Scandinavian Economic History Review

ISSN: 0358-5522 (Print) 1750-2837 (Online) Journal homepage: https://www.tandfonline.com/loi/sehr20

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To cite this article: Petri Böckerman & Jaakko Kiander (2002) Labour markets in Finland during the great twentieth centuty, Scandinavian Economic History Review, 50:2, 55-70, DOI: 10.1080/03585522.2002.10410808

To link to this article: https://doi.org/10.1080/03585522.2002.10410808

Published online: 20 Dec 2011.

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Labour Markets in Finland during the Great Depressions of the Twentieth Century[1]

ABSTRACT

The study compares the great depressions of the twentieth century in Finland from the perspective of labour market adjustment channels. The increase in employment was much more rapid during the rebound from the great depression of the 1930s compared with the recovery from the great slump of the 1990s. There was a moderate decline in real wages in manufacturing industries during the early 1990s. However, the slump of the 1930s brought a severe fall in real wages. The nominal wage adjustment of the Finnish labour markets was entirely dissimilar in these two depressions. During the 1990s nominal wages in the manufacturing industries did not decline at all. This pattern is in sharp contrast to the deep cuts in nominal wages during the 1930s. There was an increase in the level of labour productivity during the great depressions of the twentieth century which is linked to restructuring during the times of economic slowdown.

Introduction

The great depression of the 1930s is usually regarded as the most severe peacetime economic crisis of the twentieth century in most industrialised countries. However, Finland suffered its worst recession of the twentieth century not in the 1930s but in the early 1990s.[2] In the years 1991–93 output fell by 10 per cent and the unemployment rate reached its all-time high (that is, almost 20 per cent of the Finnish labour force). These figures were worse than those recorded during the great depression of the 1930s. The crisis of the early 1930s in Finland was not particularly deep if compared with other countries. On the contrary, the Finnish crisis was milder than the great depression endured by many other countries.

Labour market indicators confirm that there was indeed a sharp disparity between the depressions of the twentieth century suffered by the Finnish economy.

1 We would like to thank Jukka Pekkarinen for detailed comments. In addition, we would like to thank two anonymous referees for valuable comments and suggestions.

2 Heikkinen, Sakari & Kuusterä, Antti, Finnish economic crisis in the 20th century, in *Down from the Heavens, Up from the Ashes: The Finnish Economic Crisis of the 1990s in the Light of Economic and Social Research*, eds. Jorma, Kaleva & Kiander Jaakko & Ullamaija Kivikuru & Heikki A. Loikkanen & Jussi Simpura. Helsinki: Government Institute for Economic Research 2001.

During the great slump of the early 1930s the unemployment rate reached a peak of 8.7 per cent in 1932.[3] In this study we compare these economic crises from the perspective of labour market adjustment channels.

While Finland's experience in the early 1990s was unique in the context of the OECD countries, other Nordic countries and the United Kingdom showed similar unemployment patterns and many other qualitative similarities in the economic events they experienced at the same time.[4] In Finland, however, the recession of the 1990s was much worse than elsewhere. An exogenous factor that partially explains this is the fact that in addition to the asset market collapse and the exceptionally severe fall in domestic consumption, there was an almost complete and permanent disappearance of the Soviet trade in 1990–91. Since the Soviet Union's share of Finnish exports was previously as high as 20 per cent, this represented a significant additional adverse shock to the Finnish economy, a shock not experienced in other Western countries.

In contrast to the collapse of the Soviet trade during the early 1990s, there was a recovery in the demand for pulp and paper in the world economy that speeded up the growth of Finland's export-orientated industries and helped to overcome the crisis of the 1930s. A notable feature of the recovery in the 1930s was that exports of pulp and paper developed much more favourably than those of sawn goods.[5] The reasons underlying the great Finnish depression of the early 1990s have therefore been aptly described as "bad luck, bad banking, and bad policies".[6]

The Great Depression of the 1930s (GD I) did resemble the Great Depression of the 1990s (GD II) in a number of respects. In particular, both crises can be viewed as basically financial in nature inasmuch as they were closely associated with regimes of fixed exchange rates and subsequent fluctuations in prices and interest rates. This pattern means that the great depressions of the twentieth century in Finland provide an interesting opportunity to compare the economic adjustment mechanisms of labour markets because the labour market institutions existing during these respective episodes of economic crises were entirely dissimilar. Moreover, the claim is often made that labour markets have played some role in the slow recovery of employment in Finland after the 1990s crisis.

