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*Economic Policy and Labour Markets in Nordic Countries  
During the Great Depression of the 1930s*

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**Abstract**

The present paper seeks to examine why the Nordic countries performed better than most other Western countries during the 1930s, when they at the same time experienced high unemployment levels. The conclusions drawn here are that the early abandonment of gold and the adoption of a more inflationary monetary policy serve as the key explanation to the relatively mild Nordic depression and the rapid recovery. International comparisons show that the persistently high unemployment rates in the Nordic countries can be explained by a positive shift in labour supply. The analysis in the paper also reveals that Sweden performed more like continental Europe in respect of both the depression and the labour market.

**Introduction**

In the early 1930s the world saw the strongest and most devastating international depression in modern economic history. GDP fell dramatically in most capitalist economies, in some communist countries, e.g. the Soviet Union, people were starving

and suffered from under and malnutrition. In consequence of negative shifts in product demand, also demand for labour shifted inwards. The result was mass unemployment, underemployment and falling standards of living for millions of families losing their regular income.

Despite these hardships, some groups maintained and even increased their standard of living, e.g. manufacturing and construction workers in many European countries, who did not lose their jobs. The same was the case for labour in new service industries, which were in fact quite successful during the 1930s. Some economies also experienced a surprisingly mild depression in the early 1930s compared to others. Among these were the Nordic countries, Denmark, Finland, Norway and Sweden. In this paper these economies are called The Nordic Four (N4). Admittedly, they faced a significant decrease in GDP and a correspondingly increase in unemployment. However, the crisis was milder and shorter than in most other Western economies at the time, i.e. GDP and prices fell less and the recovery started earlier. However, despite the relatively rapid recovery in production, unemployment stayed persistently high throughout the decade.

The present paper seeks to explain this dilemma: In the first place we ask, why was the depression milder and shorter, and why was the recovery more rapid in the N4 than in most other countries? Second, given the good performance of the N4, why did unemployment persist on very high levels until the Second World War?

To answer these two questions the paper firstly presents a brief overview of the development of GDP, prices and unemployment in the N4 during the interwar period. In order to do this we present comparable PPP-figures derived from an ongoing project, which aims at harmonising historical national accounts for all the Nordic countries, Denmark, Finland, Iceland, Norway and Sweden. This is done in order to give an overview of comparative levels of income and scale of economic crises.

Unemployment figures for the years prior to the Second World War are imprecise. Thus, the paper goes on to map the scale of unemployment in the Nordic countries during the

1930s by presenting new and revised figures for the countries in question. By doing this, the paper offers valid and comparable figures for unemployment in the over-all labour forces of the N4.

Thirdly, the paper seeks to examine why the N4 had a relatively mild and short depression. This can of course be due to both market forces on the supply and the demand side on the one hand and economic policy on the other. In this paper we give an overview of the effect of economic policy, with emphasis on monetary policy on the economic performance.

Finally, the paper aims at explaining the persistently high unemployment during the rapid Nordic recovery in the 1930s with view both the demand and the supply side of the labour market. In order to answer our two questions we use an international comparative approach with data from 17 western economies, the N4 included.

### **The Nordic economic performance in the 1930s**

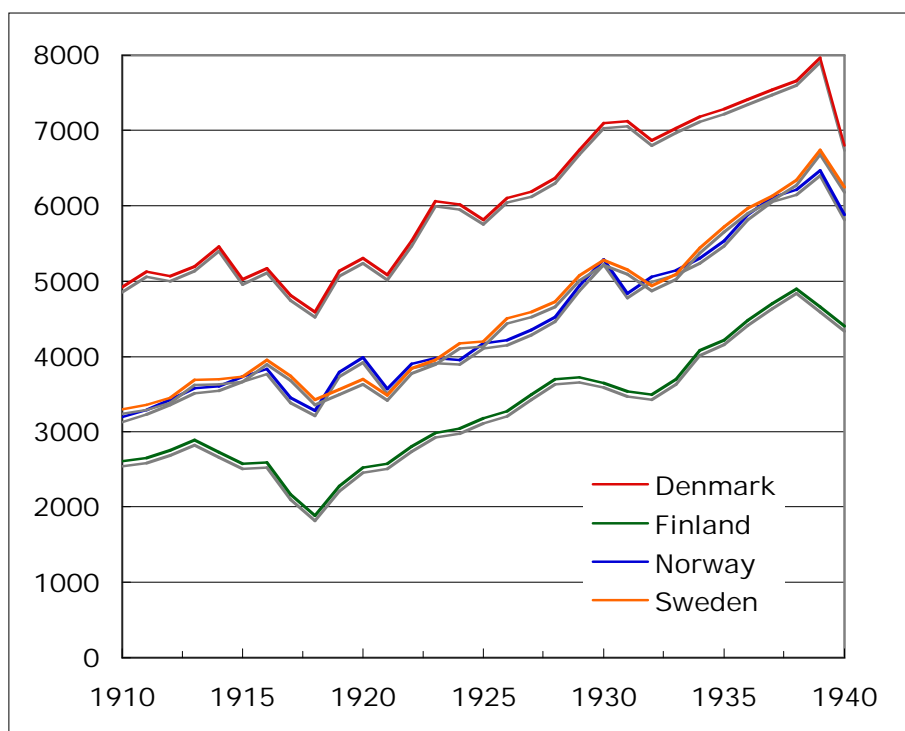
The Nordic economies were like all Western economies, seriously hit by the Great Depression of the 1930s. However, when the Nordic countries experienced a more severe set-back during the international post First World War-crisis in the early 1920s than most other Western countries, the crisis of the 1930s was milder than for most other economies. Chart 1 describes the level and duration of the inter-war crises in the N4 in terms of reconciled GDP per capita in purchasing power parities (PPPs). The figures are estimated on the basis of the UN 2005 calculations of world wide GDP figures expressed in PPPs of 2003, by prolongation back in time through harmonised historical national account series.<sup>1</sup> Thus, they give a representative and comparable view of both level and development of GDP per capita in the N4.

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<sup>1</sup> Hjerpe, Riitta 1996, *Finland's Historical national Accounts 1860-1994*, Jyväskylä: Jyväskylä University, Krantz, Olle, *Swedish Historical National Accounts*, Umeå: Umeå University, Grytten, Ola H. 2004, *The gross domestic product for Norway, 1830-2003*, Eitrheim, Øyvind, Jan T. Klovland and Jan F. Qvigstad (eds), *Historical Monetary Statistics for Norway 1819-2003*, Oslo: Norges Bank, pp. 241-288, Hansen, Svend Aage, *Økonomisk vækst i Danmark*, København: Akademisk Forlag, pp. 237-260.

The chart firstly reveals huge differences in per capita income in the Nordic countries during the period. Denmark was clearly ahead of Norway and Sweden, when Finland lagged significantly behind the others. The differences were lower in relative terms at the end of the period than at the beginning. However, they were still too high and the closing of the gap too marginal to call the development convergence. Denmark remained by far the wealthiest of the Nordic countries, when Finland remained the poorest. It took Finland twenty years to obtain the same per capita income level as Denmark had in its worst recession year in 1918. The level at Denmark's lowest point during the post-war depression in the early 1920s was not permanently achieved in Norway and Sweden until the mid-1930s. As for Finland, they obtained the same level not until after the Second World War.

*Chart 1. GDP per capita in PPP 2003 US\$ for the N4 1910-1940.*



Sources, UN 2005, Krantz 2001, Hjerpe 1996, Grytten 2004, Hansen 1977, Maddison 2003.

Also, according to the chart the economic problems in the N4 must have been deeper in the period during and after the First World War than during the 1930s. Table 1 reports the

decline in GDP per capita between their peak and bottom years during the main inter-war business cycles.

For all the four countries the strongest recession hit during wartime, with falls between 13.5 and 34.7 per cent in per capita GDP. Denmark, Norway and Sweden, were all neutral, and experienced similar declines. As for Finland, the situation was dramatically worse. This was basically due to the Russian involvement in the First World War. Finland did not directly take part in the war. However, the Russian occupant power did. And parts of Finland were occupied by Russian armed forces during the war. After the parliamentary majority declared the country independent from Russia in December 1917 the Finish civil war during the spring of 1918 again forced the Finish economy to contract significantly.

