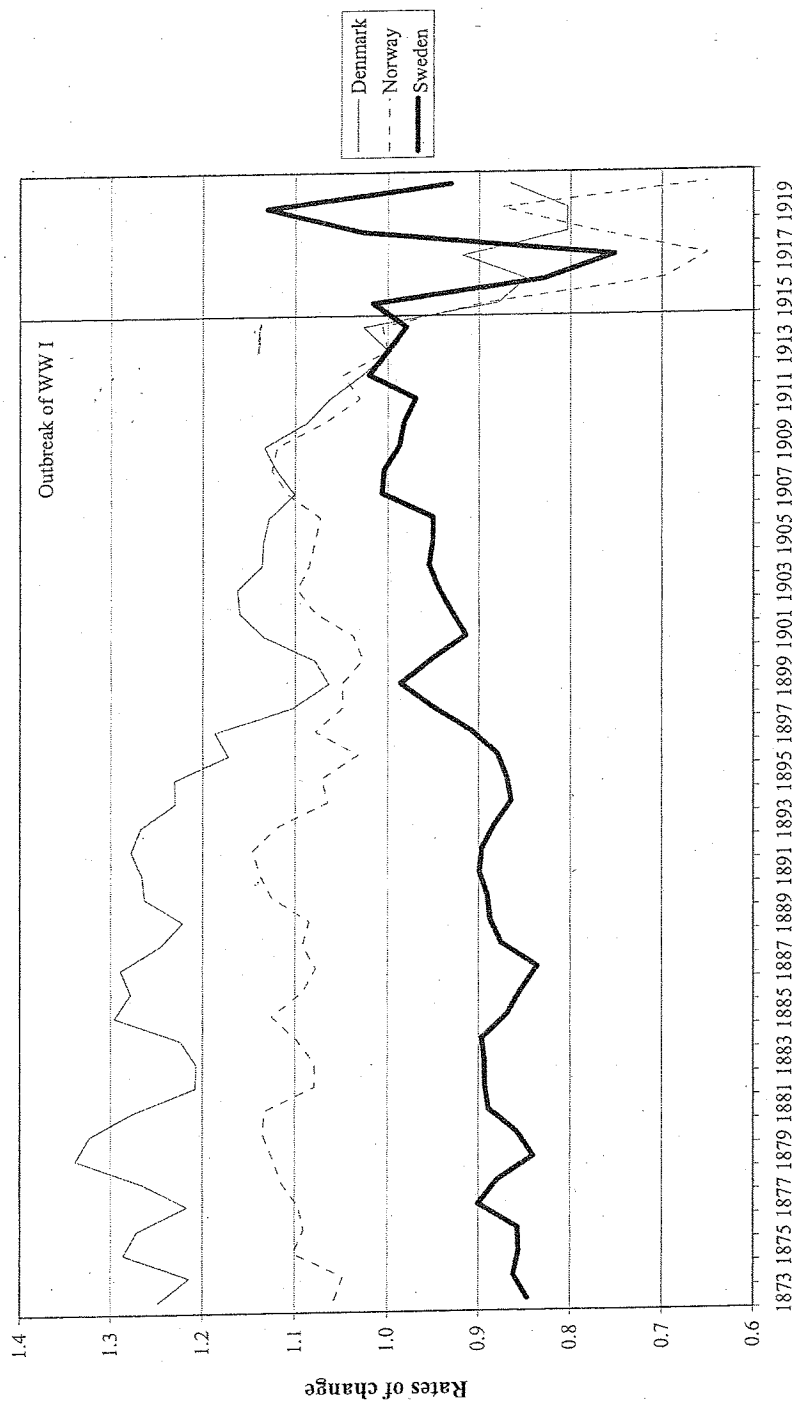


Figure 6.6 The real exchange rates of the Scandinavian currencies, 1880–1920. (1913=100)

of a common currency. Instead, tariffs were in force, raised first by Sweden, then by Norway, but Denmark remained a free trader.¹⁹

It is reasonable to draw the conclusion that SMU contributed positively to growth before 1914 through a deepening of financial markets. The Scandinavian countries were members of the international gold-currency standard in addition to forming a currency union. It is difficult to distinguish which effects SMU had on real variables independently of the impact of the gold standard.

The collapse of the union

The First World War dealt the deathblow to the international gold standard, and eventually also to SMU.²⁰ At the outbreak of war, Scandinavian notes were declared to be inconvertible to gold. At the same time, the export of gold was prohibited in order to prevent any drain of gold and, accordingly, growth in the supply of money in each member country ceased to be linked to gold. Monetary policy became more expansionary in Denmark and Norway than in Sweden. The Swedish krona rose *vis-à-vis* the Danish and Norwegian krona. In 1915, the official exchange rates were changed.