This study is therefore concerned with the underlying adjustment channels of the labour markets during the great depressions of the twentieth century in Finland. The detailed account of GD I covers the period from 1925 to 1935 and the analysis of GD II covers the period from 1987 to 1997. Thus, the comparison of the depressions includes both the period leading up to the collapse of economic activity and the period of recovery which succeeded it relatively quickly on both occasions. In other words, the comparison covers these exceptional business cycle fluctuations from beginning to end. The rest of the study consists of three sections. The first of these presents a selected background to the detailed account of

3 Tiainen, Pekka, *Taloudellisen kasvun tekijät Suomessa: Työvoiman, pääoman ja kokonaistuottavuuden osuus vuosina 1900–90.* (Diss.) Helsinki 1994.

4 For a study of Sweden's greatest slumps since the 1870s, see Jonung, Lars and Thomas Hagberg, How Severe Was the Crisis of the 1990s?, unpublished manuscript, 2001.

5 Heikkinen and Kuusterä, *Finnish Economic Crisis,* 34–35.

6 Kiander, Jaakko & Vartia, Pentti, The Great Depression of the 1990s in Finland, *Finnish Economic Papers,* vol. 9, 1996:1, 72–88, and Honkapohja, Seppo & Koskela, Erkki, The Economic Crisis of the 1990s in Finland, *Economic Policy,* 1999: October, 400–436.

labour market issues during the great depressions of the twentieth century in Finland. The second section provides a comparison of the adjustment channels in the labour markets during these extreme contractions of aggregate economic activity. The particular aim of the study is to document in detail the patterns of adjustment in terms of employment and wages during the depressions. The last section presents a number of conclusions.

Background

The Finnish unemployment rate was relatively low from the perspective of international comparison, and economic growth was rapid after the Second World War. There were occasional balance of payments crises which caused temporary slumps, but none of these caused permanent large-scale unemployment. Public sector employment grew rapidly as the welfare state expanded, reaching about 25 per cent of total employment by 1990. In fact, employment in the private sector did not increase in the 1960s, 1970s or 1980s at all. In this sense, private sector growth in Finland was crowded out for a long time by the growth of the public sector.

However, this pattern did not prevent the growth of business sector employment. The steady growth of the public sector and the non-farming business sector was made possible by the decline of employment in primary production. In other words, there has been a large-scale structural transformation from an agrarian economy via manufacturing to an economy characterised by services.

Active labour market policy has not been as ambitious in Finland as it has been in Sweden, but it was still effective enough to eliminate long-term unemployment almost entirely during the 1980s.[7] There was an economic slowdown in Finland in 1975–77 but after that aggregate employment increased without any major interruptions until the early 1990s.

Finland in the 1990s was one of the Nordic welfare states with high labour taxes, extensive social benefits and one of the highest rates of trade union membership and coverage of collective wage agreements in the OECD, minimum nominal increases of wages being determined by collective bargaining. The structure of Finnish wage bargaining typically entails a high degree of coordination between unions and employers, with a framework agreement being determined centrally on a one- or two-year basis, followed by bargaining at union level in the context of this framework agreement.[8]

Some flexibility is injected into the system by wage drift, as it is called, which historically has accounted for about 30 per cent of the total increase in earnings. However, labour market regulation is not particularly strict in Finland compared with other European countries. There is no formal minimum wage legislation, but the effective wage floor is provided by the binding collective wage agreements and the high level of minimum income provided by the social security system.

7 An important reform was the Employment Act of 1988, which guaranteed a job or training for persons who had been unemployed for twelve months. However, this act was repealed in 1992 when the number of long-term unemployed started to increase. The reasons for abolition were mainly fiscal.

8 Vartiainen, Juhana, *The Labour Market in Finland: Institutions and Outcomes*, Publications Series, 2/1998. Helsinki: Prime Minister's Office 1998.