*Table 1. Scale of per capita GDP slide during years of crises for the N4.*

Peak and bottom	Denmark	Finland	Norway	Sweden
World War I	1914-1918 -0.159	1913-1918 -0.347	1916-1918 -0.146	1916-1918 -0.135
Post-World War I	1920-1921 -0.041	1920-1921 0.018	1920-1921 -0.108	1920-1921 -0.057
Great Depression	1931-1932 -0.036	1929-1933 -0.063	1930-1932* -0.044	1929-1932 -0.065

Norway's GDP was lower in 1931 than in 1932. However, this was a consequence of large-scale labour conflicts in 1931.

Sources, UN 2005, Statistics Denmark 2005, Statistics Finland 2005, Statistics Norway 2005, Statistics Sweden 2005, Krantz 2001, Hjerpe 2001, Grytten 2004, Hansen 1977, Maddison 2003.

Denmark, Sweden, and in particular Norway were severely hit by the post-war depression of the early 1920s. The crisis occurred both as result of the international depression, which followed the over-heating of the economy up to the late summer 1920, and in consequence of a sharp reorientation from inflationary to deflationary monetary policy in order to restore the par silver values of the Danish, Norwegian and Swedish currencies.

In Finland the wartime crisis had been so deep, that the country in fact experienced moderate growth in the early 1920s. In addition, Finland was not depending on the United Kingdom, which was more severely hit of the post-war depression than any other major economic power. In addition, Finland did not run a strong deflationary monetary policy during the early 1920s.

Finally, the great depression of the 1930s was surprisingly mild in all the N4 countries, with falls in GDP per capita of 3.6 to 6.5 per cent. At the same time GDP per capita in fell by more than ten per cent in Western Europe and more than 30 per cent in the United States and Canada.<sup>2</sup> The Nordic performance during the interwar period is compared to the performance of 13 major Western powers (W13) in table 2.

*Table 2. Fall in GDP per capita during the depressions of the early 1920s and 1930s.*

	Fall in GDP per capita	High	Low
Australia	20.6	1925	1931
Austria	23.4	1929	1933
Belgium	10.0	1928	1934
Canada	34.8	1928	1933
France	13.3	1929	1935
Germany	25.0	1929	1932
Italy	6.4	1929	1934
Japan	9.3	1929	1931
Netherlands	16.0	1928	1934
New Zealand	17.8	1929	1932
Switzerland	6.7	1929	1935
UK	6.6	1929	1931
USA	30.8	1929	1933
W13	17.0	1929	1933
Denmark	3.6	1931	1932
Finland	6.3	1929	1932
Norway	4.4	1930	1932
Sweden	6.5	1929	1932
N4	5.2	1930	1932

Source, Maddison 2003, Krantz 2001, Grytten 2004.

<sup>2</sup> Maddison, Angus 2003, *The World Economy: Historical Statistics*, Paris: OECD, pp. 62-68 and p. 88.

Again the Nordic development seems to fit well with the British performance, as GDP per capita in the UK decreased at about the same level as in the Nordic countries.

In conclusion, in Denmark and Norway the crisis of the early 1930s seems to have been milder than that of the early 1920s, when in Sweden the two were at the same size. As for Finland, both the early 1920s and 1930s recessions were relatively mild, when the economy was hit devastatingly during the wartime.

### **From inflation to deflation**

The recessions are also mirrored in the development of prices. In consequence of inflationary fiscal and monetary policy, a positive shift in aggregated demand for goods and services took place 1914-1920. Along with a negative shift in supply, due to lack of important products, this gave pace to inflation and depreciation of the national currencies. The rapid financial boom during 1919 and until summer 1920 later fuelled the inflation. Thereafter, the rapid inflation was turned to deflation in Denmark, Norway and Sweden, when Finland saw strong inflation in 1921 and a more moderate inflation in the rest of the 1920s.<sup>3</sup> Chart 2 reports consumer price developments for the N4 1920-1939.

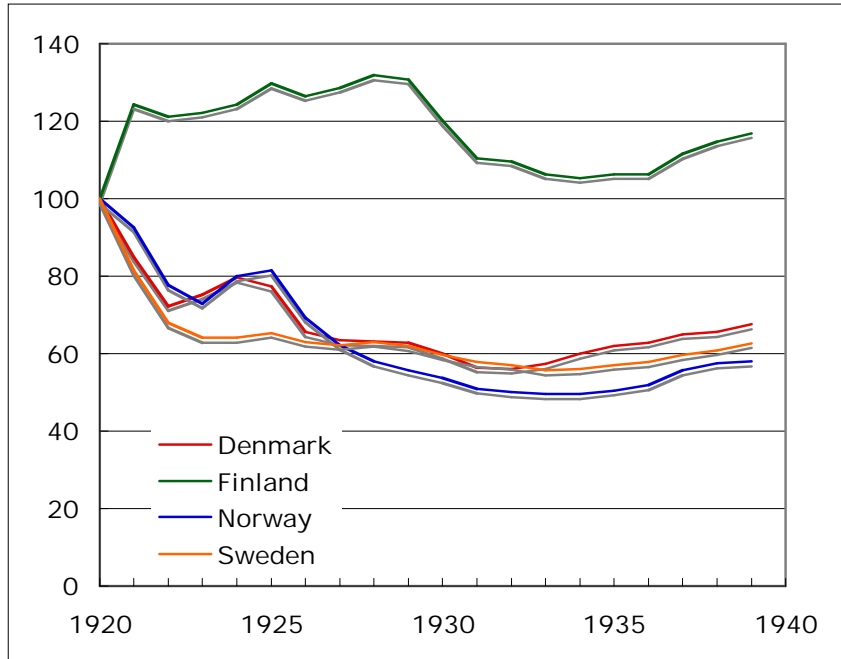
For Denmark, Norway and Sweden this chart clearly reveals that deflation was severe both in the 1920s and 1930s. As for Finland, she had inflation in the 1920s and, thereafter, strong deflation in the 1930s. Towards the last years of the 1930s all the four countries saw moderate inflation. The deflation of the early 1920s can be explained by both the strong international post war depression and deflationary monetary policy ran in Denmark, Norway and Sweden. This policy was monitored by the central banks in order to decrease prices and thereby increase the value of their currencies back to their par gold

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<sup>3</sup> Maddison, Angus 1982, *Phases of Capitalist Development*, Oxford: Oxford University Press, pp. 238-239, Grytten, Ola H 2004, *A Consumer Price Index for Norway 1516-2003*, Eitheim, Øyvind, Jan T. Klovland and Jan F. Qvigstad (eds), *Historical Monetary Statistics for Norway 1819-2003*, Oslo: Norges Bank, pp. 47-98.

values as they were set in the 1870s. This policy was deemed necessary after six years of high inflation and monetary depreciation 1914-1920.<sup>4</sup>

Chart 2. Consumer price indices for the Nordic countries 1920-1939 (1920=100).



Sources, Maddison 1982, Grytten 2004b.

In the early 1920s Finland, however, highly devastated by domestic and international conflicts, had given up the par gold value of the mark. Contrary to their Nordic neighbours they ran an inflationary monetary policy and saw high inflation.<sup>5</sup> After the post-war recession in the early 1920s, deflation was temporarily turned into inflation in Denmark and Norway after a short break in the tight policy. A new round of deflationary policy in the couple of years to follow, however, compensated for this new inflation. In the early 1930s deflation was significantly higher in Finland than in the other three economies, which contrary to Finland had experienced deflation for a decade.

<sup>4</sup> Johansen, Hans Christian 1987, *The Danish Economy in the Twentieth Century*, London: Croom-Helm, Schön, Lennart 2001, *En moderen svensk ekonomisk historia: tillväxt och omvandling under två sekel*, Stockholm: SNS-Förlag, pp. 25-32, Hanisch, Tore Jørgen 1979, Om virkninger av paripolitikken, *Historisk tidsskrift* 3/1979, pp. 239-267.