Since Scandinavian gold coins and gold were still legal tender throughout Scandinavia, Danish and Norwegian gold was exported to Sweden. The governments of Denmark and Norway often allowed exceptions to the prohibition of gold exports. The Bank of Sweden opposed this influx of gold. Negotiations took place to reach an agreement to put an end temporarily to the legal-tender status throughout Scandinavia. Neither Denmark nor Norway wished, however, to bring an end to the monetary union. Consequently, the outcome of the negotiations became a strict enforcement of the prohibition against the export of gold from 1917.

At the end of the war, the three Scandinavian currencies no longer had the same value. Gold could not move freely across their borders. In practically all respects, the SMU had been rendered inoperative by the war. The only remaining parts of the original agreement were that silver and copper coins represented legal tender and were of equal value in all three countries, and that the countries were entitled to mint and circulate such subsidiary coins in unlimited amounts. Since the Swedish coins were of higher value than their Danish and Norwegian counterparts, the currencies of lower value poured into Sweden – an illustration of Gresham's law. To cope with this inflow, in 1924 a supplementary agreement was made, which laid down that

19 Using econometric techniques to measure the impact of monetary unification on trade flows, A. Rose, 'One money, one market: The effect of common currencies on trade', in *Economic Policy*, 30, 2000, found significant positive effects. Such effects do not appear associated with the creation of the Scandinavian monetary union, however. One reason is probably that the three members were already trading with each other in a system of fixed exchange rates, based on silver as the specie metal, before switching to gold. Another reason may be that Rose overstates the impact of currency unification. See T. Persson, 'Currency unions and trade: how large is the treatment effect?', in *Economic Policy*, 33, 2001.

20 A detailed account of the breakdown of the union is given by Talia, 'Monetary integration', see also Bergman et al., 'Rise'.

each country, regardless of the 1873 currency agreement, could only mint silver and copper coins that were legal tender within its borders. The coins valid throughout Scandinavia were successively withdrawn. For all practical purposes, the union ended through the agreement of 1924.

Was the union successful?

Was the union a successful one? The answer is both yes and no. It was successful in establishing a common monetary area, contributing to nominal convergence and facilitating financial flows and financial sophistication. The krona, the currency denomination of the union, is still used in all three former SMU members. Compared to other decentralized monetary unions prior to 1914, like LMU, SMU functioned smoothly; in short, it appeared successful.²¹

SMU was not accompanied by co-operation in other fields. Perhaps most damaging, Scandinavia did not become a free-trade area while the union was effective, reducing the benefits of monetary unification. SMU also failed in the sense that it collapsed during the First World War. It lacked centralized co-ordination of monetary policies. If such a mechanism had been in place, it is tempting to conclude that SMU would have most likely survived the monetary turmoil of the First World War. Instead, each country and each central bank acted independently in economic and financial affairs, with no attempts to co-operate.²²

A current and well-respected contemporary commentator on monetary events in Scandinavia, Knut Wicksell, looked favourably upon SMU. When the union was breaking up during the First World War, as part of the collapse of the gold standard, Wicksell actually proposed that it should be re-organized as a monetary union based on fiat money with a common central bank and a common inter-Scandinavian interest-rate policy. His recommendations reveal a modern approach:

I repeat: after the suspension of the free minting of gold where it is concerned, it lies completely in the power of each individual country, and therefore of each and every one of the Scandinavian countries separately, to regulate the value of its money and the level of its prices freely.²³

21 M. De Cecco, 'European monetary and financial cooperation before the First World War', in *Rivista di Storia Economica*, 9, 1992, pp. 55–76, here p. 67, gives a clear yes, announcing that the Scandinavian monetary union was 'the most successful of all European currency unions' in the pre First World War period.

22 A comparative study based on the archives of the central banks of the three Scandinavian countries would give us a better picture of the extent of monetary and financial cooperation among the central banks. Such a study is lacking. Talia, 'Monetary integration', is a first step in this direction.

23 K. Wicksell, 'The Scandinavian Monetary System after the [First World] War', originally published as "Det skandinaviska penningväsendet efter kriget" i *Bidrag till frågan om ett ekonomiskt närmande mellan de skandinaviska länderna. Inlägg av skandinaviska ekonomer* (1917), translated and published in B. Sandelin (ed.), Knut Wicksell. Selected essays in economics, vol. 2 (London and New York, 1999).