Table 1 Similarities between GD I and GD II

	GD I	GD II
Preceding boom: increase in debt and asset prices	1926–28	1987–89
Deregulation of external economic relations	1926	1985–89
Current account deficits	1927–30	1988–92
Fixed exchange rate system that collapsed	1926–31	1982–92
Period of high interest rates	1928–31	1989–92
Negative export shock	1929–30	1990–91
Period of debt deflation economy	1930–34	1990–94
Devaluation	1931	1991–1992
Reflation and recovery	1932–	1993–

Source: Kiander and Vartia, *The Great Depression*, 74.

In contrast to the situation of the early 1990s, the Finnish labour markets during the 1930s can be characterised as decentralised and unregulated spot markets without established long-term interaction between employers and employees.[9] Almost half the people composing the labour force were farmers and many employees were farm workers at the time. In other words, manufacturing and service sectors were not large in the 1930s. There has therefore been a long-term increase in the proportion of manufacturing, construction and the public sector during the twentieth century. This feature probably signified a greater structural flexibility in the underlying flows of workers during the 1930s compared with the situation in the large public sector of the early 1990s. In particular, a large agricultural sector in the Finnish economy most likely reduced the overall dependence upon money wages in the early 1930s. Despite these structural disparities, the depressions of the 1930s and the early 1990s provide an opportunity to compare the adjustment channels of the labour markets within completely different institutional frameworks.

The great depressions of the twentieth century in Finland certainly exhibit a great number of similarities, emphasising their nature as basically financial crises (see Table 1). Nevertheless the resurgence of economic activity was in fact more sluggish from the depths of the great slump of the early 1990s (see Tables 2 and 3). In other words, the profiles of the recoveries were somewhat dissimilar in details. The breakdown of aggregate demand shows that recovery was driven by expansion of exports in both cases. However, the collapse in exports was deeper during the great depression of the 1930s and the increase in exports was stronger during the recovery from the slump of the early 1990s. This means that the recovery from the great depression of the early 1930s was based more on the vigorous rebound of private consumption and investment than was the recovery from the great slump of the 1990s.

The great slump of the early 1990s can be cited to illustrate the essential role of financial factors during the depressions. The boom of the late 1980s turned into

9 For a discussion of the institutional framework of the Finnish labour markets in the 1930s, see Teräs, Kari, Työmarkkinoiden pelisäännöt – oliko niitä 1930-luvun talouskriisin aikana? [The rules of labour market in the course of the 1930s crisis?], unpublished manuscript. The Workers' Academy, Kauniainen, 7–8 September 2000.

Table 2 Annual changes in the volume indices of GDP (Y) and imports of goods (M), and the components of aggregate demand (C = private consumption, I = private investment, G = public consumption and X = export of goods) from 1925 to 1935 (percentages)

	Y	M	C	I	G	X
1925	4.86	4.65	2.45	−2.42	7.95	10.15
1926	4.24	15.66	5.88	16.84	1.67	2.40
1927	6.48	12.52	4.74	8.25	5.25	11.07
1928	5.93	19.68	8.91	25.25	4.61	−2.85
1929	1.61	−13.99	−1.86	−20.02	10.90	3.50
1930	−1.93	−24.48	−7.14	−25.62	10.00	−14.59
1931	−1.69	−31.63	−6.97	−22.26	3.54	−3.40
1932	0.77	−14.47	−5.22	5.47	5.05	4.25
1933	4.58	14.34	4.69	3.33	−3.63	15.45
1934	9.20	18.87	9.93	17.80	2.04	9.53
1935	4.02	8.75	3.15	16.10	0.83	5.24

Source: Statistics Finland: National Accounts.

Table 3 Annual changes in the volume indices of GDP (Y) and imports of goods (M), and the components of aggregate demand (C = private consumption, I = private investment, G = public consumption and X = export of goods) from 1987 to 1997 (percentages)