<sup>5</sup> Hjerpe, Riitta 1989, *The Finnish Economy 1860-1985. Growth and Structural Change*, Helsinki: Bank of Finland, pp. 65-66.

## Unemployment

The 1930s are known as the decade of mass unemployment. Indeed unemployment was high. However, writers on the interwar labour market have had a tendency to inflate the problem. In the 1930s unemployment figures were more or less taken from randomly available sources. Major sources were unemployment schemes ran by labour insurance bodies. Most of these were connected to trade unions. These were later often taken as representative figures for the scale of interwar unemployment.

However, their validity can indeed be questioned. In the first place the sources cover only fractions of the total labour force, i.e. insured trade unionists, most often working in industries, branches and firms most sensitive to business cycles. Hence, they tend to exaggerate the over-all rates of unemployment. During the last decades these figures have been revised for several countries in order to arrive at representative and comparable data for economy-wide unemployment.<sup>6</sup> These new estimates reveal that unemployment rates still were high during the 1930s, but far below previous assumptions.

Estimates of interwar unemployment with higher coverage have been calculated for Denmark, Norway and Sweden.<sup>7</sup> However, some of these need revisions, and such are carried out here. As for Finland, however, we still lack comparable data for the economy-wide labour force. Thus, we try to present such estimates along with revised figures for the other three Nordic economies here.

## Denmark

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<sup>6</sup> Maddison 1982, p. 206, Galenson, Walter and A. Zellner 1957, International Comparison of Unemployment Rates, *The Measurement and Behaviour of Unemployment*, NBER, Princeton: Princeton University Press, p. 455.

<sup>7</sup> Maddison 1982, 206, Hansen 1977, pp. 231, 327, Grytten, Ola Honningdal 1995, The Scale of Interwar Unemployment in International Perspective, *Scandinavian Economic History Review* 2/1995, pp. 226-250.

As for Denmark, Svend Aage Hansen has suggested a downward adjustment of the union-figures by dividing them with a factor of two.<sup>8</sup> Niels Kærgaard, however, has proved Hansen's rates to be significantly too high as indicator of total unemployment.<sup>9</sup> The adjustment factor should rather fluctuate between two and three annually, depending on the business cycle, with the highest factor during recessions. Given the similarities in development between the Danish and the Norwegian economies and labour markets during the interwar period it seems reasonable to use the annual relative differences between the Norwegian trade union and total unemployment rates as adjustment factors for Denmark. By adopting the Norwegian ratio we arrive at representative and comparable total labour force unemployment rates for interwar Denmark.

## Finland

Finland leaves us with a difficult challenge. There is no valid and reliable annual statistical series of unemployment for Finland. In his work on making interwar unemployment figures comparable Angus Maddison presents a series of Finnish interwar unemployment in percent of the entire labour force. The figures applied by Maddison were originally compiled by Kaarina Vattula.<sup>10</sup> However, for the purpose of international comparison they are seemingly too low.

Jarmo Peltola has calculated total unemployment with the help of several available sources. For the first years of the 1930s, the figures seem fairly reliable. However, before and after the early 1930s the sources are too poor to arrive at any satisfying numbers. The highest official record was made in February 1932 with 91.788 persons without work. The national Unemployment Committee concluded with a between 110.000 and 120.000

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<sup>8</sup> Hansen 1977, p. 231, 327

<sup>9</sup> Kærgaard, Niels 1992, Færre ledige – utopi eller virkelighed?, *Social forskning*, Dec, pp. 5-6

<sup>10</sup> Maddison 1982, p. 206.

in late 1931.<sup>11</sup> On this basis Jarmo Peltola concludes with a peak in unemployment of 8.4 per cent in 1932.<sup>12</sup>

By comparing the estimates by Peltola with Maddison's and Vattula's for 1932 we arrive at a multiplier of 1.45. By using this on the established figures we reach at better series. However, for the 1920s the number still seems too low, as unemployment registration was close to nothing for these years. Thus, we use more reliable series for 1918 published by Peltola and use the 1918 multiplier, i.e. 2.5, on the Maddison/Vattula figures.

Still the Finnish we arrive at Finnish unemployment rates far below those for the other Nordic countries. This can basically been explained by the loss of manpower during the wars up to 1918, the reconstruction process of the country and the huge farm population, with more than 60 per cent of the labour force occupied in agriculture, less sensible for unemployment during recessions.<sup>13</sup>

## Norway

Our Norwegian figures are taken from work on standardisation of international unemployment figures from the mid 1990s.<sup>14</sup> These were later revised in 2000.<sup>15</sup> The Norwegian figures of unemployment in the entire labour force are calculated on the basis of a detailed unemployment census with national coverage in connection to the population-census of December 1930.<sup>16</sup> Some figures are added on the basis of an unemployment-census taken by registrations from the public labour exchanges (public

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<sup>11</sup> Hjeppe 1989, pp. 102-103.

<sup>12</sup> Peltola, Jarmo 1998, Why did the Unemployment Rate Vary? Finnish Interwar Unemployment in a Comparative International Context, Myllyntaus, Timo (ed), *Economic Crises and Restructuring in History: Experiences of Small Countries*: St. Katharinen: Scripta Mercaturae, p. 207.

<sup>13</sup> Hjeppe 1989, pp. 95-106.

<sup>14</sup> Grytten 1995, pp. 226-250.

<sup>15</sup> Grytten, Ola Honningdal and Camilla Brautaset 2000, Family Households and Unemployment in Norway During Years of Crisis: New Estimates 1926-1939, *The History of the Family* 1/2000, pp. 23-53.

<sup>16</sup> NOS IX. 61 1935, *Population Census for Norway. December 1st 1930*, Oslo: Statistics Norway, pp. 14\*-15\*.

labour offices) in January 1931.<sup>17</sup> Together these two censuses give us a precise number of unemployed persons in Norway at the turn of the year (1930-1931).

By using population and employment data from Statistics Norway we arrive at annual numbers for labour force and employment with December 1930 as base.<sup>18</sup> We thereafter subtract the annual number of employed persons from the annual size of the labour force to find the numbers of unemployed in the 1930s. For the 1920s we have compiled data from labour exchanges and local unemployment reports kept at the national Archive and aggregated them up to national figures.<sup>19</sup> Unreliable reports, reporting too high numbers according to the labour inspector and his staff, are omitted.

## Sweden

As for Sweden, the sources limit us to a more simplified approach, i.e. estimating the difference between the trade union and the economy-wide unemployment rates. Compared to the census taken in March 1936 unemployment rates among insured trade unionists were 2.4 times higher than for the total.<sup>20</sup> If we assume a constant factor for all years we arrive at adjusted figures for Sweden.

However, this method gives too high rates for the early 1920s, as the ratio between trade union and over-all unemployment was not constant, but obviously significantly higher in the early 1920s than in 1936. Thus, we change the adjustment factor for these years with the relative difference of the similar Norwegian ratio of trade union to total unemployment in the early 1920s compared to the following years.<sup>21</sup> Hence, we use 3.2 as a downward adjustment factor for Sweden in 1921 and 1922, and arrive at revised unemployment rates for the entire Swedish inter-war labour force.

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<sup>17</sup> NOS VIII. 165 1931, *Arbeidsledighetstillingen 15. januar 1931 ved de offentlige arbeidskontorer*, Oslo: Statistics Norway, pp. 11-31.

<sup>18</sup> NOS XII. 163 1965, *National Accounts 1865-1960*, Oslo: Statistics Norway, pp. 328-329.

<sup>19</sup> Grytten 1995, p. 241-245, Grytten and Brautaset 2000, pp. 47-50.

<sup>20</sup> Maddison, Angus 1964, *Economic Growth in the West: Comparative Experience in Europe and North America*, London: Allen & Unwin, pp. 216-222.

<sup>21</sup> Grytten 1995, p. 241-245.

### Economy-wide unemployment in the N4

Table 3 clearly reveals significant revisions of the unemployment figures in order to make them representative for the entire labour force. The new estimates suggest that Denmark and Norway had higher unemployment rates than Finland and Sweden during the 1920s, when the relative increase in unemployment was higher in the two latter ones in the 1930. Still Denmark and Norway seem to have had the highest unemployment rates, when Finland, as explained above, naturally had the lowest of the N4.