However, in his opinion the three countries had so much in common that it was preferable that they should jointly frame their monetary policies, that is, set interest rates to stabilize prices. He recommended that a common central bank be set up for the three countries, a goal modelled upon the United States Federal Reserve System.

I cannot really see any decisive obstacle to the establishment of a true central bank for all three countries, with its seat in Gothenburg, say. In my opinion, such a bank ought, first, to be a purely state (i.e. here, interstate) institution.

He concluded that 'joint future action by the Scandinavian countries on monetary matters is likely to offer good prospects'.²⁴ In the mid-1920s, Wicksell stated explicitly that he wanted SMU to be re-established:

I, for my part, firmly believe in such a union. This monetary union ... may be said to have constituted a small-scale pattern for that future regulation of the world's monetary system on a uniform basis which so long has been a favourite idea of economists.²⁵

Resurrecting the union?

SMU collapsed due to the impact of the First World War. Monetary developments among the members of the union became too divergent, as seen from the evolution of money, prices and exchange rates in the charts. However, gradually, the Scandinavian countries returned to the gold standard at the pre-war dollar parity rate; Sweden in 1922–4, Denmark and Norway during the second half of the 1920s. By the end of the 1920s the three countries were all back at the same parity rates as prior to 1914.

The return to gold sparked an interest in re-establishing the union. However, the breakdown of the international gold standard during the 1930s put an end to any plans of this sort. The three Scandinavian countries belonged to the Sterling bloc in the 1930s. The Second World War, with the German occupation of Denmark and Norway, prevented further monetary cooperation. After 1945, Denmark and Norway became early members of the IMF system. Sweden joined in 1951.

Following the collapse of the Bretton Woods system, the three countries chose different exchange-rate systems. Denmark moved towards the ERM system and the euro system. After a series of devaluations during the 1970s and 1980s, Sweden adopted a floating exchange rate combined with inflation targeting in 1992–3. Norway stayed at a pegged exchange rate until March 2001, when it adopted inflation targeting.

²⁴ Wicksell's positive opinion about the Scandinavian monetary union is also evident in K. Wicksell, 'Den skandinaviska myntunionens återställande', unpublished manuscript from 1923, in L. Jonung, T. Hedlund-Nyström and C. Jonung (eds.), *Att uppfostra det svenska folket*. Knut Wicksells opublicerade manuskript (Stockholm, 2001).

²⁵ K. Wicksell, 'The monetary problems of the Scandinavian countries', 1925, translated and reprinted in K. Wicksell, *Interest and Prices*, translated by R. F. Kahn (New York, 1965).

At the opening of the twenty-first century, the three countries appear much more divergent monetarily than during the nineteenth century. Finland is the only Nordic country that belongs to the euro area. The optimal currency area approach suggests that the Nordic countries – that is Denmark, Norway, Sweden and Finland – have much in common today. They satisfy a large set of the standard criteria for forming a successful monetary union. Compared to the rest of Europe, they display among themselves a high degree of factor mobility, similar production structures, similar cyclical fluctuations and close to identical preferences concerning economic policies in general. They have much in common concerning culture, history and religion.²⁶ Thus, the three Scandinavian countries could be expected to be able to co-operate closely in monetary matters.²⁷

This picture suggests that it was easier to accomplish monetary unification in a world of a metallic standard. The establishment of the monetary union in 1873–5 was regarded as a practical arrangement to facilitate the standardization of the coinage and adapt the Scandinavian monetary systems to international developments. Political considerations played a minor role – as opposed to the present situation. Then the control of the money supply, and thus the conduct of monetary policy, was outside the realm of the political system. The central banks of the Scandinavian countries were politicized during the period after 1945. The ECB system is an attempt to take monetary policy out of the immediate control of the national political body. This idea was easier to accept in Scandinavia during the nineteenth century than it is today.

26 See L. Jonung and F. Sjöholm, 'Should Sweden and Finland Form a Monetary Union?', in *The World Economy*, 22, 5, July 1999, for a test centred on Finland and Sweden using the optimal currency area approach.

27 The predictive power of the theory of optimal currency areas is commonly regarded as low. This seems to hold for the Nordic countries as well. See M. Hutchison and U.M. Bergman, 'Northern Light: Does Optimal Currency Area Criteria Explain Nordic Reluctance to Join EMU?', in J. von Hagen and M. Widgren (eds), *Regionalism in Europe: Geometries and Strategies After 2000* (Amsterdam, 2001).

From the Athenian Tetradrachm to the Euro

Studies in European Monetary Integration

Edited by

PHILIP L. COTTRELL, GÉRASSIMOS NOTARAS
and GABRIEL TORTELLA

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ASHGATE

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