	Y	M	C	I	G	X
1987	3.79	8.06	4.77	4.81	4.20	1.35
1988	4.11	8.07	4.58	9.33	1.91	3.13
1989	4.79	9.69	4.00	12.67	2.16	−0.12
1990	0.70	−4.21	−1.14	−5.13	3.85	2.73
1991	−6.88	−20.08	−4.59	−24.53	2.03	−9.64
1992	−3.14	−2.08	−5.10	−21.50	−2.44	8.29
1993	−0.69	−3.54	−3.71	−21.98	−4.40	15.81
1994	4.56	16.89	2.12	−3.60	0.32	11.69
1995	3.70	7.12	3.86	10.00	1.91	6.81
1996	4.14	7.75	3.72	8.84	2.45	6.45
1997	5.92	11.11	3.09	11.00	3.90	12.82

Source: Statistics Finland: National Accounts.

a bust – a three-year period of high interest rates and collapsing asset prices, debt-deflation, and a banking and currency crisis from 1991 to 1993. Households and firms responded to high and volatile interest rates by increasing savings and cutting investment, a turn of events which quickly led to a downward spiral of domestic demand. Output fell for three years and unemployment soared.

The admirable employment record of the 1980s was thus abruptly ruined at the beginning of the 1990s by a radical change from almost full employment to mass unemployment.[10] The demand for labour collapsed by almost 20 per cent within three years (from 1990 to 1993) and the rate of unemployment rose correspondingly from 3.5 per cent to almost 20 per cent.

The fall in labour demand was naturally heaviest in the economy's private sector. However, public employment decreased too for the first time in the post-war period. This development was due to the fact that both the central and local government took many tough measures to cut public spending, and these resulted in reduced public sector employment and a lower level of benefits. The motivation behind this procyclical fiscal policy was a determination to consolidate the serious fiscal imbalances. In these terms the success of the retrenchment measures was only modest. The central government's deficit was more than 10 per cent of GDP in the period 1992–95.

In principle, there should be a decline in the wage level of employees in response to a collapse in labour demand.[11] The downward movement of nominal and real wages was clearly limited by the labour market institutions during the early 1990s. In particular, because of deteriorating export prices, the growth of real product wages turned out to be excessive in 1989–91.[12] In other words, the *ex post* real product wages were higher than originally intended, owing to lower than expected producer prices. The result was an unexpected upsurge of real product wages, which rapidly undermined the competitiveness of Finnish companies. A surge in the unemployment rate and depreciation of the *markka* at last put an end to the growth of real wages during the early 1990s.

Significant wage moderation was achieved through the use of the instruments of the centralised bargaining system during the great slump of the early 1990s. By these means nominal wages were frozen by collective agreements over the period from 1992–93. There was even an attempt by the social partners to cut nominal labour costs by 7 per cent in 1991 in order to avoid currency depreciation. However, the attempt failed because the financial markets forced the Bank of Finland to abandon the fixed exchange rate in November 1991. After this episode the labour market organisations did not accept any cuts in nominal wages but they did agree to a two-year social pact without any nominal pay rises. Since inflation was slower than expected and there was a continuation of a small but positive wage drift, this meant that real wages remained more or less unchanged in 1992–94.

The adjustment of the Finnish labour markets

This section of the study provides a comparison of the labour market adjustment channels in Finland during the great depressions of the twentieth century.[13] The

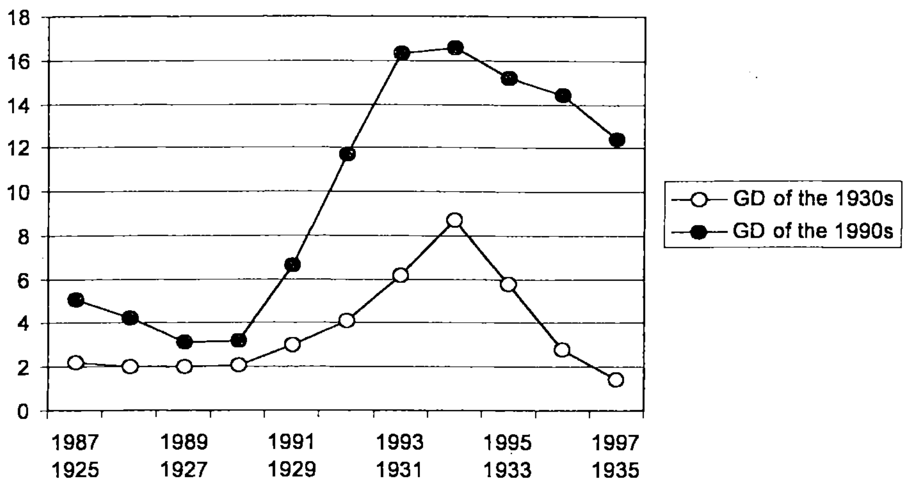
10 Actually, the situation was too good; at the end of the 1980s there was much discussion about the threat of labour shortage in the coming 1990s.