*Table 3. Unemployment in per cent of total labour force and trade union unemployment schemes for the N4 1920-1939.*

	Denmark	Finland	Norway	Sweden
	Total labour force			
1920	2.5	2.8	1.7	2.2
1921	7.6	4.5	6.8	8.3
1922	8.5	3.5	7.5	7.2
1923	6.7	2.5	5.6	5.2
1924	5.3	3.0	4.2	4.2
1925	6.3	5.0	5.7	4.5
1926	7.4	4.0	8.7	5.0
1927	7.9	3.8	8.9	5.0
1928	7.7	3.8	7.9	4.4
1929	7.0	4.1	7.0	4.2
1930	5.7	5.8	7.0	4.9
1931	8.2	6.7	10.2	7.0
1932	10.9	8.4	10.6	9.3
1933	9.3	7.6	10.8	9.6
1934	7.4	6.4	10.3	7.5
1935	7.7	5.4	9.9	6.2
1936	8.9	3.9	8.7	5.2
1937	8.0	3.8	7.3	4.5
1938	6.7	3.8	6.8	4.5
1939	5.8		5.7	3.8
	Trade union unemployment schemes			
1920	6.1		2.3	5.4
1921	19.7		17.6	26.6
1922	19.3		17.1	22.9
1923	12.7		10.6	12.5
1924	10.7		8.5	10.1
1925	14.7		13.2	11.0
1926	20.7		24.3	12.2
1927	22.5		25.4	12.0
1928	18.5		19.1	10.6
1929	15.5		15.4	10.2

1930	13.7	16.6	11.9
1931	17.9	22.3	16.8
1932	31.7	30.8	22.4
1933	28.8	33.4	23.2
1934	22.2	30.7	18.0
1935	19.7	25.3	15.0
1936	19.3	18.8	12.7
1937	21.9	20.0	10.8
1938	21.5	22.0	10.9
1939	18.4	18.3	9.2

Sources, Grytten 1995, p. 247, Grytten and Brautaset 2000, pp. 47-50 and present estimates.

Table 4 reports unemployment rates in 15 Western countries, including the Scandinavian countries Denmark, Finland, Norway and Sweden. They truly reveal a puzzle, as when the depression in the Nordic countries stayed relatively mild in the 1930s, unemployment was high and close to the Western average. In other words the scale of unemployment don't seem to reflect the scale of the depression.

*Table 4. Unemployment as per cent of labour force.*

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Australia	8.2	13.1	17.9	19.1	17.4	15.0	12.5	9.9	8.1	8.1
Austria	5.5	7.0	9.7	13.7	16.3	16.1	15.2	15.2	13.7	8.1
Belgium	0.8	2.2	6.8	11.9	10.6	11.8	11.1	8.4	7.2	8.7
Canada	2.9	9.1	11.6	17.6	19.3	14.5	14.2	12.8	9.1	11.4
France	1.2	2.0	2.2	3.0	4.0	4.5	5.0	4.5	4.0	3.7
Germany	5.9	9.5	13.9	17.2	14.8	8.3	6.5	4.0	2.7	1.3
Italy	1.7	2.5	4.3	5.8	5.9	5.6	5.4	5.2	5.0	4.6
Netherlands	1.7	2.3	4.3	8.3	9.7	9.8	11.2	11.9	10.5	9.9
Switzerland	0.4	0.7	1.2	2.8	3.5	3.3	4.2	4.7	3.6	3.3
UK	7.5	11.2	15.1	15.6	14.1	11.9	11.9	9.4	7.8	9.3
USA	3.2	8.7	15.3	22.9	20.6	16.0	14.2	9.9	9.1	12.5
W11 (mean)	3.5	6.2	9.3	12.5	12.4	10.6	10.1	8.7	7.3	7.4
Denmark	7.0	5.7	8.2	10.9	9.3	7.4	7.7	8.9	8.0	6.7
Finland	4.1	5.8	6.7	8.4	7.6	6.4	5.4	3.9	3.8	3.8
Norway	7.0	7.0	10.2	10.6	10.8	10.3	9.9	8.7	7.3	6.8
Sweden	4.2	4.2	7.0	9.3	9.6	7.5	6.2	5.2	4.5	4.5
N4 (mean)	5.6	5.7	8.0	9.8	9.3	7.9	7.3	6.7	5.9	5.4

Sources, Maddison 1982, p. 206, Grytten 1995, p. 247, Grytten and Brautaset 2000 and present calculations.

### **Why a relatively mild depression in the Nordic countries?**

Two central questions can then be connected to the economic performance of the Nordic countries in the 1930s. First we may ask why they experienced a milder depression than most other Western countries. Secondly, given the relatively sound performance, why did unemployment stay persistently high in the Nordic countries during the 1930s? In this section we will focus on the first of these questions.

Several factors can be put forward to explain the favourable performance of the Nordic economies in the 1930s. Some may be connected to the market forces and some to economic policy.

### **Market explanations**

From the market side it is difficult to explain the good Nordic performance with high international demand, as the world trade sunk by two thirds in the early 1930s. It is a fact that the Nordic countries had higher exports growth than most other countries and a higher degree of import substitution.

The good performance has been analysed as Schumpeterian supply side matter.<sup>22</sup> During the years of depression, entrepreneurs had to come up with new innovations in order to survive. New technology was utilised in the manufacturing industry. Production became more efficient and was better matched with the actual demand. Nordic manufacturing industry was by this able to operate at larger markets. In addition, cost efficient production gave competitive advantage to Nordic companies. Thus, exports increased and import substitution took place.

A problem with this explanation is that despite entrepreneurial activity in the 1930s, the new manufacturing industries did not have their breakthrough in the 1930s. Rather, new

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<sup>22</sup> Dahmén, E. 1950, *Svensk industriell företagsomhet*, Lund: Lund University, Schön, Lennart, Industrial Crises in a Modell of Long Sycles, Myllyntaus, Timo (ed). *Economic Crises and Restructuring in History: Experiences of Small Countries*, St. Katharinen: Scripta Mercaturae pp. 404-409, Sejersted, Francis, *Vekst gjennom krise. Studier i norsk teknologihistorie*, Oslo: Universitetsforlaget 1982.

capital-intensive manufacturing industry had much of its breakthrough in the 1920s, when the new industry from the 1930s had its breakthrough after the Second World War. Despite this counter argument we do see signs of building new industries during the Great Depression, and we find industrial areas, e.g. Western Norway, where there was a significant growth in new industries as furniture, bicycles and lighter consumption industry. It is also argued on empirically basis that the Nordic economies did better than most other economies with respect to both exports and import substitution.<sup>23</sup>

Thus, we will not out-rule the possibility of a possible Schumpeterian way out of the 1930s-crisis. But, rather, we will seek to examine other possibly more important factors for the recovery, e.g. economic policy.

### **Market regulation**

During the depression the Nordic countries took measures to regulate markets to solve the problem of over production in the market. The governments of the Nordic countries in particular intervened into agriculture. Several writers on Nordic economic history have investigated into the market intervention policy of the 1930s.<sup>24</sup> The conventional conclusion seems to be that agriculture benefited from the intervention. The supply surplus was brought down by the creation of cartels controlling the production side, by subsidies to decrease stocks and increase of import tariffs, all in order to obtain higher product prices than the equilibrium price in a free market.

In Norway parliament decided a compulsory addition of butter into margarine as an important tool to get rid of the excess milk production.<sup>25</sup> Denmark prevented addition of

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<sup>23</sup> Bjørtvedt, Erlend and Christian Venneslan 1998, Fra krise til vekst. Norges vei ut av krisen i 1930-årene i skandinavisk perspektiv, *Historisk tidsskrift* 2/1998, p. 106, Grytten, Ola Honningdal 1998, Monetary Policy and Restructuring of the Norwegian Economy during Years of Crises, 1920-1939, Myllyntaus, Timo (ed). *Economic Crises and Restructuring in History: Experiences of Small Countries*, St. Katharinen: Scripta Mercaturae, pp. 119-121.

<sup>24</sup> Nilsson, S.A., Hildebrand, K. and B. Øhngren (eds), *Kriser och krispolitikk i Norden under mellankrigstiden*, Uppsala: Uppsala University.

<sup>25</sup> Hovland, Edgar 1979, Smør og margarin blir et fett, *Historisk tidsskrift* 3/1979, pp. 305-325

margarine into butter to solve a similar problem.<sup>26</sup> Since milk was the major agricultural product these measures became quite efficient from the producers view. On the demand side higher prices on necessary milk products caused a loss to consumers. However, during a time of deflation and later moderate inflation, they probably didn't pay too much attention to this negative effect on their consumption possibilities.

We do not question that the protected industries benefited from the governmental inference. However, there must have been a consumption loss, due to higher prices and less efficient equilibrium solutions than in free markets.<sup>27</sup> However, the marginal consumption propensity was low. Thus, it is not obvious that the consumption loss led to any significant reduction in demand for other products. Hence, giving pace to key industries may have caused net-multiplication effects to the rest of the production side of the economy.

### **Fiscal policy**

During the 1930s the social democrats had gained governmental power in all the four Nordic countries included in this analysis. Denmark was first to go, after a short lived social democratic government led by Thorvald Stauning in the mid 1920s, the social democrats gained power together with the radical liberals 1929-1940, again under Stauning's leadership. In Sweden Per Albin Hansson became the first prime minister of a 44-year social democratic rule from 1932. Johan Nygaardsvold became the first social democrat to form a permanent government after an agreement with the Farmer's Party in 1935. As for Finland, the social democrats first gained governmental power under the leadership of Väinö Tanner in 1926-1927. Thereafter, they were held out of office by several coalitions until 1937, when they joined a centre-left coalition.

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<sup>26</sup> Dybdahl, Vagn *et al* 1975, *Krise i Danmark. Strukturændringer og krisepolitik i 1930'erne*, København: Berlingske Forlag Pedersen, E. H. *et al* 1974, *Nordens jordbrug under världskrisen 1929-1933*, Nilsson, S.A., Hildebrand, K. and B. Øhngren (eds), *Kriser och krispolitik i Norden under mellankrigstiden*, Uppsala: Uppsala University, pp. 155-207.

<sup>27</sup> Grytten, Ola Honningdal 1997, *The Consumer's Burden – What did regulations of the Norwegian milk market in the 1930s cost consumers?*, Basberg, Bjørn L., Nordvik, Helge W. And Gudmund Stang (eds), *I det lange løp*, Bergen: Fagbokforlaget, pp. 143-164.

During the first decades after the Second World War, there was a common attitude among writers on Scandinavian economic history that the Keynesian revolution gained power in the Scandinavian countries during the social democratic take over in the 1930s. Thus, active fiscal policy made the business cycle improve during the last part of the 1930s.

From the 1970s onwards, this view has been challenged by many scholars.<sup>28</sup> It is indeed difficult to trace any persistent deficit budgeting policy during the 1930s in any of the Nordic countries. There was a significant growth in the public sector. However, this increase was levelled out by higher taxes. Thus, in this respect the net effect on demand was neutral. On the other hand, the marginal propensities to consume and save differed from the public to the private sector. Empirical evidence from Norway reflects that the marginal propensity to consume was higher in the public sector than in the private.<sup>29</sup> Thus, *cet par* the relative growth in the public sector had a positive impact on demand. Nevertheless, due to budget discipline and moderate multiplier effects the fiscal policy in Norway under the Labour Party rule in the 1930s was neutral.<sup>30</sup> In sum, fiscal policy seems to have played a minor, if any, role for the relative good performance of the Nordic economies during the 1930s.

### Monetary policy

We are then left to investigate possible effects caused by monetary policy. After UK was forced off gold September 21<sup>st</sup> 1931, Norway and Sweden followed six days later. Denmark clung to gold another two days, when Finland suspended gold redemption

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<sup>28</sup> Larsson, Mats 1991, *En svensk ekonomisk historia*, Stockholm: SNS-Förlag, pp. 104-121, Johansen, Hans Christian 1993, The Danish Economy in the Crossroads between Scandinavia and Europe, *Journal of Scandinavian History* 1/1993, p. 43, Hodne, Fritz 1975, *The Norwegian Economy 1815-1970*, Trondheim: Tapir, pp. 441-445.

<sup>29</sup> Nordvik, Helge 1979, Finanspolitikken og den offentlige sektors rolle, *Historisk tidsskrift* 3/1979, pp. 223-236.

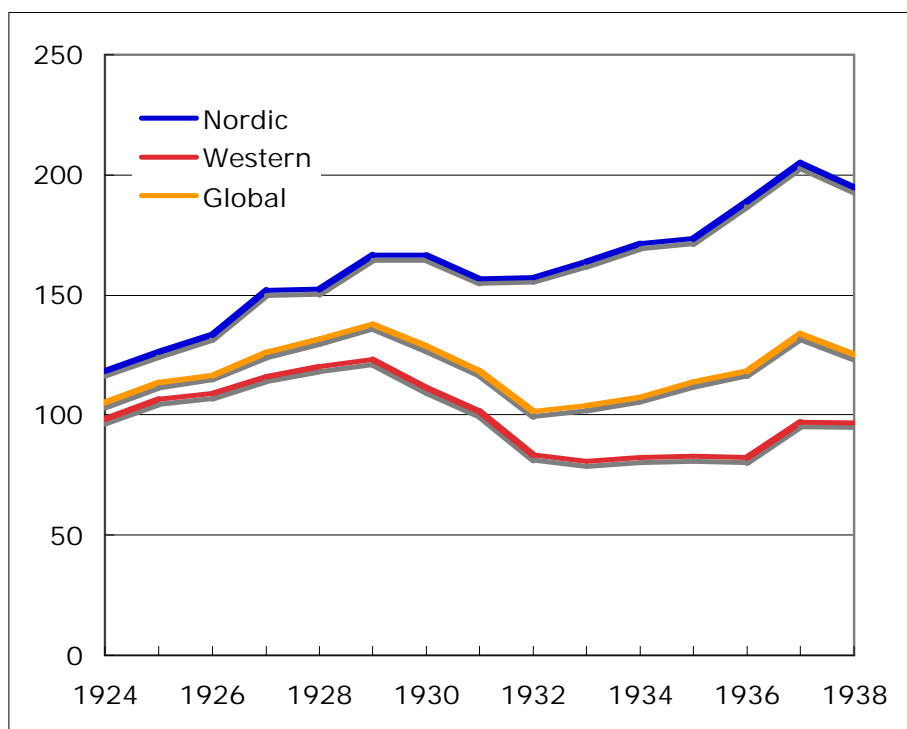
<sup>30</sup> Værholm, Monica, *En empirisk etterprøving av den norske finans- og pengepolitikken i mellomkrigstiden*, Bergen: NHH, pp. 58-71.

October 12<sup>th</sup>. This early non-intentional move from gold made the N4 some of the first countries to give up their tight monetary policy, opposite from the situation in the 1920s.

When other countries concentrated on clinging to gold, the suspension countries were able to run a more inflationary monetary policy. This had positive effects on both the domestic markets and the foreign sector. The domestic effect of abandoning gold was leaving a deflationary for an inflationary monetary policy. The money supply did then increase, and thus a positive shift in aggregated product demand. This caused an increase in production. The real interest rate effect was of great importance in this respect. Leaving gold and monitoring a more inflationary monetary policy led the central banks to lower their interest rates. This gave higher economic activity. Thereby deflation was turned into moderate inflation. Along with lower interest rates this caused real interest rates to fall significantly. Together with more optimism and higher future expectations to the economy lower interest rates gave important incitements to invest.

The transition to a more inflationary monetary policy also had important effects on the foreign sector. Leaving gold was followed by depreciation of currencies. Everything else held constant, this meant relatively lower prices on products from the depreciation countries and by that an improvement of cost efficiency. Thus, both an increase in exports and import substitution would naturally take place. Foreign trade statistics definitely reveal that the export performance of the N4 was quite good in the 1930s. This is clearly shown in chart 5.