11 Layard, Richard & Nickell, Steven & Jackman, Richard, *Unemployment: Macroeconomic Performance and the Labour Market.* Oxford: Oxford UP 1991.

12 Real product wage is defined as nominal wage deflated by the producer price index.

13 Both the nature and the consequences of unemployment have clearly changed in Finland since the Second World War. This development is the result of a build-up of social insurance mechanisms. See Keyssar, Alexander, *Out of Work: The First Century of Unemployment in Massachusetts.*

Figure 1 The unemployment rate of the Finnish economy



Source: Tiainen 1994; Statistics Finland.

unemployment rate was moderately higher before the great depression of the early 1990s than before the great slump of the 1930s.[14] In contrast, the respective recoveries from the great slumps, measured by the unemployment rate, have been dissimilar by a wide margin (see Figure 1). In particular, the rapid decline in the unemployment rate after the great slump of the 1930s compared with that after the great depression of the 1990s provides evidence for the perspective that strongly underlines the hypothesis of hysteresis, as it is called, as a factor in modern European labour markets. This means that the unemployment problem was evidently more persistent during the 1990s compared with the way the unemployment rate evolved during the 1930s.

There are several possible reasons for the stubborn persistence of the unemployment problem during the 1990s. For instance, the presence of hysteresis during the 1990s can be explained by the characteristic feature that workers' skills and education in the modern economies are much more specialised compared with the predominantly multipurpose skills and low educational levels prevailing among workers during the 1930s. This implies that the deplation of human capital during extended episodes of unemployment was a more important factor in the adjustment of labour markets during the 1990s, and this helps us to understand a slow decline in the unemployment rate after the slump of the early 1990s. There are also potential reasons that are directly linked to the institutional features of the Finnish labour markets and changes in wage-setting. In particular,

Cambridge: Cambridge UP 1986, for a discussion of unemployment problems in Massachusetts in the nineteenth century. In particular, according to Keyssar, a large number of workers held several jobs as a self-insurance devise in the absence of social insurance mechanisms.

14 The measures of the unemployment rate and the labour input indices are naturally more reliable for the period of the 1990s than for the period of the 1930s. The official concept of an unemployed person was much narrower and restrictive in the 1930s. See Tiainen, *Taloudellisen kasvun tekijät,* L1–L80, for a discussion of the quality of the data covering the period of the 1930s.

the so-called insider power of unions may have limited the downward adjustment of wages during the 1990s. The insider-outsider theory of unemployment states that the incumbent workers with permanent contracts prevent the adjustment of labour markets through wage reductions. Instead, the adjustment of labour markets to a decline in labour demand happens mainly through the medium of increased unemployment among workers with non-permanent contracts.[15]

Employment is measured by the labour input index compiled by Statistics Finland. The focus of the comparison on the major sectors of the Finnish economy naturally masks the heterogeneity in adjustment of labour input at the plant level of the economy. For instance, there is an interesting example of heterogeneity in a historical study of the effect of the Great Depression on the American motor vehicle industry.[16] There was large-scale creation of new business and jobs taking place alongside a massive destruction process, and new plants featuring the mass production system were being created even during the deepest phase of the Great Depression. Empirical studies which have applied plant-level data based on measures of gross flows of jobs and workers during the early 1990s in Finland underline the same kind of heterogeneity in the adjustment of the labour markets.[17]

The adjustment of labour markets in the economy as a whole indicates that aggregate employment declined at a faster rate during the initial phase of the depression of the 1990s compared with the great slump of the 1930s (see Figure 2).[18] Thus, aggregate employment declined at an average annual rate of 3.4 per cent from 1929 to 1931. In contrast, aggregate employment collapsed at an average annual rate of 6.7 per cent from 1991 to 1993. However, the subsequent rebound in employment was much more rapid during the recovery from the great depression of the 1930s compared with the recovery from the slump of the 1990s. This pattern of adjustment of the labour markets emerges despite the well-documented characteristic feature in the empirical studies of business cycle fluctuations whereby heavy slumps in the aggregate indicators of economic activity are usually followed by equally strong rebounds.[19] The Finnish depressions of the twentieth

15 Lindbeck, Assar & Snower, Dennis J., Insiders and Outsiders, *Journal of Economic Perspectives*, vol. 15, 2001:1, 165–188.