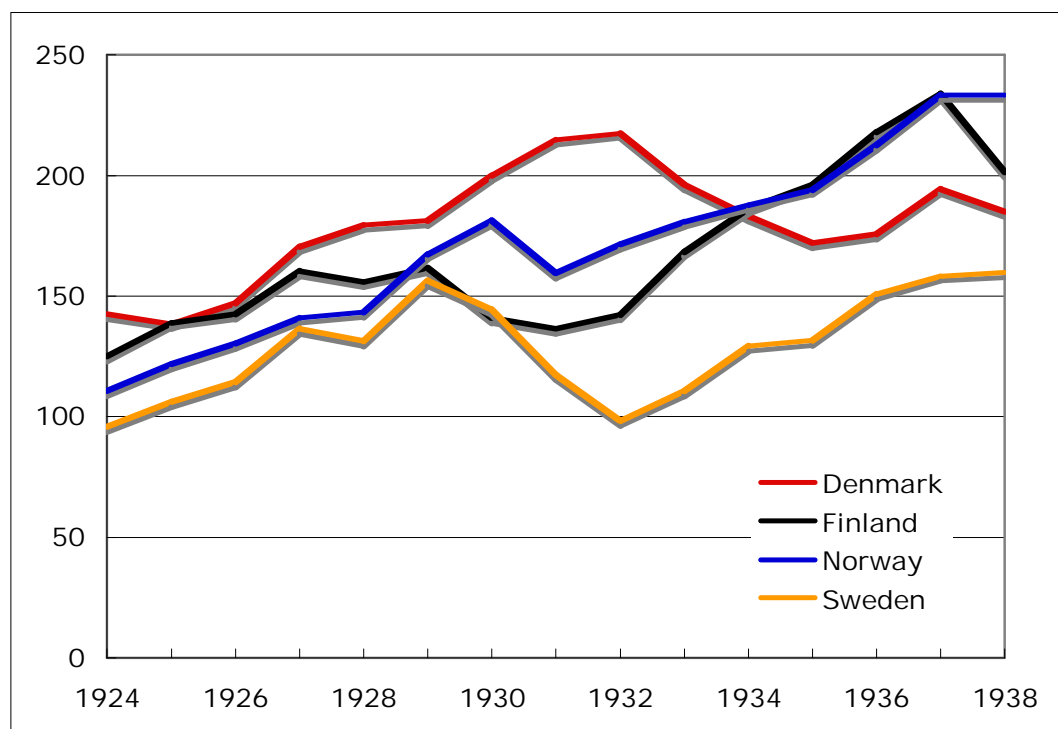
*Chart 5. Export volumes (1913=100).*



Source, Maddison 1995.

The chart clearly reveals that the Nordic economies saw a more moderate decline in exports than the western economies in general and than in the global economy during the crisis. Also, exports grew relatively rapidly in the N4 during the recovery period in the second part of the 1930s. However, one has to emphasize that the rates of growth in exports fluctuated significantly among the Northern economies. Finland and Norway had the most impressive performance, Sweden had a significant fall in exports during the first years of the international trade crisis, but did clearly better than most other countries thereafter, when Denmark struggled with regaining the level of foreign trade in the entire 1930s, as reported in chart 6. This implies that increase of foreign trade cannot sufficiently explain the relatively good GDP performance of all the N4.

*Chart 6. Export volumes for the N4 (1913=100).*



Sources, Maddison 1982, Krantz 2001, Hjerpe 1996, Grytten 2004.

As for import substitution, this can directly be mirrored in imports as share of GDP. However, when comparing between high and low performance economies this measure may be irrelevant. Good economic performance allows an economy to increase its imports. And moving from depression to growth makes foreign trade increase its relative share of GDP. Thus, relative import substitution is not easy to measure. Since the Nordic economies performed better than most other countries their imports also increased relatively to most other economies.

The rapid Nordic revival after the international crises also made the share of foreign trade increase relative to those still fighting the depression. A way of measuring relative import substitution would then be trade balance. If imports decreased relative to exports in the Nordic countries compared to other countries this give us a track of import substitution. Table 5 reports exports and imports of goods for 17 Western economies 1929-1935 as percentages of GDP in current prices.

*Table 5. Exports and imports of goods in percent of GDP.*

	1929	1931	1933	1935	1929	1931	1933	1935
	Exports				Imports			
Australia	8.1	7.0	7.8	7.3	7.6	4.8	5.1	5.8
Austria	18.1	12.5	8.6	9.8	27.0	20.9	12.7	13.2
Belgium	39.3		27.9	31.8	46.8		28.4	34.4
Canada	19.2	12.8	15.3	17.2	21.2	13.4	11.5	12.8
France	14.5	10.2	7.4	7.6	16.8	14.1	11.4	10.3
Germany	17.0	16.4	8.6	5.9	16.8	11.5	7.4	5.8
Italy	10.6	9.2	6.1	4.7	15.3	10.5	7.5	7.0
Japan	16.0	11.8	16.4	19.6	17.0	13.5	17.2	19.6
Netherlands	30.9	24.0	15.8	15.2	42.6	34.5	26.2	20.9
New Zealand		34.4	37.3	36.1		26.5	25.3	29.0
Switzerland	21.0	14.7	10.4	10.2	27.3	24.6	19.5	16.0
United Kingdom	17.2	9.8	9.8	10.2	28.7	21.6	17.9	18.0
USA	5.1	3.2	3.0	3.2	4.3	2.8	2.7	3.3
West	17.0	12.5	10.1	10.4	21.70	16.7	13.4	12.7
	1.000	0.735	0.598	0.611	1.000	0.771	0.618	0.585
Denmark	27.9	23.5	21.1	19.0	29.6	26.3	22.3	20.2
Finland	24.3	20.9	22.9	22.7	26.4	16.2	17.0	19.4
Norway	17.3	12.2	14.4	13.9	24.7	22.4	17.2	18.9
Sweden	18.8	13.1	13.6	13.8	18.5	16.7	13.8	16.0
N4	22.1	17.4	18.0	17.4	24.8	20.4	17.6	18.6
	1.000	0.789	0.815	0.786	1.000	0.823	0.709	0.751

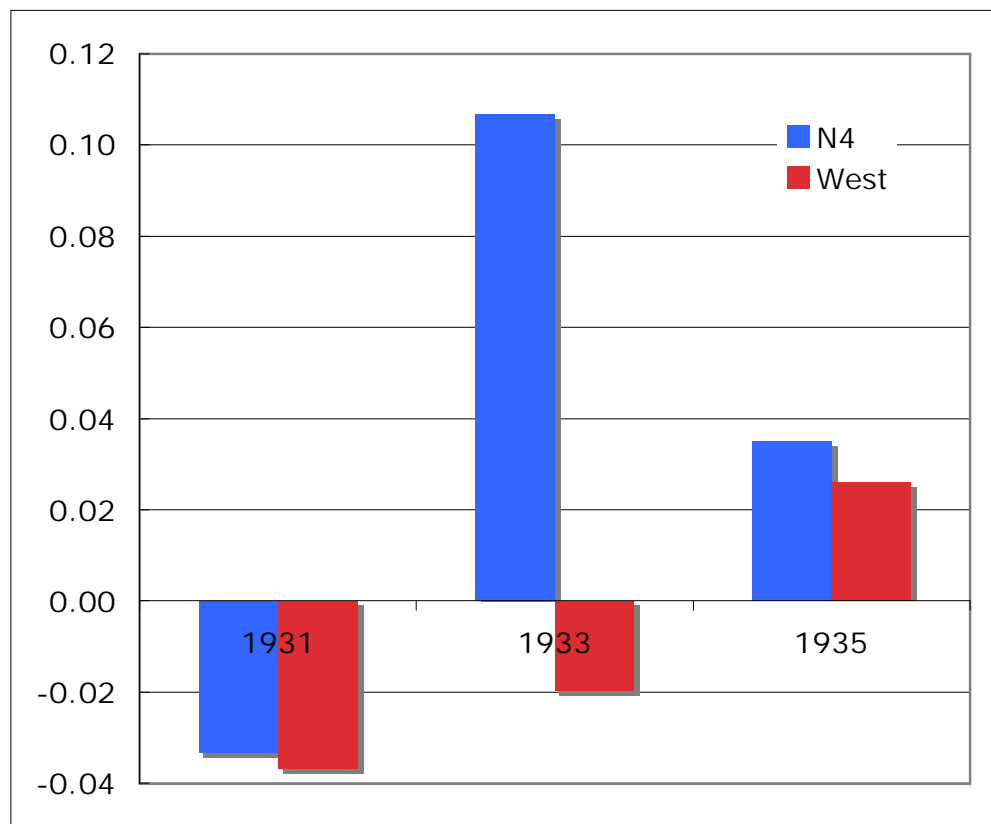
Relative shares compared to 1929 in brackets, where 1929=1.

\* Australia, Belgium and New Zealand are excluded from the mean.

Source, Grytten 1999, p 119.

The table clearly shows that the Nordic countries, and in particular Finland and Norway were well performers when it comes to trade surplus as an indication for import substitution. The relative development can easier be seen in a histogram. Chart 7 gives trade surplus of goods as share of GDP in 1931, 1933 and 1935 relative to the trade surplus of goods as share of GDP in 1929. The histogram indicates that a huge import substitution took place in the N4 compared to the rest of the Western world between 1929 and 1933. Virtually all of this effect of this effect was taken out after 1931, in other words after the abandonment of gold. When the Scandinavian countries thereafter joined the Sterling Area in 1933, the monetary policy became tighter and the rapid depreciation of the Scandinavian currencies to other currencies stopped. Thus, the relative import substitution advantage declined, as mirrored in the histogram.

Chart 7. Relative changes in trade surplus as share of GDP.



Source, Grytten 1999, p. 119.

One should also note that the level of import substitution varied significantly among the N4. This is evident from table 6, which reports the relative trade surpluses as share of GDP for the four Nordic countries.

Table 6. Trade surpluses as share of GDP for the N4.

	Denmark	Finland	Norway	Sweden	Nordic	West
1931	-0.046	0.246	-0.202	-0.206	-0.033	-0.037
1933	0.003	0.298	0.136	-0.023	0.107	-0.020
1935	-0.001	0.199	0.038	-0.131	0.035	0.026

Source, Grytten 1999, p. 119.

## International examination

The effects of the monetary policy on both the domestic and the foreign sector can be analysed more carefully by a more detailed comparison of key aggregates. Work by Barry Eichengreen already confirms that internationally monetary policy played an important role for the depth of and the recovery from The Great Depression.<sup>31</sup>

Here we use data from the same 17 Western economies as used above. The domestic effect of inflationary monetary is admittedly difficult to measure empirically, as the Keynesian view would be that a positive shift in product demand is mirrored in a positive effect on GDP. Thus, using this chain of argument an empirical “evidence” would be that inflationary monetary caused GDP to grow because product demand, measured as GDP, grew. Hence, we have to find other ways of examining this possible relationship.

One possible relationship could be through international comparisons of GDP performance and exchange rates. What happened to the domestic markets in countries that left gold compared to those still on? Since deflationary monetary policy went hand in hand with depreciation policy we can use exchange rates as measure of inflationary or deflationary monetary policy. Thus, was the performance of depreciation countries superior to that of the appreciation countries?

In the same way we can examine the effects of the foreign markets by looking at the relationship between exchange rates and exports and exchange rates and import substitution. This is all done in table 7, which reports the estimated simple log-log regression coefficients between the developments of exchange rates as independent variable, and GDP per capita, exports and relative trade surpluses as dependent variables. The table also reports some simple regressions with exchange rates as independent variable and the other three as dependent.

*Table 7. Estimated relations between exchange rates and key macro economic indicators. Simple log-log regressions with exchange rates ( $\ln E^{-1}$ ) as independent variable.*

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<sup>31</sup> Eichengreen, Barry 1990, *Elusive Stability: Essays in the History of International Finance 1919-1939*, Cambridge: Cambridge University Press.

Dep var	Intercept	$\beta_1$	Std error	R <sup>2</sup>
$\ln \partial Y_{(1933/1929)}$	5.584	-0.251 (-2.216)**	0.113	0.247
$\ln \partial Y_{(1935/1929)}$	5.232	-0.159 (-1.822)*	0.087	0.181
$\ln \partial X_{(1933/1929)}$	8.669	-0.999 (-4.636)***	0.216	0.589
$\ln \partial X_{(1935/1929)}$	8.874	-1.068 (-6.796)***	0.157	0.755
$\ln(\partial X/\partial M)_{(1933/1929)}$	5.644	-0.225 (-1.067)	0.211	0.071
$\ln(\partial X/\partial M)_{(1935/1929)}$	5.345	-0.171 (-1.503)	0.114	0.131

\* Significant at 10 per cent level

\*\* Significant at 5 per cent level

\*\*\* Significant at 1 per cent level

Table 7 clearly emphasises the importance of monetary policy to economic growth and exports performance. Those countries, which left gold early in the 1930s, i.e. the Sterling Area, including Scandinavia, were well performers, when we see falling performance along with the level of tight monetary policy, making the US and the Gold Block to suffer the most. As for import substitution the results are not that evident. This may partly be result of the problem of isolating and operationalise import substitution in our data. However, on the basis of the examination above, it seems pretty clear that the economies leaving gold early benefited from this in respect of production, exports and import substitution. Thus, an unintended shift of the monetary policy from tight to inflationary direction letting the exchange rates depreciate significantly contributes to explain why the N4 performed better than most other economies in the 1930s. The policy made the recession milder and shorter, and the recovery faster.

### **Why did unemployment stay high?**

Despite the N4 were relative well performers during the 1930s, unemployment stayed persistently high into the Second World War. We do not argue that the labour market situation developed favourable in the Nordic countries compared to those, which still maintained their currency fixed to gold at par value. It has been argued in several articles that those economies, which left gold early, had a better development in the unemployment situation than the countries clinging longer to gold.<sup>32</sup>

### **Demand side explanation**

Unemployment increased significantly during the big fall of output in the early 1930s. Thus, there clearly is a Keynesian explanation for this dramatic increase in unemployment both in the Nordic countries and in the rest of the Western world. However, the decline in unemployment after the recession was not symmetric to the rise during the years of crisis. Unemployment did not fall rapidly during the rapid recovery of from 1933 onwards. This is not a straightforward task to explain why. A common view among historians has been that the deep depression, with its negative shift in product demand, was followed by a correspondingly negative shift in employment in the 1930s. This caused unemployment to stay high. As already mentioned we agree that this is a plausible explanation for the recession years during the first part of the decade. However, it can hardly explain the high levels during the rest of the decade. If lack of product demand and, thus, lack of labour demand was the case, there should have been none or marginal growth in employment even during the recovery period. But this was simply not the case. In fact employment increased rapidly in the Nordic economies after the bottom line of the recession was reached in mid and late 1932.

The number of annual man-years performed in the N4 economies increased rapidly in the 1930s. According to Angus Maddison the annual growth rate of employment for the N4 1929-1938 was over 1.2 per cent. In comparison, the rate of employment growth in the golden era of the 1950s and 1960s, with only one percent recorded unemployment rates,

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<sup>32</sup> Eichengreen 1990, pp. 215-238.

was less than 0.5 per cent.<sup>33</sup> Admittedly the growth rates differed significantly, with Denmark, Finland and Norway all close to 1.5 per cent and Sweden with only minor growth. For the N4, less Sweden, this in fact makes the 1930s as one of the decades with the highest expansion in employment ever. Hence, we cannot use a Keynesian demand explanation as a relevant measure to explain the persistently high unemployment rates in the N4 in the last six or seven years leading up to the great war.

### **Supply side explanation**

If we cannot find plausible explanations on the demand side, we have to examine the supply side of the labour market. Can any event on the supply side explain the persistently high level of unemployment in the N4 during the 1930s despite their relatively good performance? To be able to answer this question, we first look at the development of the labour force. Again, we find a rapid growth 1928-1939, with an annual rate of almost 1.2, against 0.6 per cent during the golden era in the 1950s and 1960s. Like the situation for employment, the growth in the N4's labour force 1929-1938 is one of the highest ever collected.<sup>34</sup> Thus, it seems as the persistently high unemployment rates in the second half of the 1930s can be explained by a significant positive shift in the supply of labour. However, also in this case we will have to comment that Sweden followed somewhat different pattern from the rest of the N4, in as much as the growth of the Swedish labour force was quite moderate compared to those of the other N4 countries.

Monetary policy serves as an explanation for the development of unemployment, i.e. those economies monitoring a tight monetary policy experienced increase in unemployment compared to those monitoring a less tight monetary policy.<sup>35</sup> However, it cannot explain why unemployment, despite relative improvement, stayed persistently high in the depreciation countries. In fact, some of the depreciation countries still had significantly higher unemployment rates at the end of the decade than some of the gold

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<sup>33</sup> Maddison 1982, p. 210.

<sup>34</sup> Maddison 1982, p. 209.

<sup>35</sup> Eichengreen, pp. 215-238, Grytten 1999, p. 93-124.

countries. Admittedly, the rates were converging, but still some of the well performers had the highest unemployment rates. Hence, we examine the growth of the labour force in different economies in order to find out its effect on the level of unemployment. A possible relationship between unemployment and growth in labour force is shown in a plot diagram in chart 8 below.

As we read the chart, those countries with the highest growth in labour supply clearly tended to have the highest unemployment rates in the 1930s. This also happened to be the case for Denmark, Finland and Norway, which were three of the countries with the highest growth in labour supply during the 1930s. Sweden, however, saw a significantly lower growth in their labour force. This contributes to explain why unemployment stayed lower in Sweden than in Denmark and Norway despite Sweden's relative inferior performance during the decade.

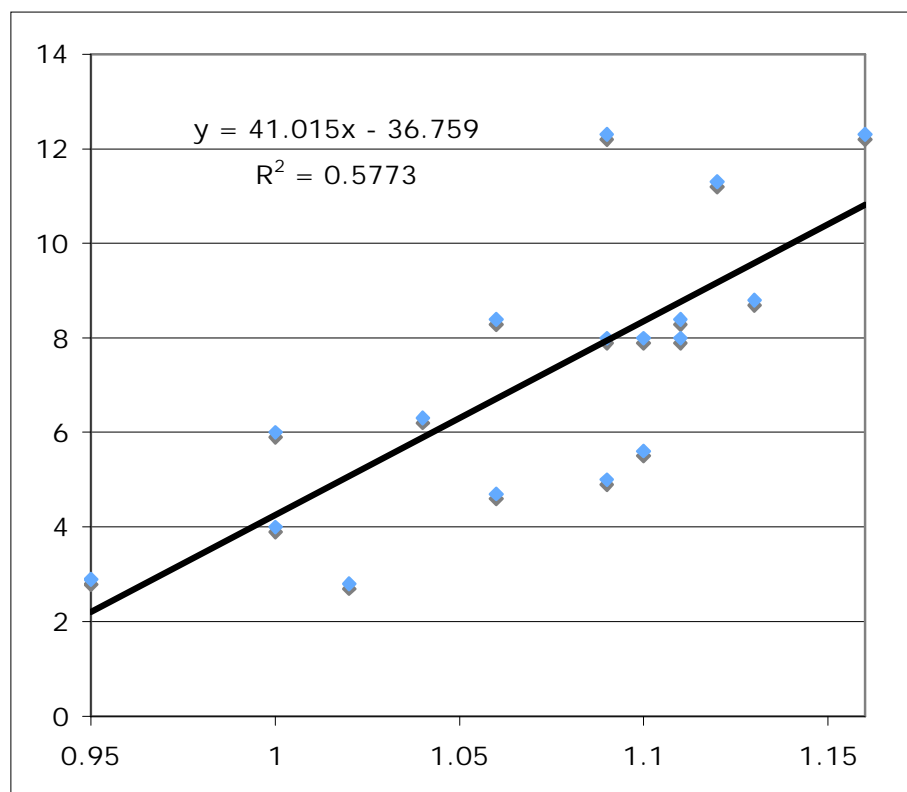
Why then did the labour force grow this rapidly in Denmark, Finland and Norway? A major explanation is the change of immigration policy in North America. In 1924 the United States introduced limitations on immigration. In consequence, the number of immigrants from the N4 was reduced by about 50 per cent. Further more, in 1930 an almost complete immigration ban was introduced. Canada followed in the footsteps of the US, and, thus, only a few hundred persons annually moved from the N4 to North America during the 1930s.

In fact, it was positive net migration from North America to the Scandinavian countries in this decade. In consequence of this shift from strong net emigration to net immigration to the N4, around 50.000 excess workers were thrown into the Nordic labour markets annually. During the decade these made up an excess supply of the labour supply of about half a million or about seven per cent of the initial labour force.<sup>36</sup>

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<sup>36</sup> Tuveng, Morten 1948, *Arbeidsløshet og beskjeftigelse i Norge før og under krigen*, Bergen CMI, pp. 80-88, Grytten, Ola Honningdal 1994, *An Empirical Analysis of the Norwegian Labour Market, 1918-1939: Norwegian Interwar Unemployment in International Perspective*, Bergen: NHH, pp. 268-289.

Chart 8. Plot diagram of average unemployment rates and growth in labour force ( $LF_{1938}/LF_{1929}$ ) 1929-1938.



Sources, Present calculations, Maddison 1982, p. 209 and Grytten 1994, p. 247.

To obtain comparable figures, the unemployment rates for Belgium and Austria are adjusted downwards by a half, and for Australia by a quarter.

In addition, during the inter-war years the birth rates fell dramatically. When the Nordic birth rates reached about 25 per 1000 inhabitants in 1919 it was around 14 in 1935.<sup>37</sup> In consequence, the number of persons over 15 increased compared to the number of children and also compared to the total population. Thus, labour supply stepped up compared to consumers, and caused unemployment.

In conclusion, we see that the persistently high unemployment rates in the Nordic countries despite their rapid recovery seems to be a demographic phenomenon, i.e. immigration ban to North-America from 1930 onwards and low birth rates in 1920s and particular in the 1930s. These two factors made labour supply increase significantly

<sup>37</sup> NOS XII. 245 1968, *Historical Statistics 1968*, Oslo: Statistics Norway, pp. 45-47.

compared to the number of consumers. Hence, unemployment stayed high due to a strong positive shift in labour supply.

## Summary

The present paper raises two questions. Firstly, why did the Nordic countries, Denmark, Finland, Norway and Sweden (N4) have a milder and shorter depression and a more rapid recovery than most other Western economies during the 1930s? In this paper we seek to find the impact of economic policy on the performance. Secondly, given that the N4 performed better than most other economies, why did Nordic unemployment persist on a high level throughout the decade?

The paper seeks to answer these questions by an international comparative approach, where key macro and monetary policy indicators of the N4 are put into an analysis of 17 Western countries. In order to carry out this analysis revised figures of total labour force unemployment are presented.

The conclusions drawn are that the early suspension of gold in September and October 1931 by the N4 stimulated both the domestic and the foreign sectors of the Nordic economies. Thus, the crisis became milder and shorter and the recovery more rapid than in most other countries. The paradox of rapid recovery and persistently high unemployment can basically be explained by two demographic factors. The immigration ban into North America canalised half a million excess workers into the Nordic countries, and thus a positive shift in labour supply took place. In addition the combination of a dramatic decline in birth rates and the halt in overseas emigration of young adults gave a relative increase of labour supply to the number of consumers. Hence, unemployment stayed high despite the business cycle was better than in most other countries.

The paper finally concludes that Sweden was somewhat different from the other N4, with a slower recovery. However, Swedish unemployment was not higher in the second half of the 1930s than for the total N4. This was due to lower growth in Swedish labour supply.

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