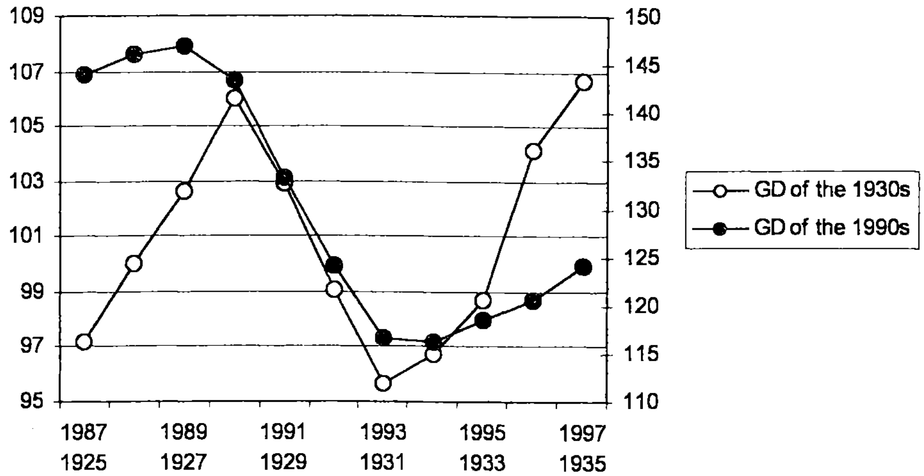
16 Bresnahan, Timothy F. & Raff, Daniel M. G., Intra-Industry Heterogeneity and the Great Depression: The American Motor Vehicle Industry, 1929–1935, *The Journal of Economic History*, vol. 51, 1991:2, 317–331.

17 See, for instance, Böckerman, Petri & Piekkola, Hannu, On whom falls the burden of restructuring? Evidence from Finland, *Nordic Labour Market Research on Register Data*, ed. Torben Pilegaard Jensen & Anders Holm. Copenhagen: Nordic Council of Ministers 2001; Böckerman, Petri & Maliranta, Mika, Regional Disparities in Gross Job and Worker Flows in Finland, *Finnish Economic Papers*, vol. 14, 2001:2, 83–104; Ilmakunnas, Pekka & Maliranta, Mika, *The Turnover of Jobs and Workers in Finland*. Helsinki: Ministry of Labour 2002.

18 The figures are presented in levels for three reasons. The first is that these figures give an impression of the scale of economic activity during the great depression of the 1930s compared with the great slump of the 1990s. The second reason is that possible measurement problems in the numbers describing the development of the Finnish economy during the 1930s are highlighted in cases where the indicators are presented as changes. The third reason is that by presenting the figures in levels it is possible to provide information about the extent to which losses of employment that happened during the slumps were made good during the early years of the subsequent recovery.

19 See, for instance, DeLong, J. Bradford & Summers, Lawrence H., Additional contribution: Are business cycles symmetrical?, *The American Business Cycle: Continuity and Change*, ed. Robert J. Gordon. Chicago: The University of Chicago Press 1986, for a discussion of (a)symmetrical adjustment in the context of American business cycles. See, Linden, Mika, Trendikasvu ja suhdanne-

Figure 2 Labour input index for the Finnish economy as a whole (1926=100)



Source: Statistics Finland: National Accounts.

century are therefore incapable of being fitted into this pattern of business cycle fluctuations. In other words, from 1932 to 1935 aggregate employment increased at an average annual rate of 2.8 per cent. In particular, aggregate employment grew by was 5.5 per cent in 1934, which reflects the extremely rapid rebound in economic activity (see Table 2). In contrast, during the recovery from the slump of the early 1990s (that is, from 1994 to 1997) aggregate employment increased at an average annual rate of 1.6 per cent.

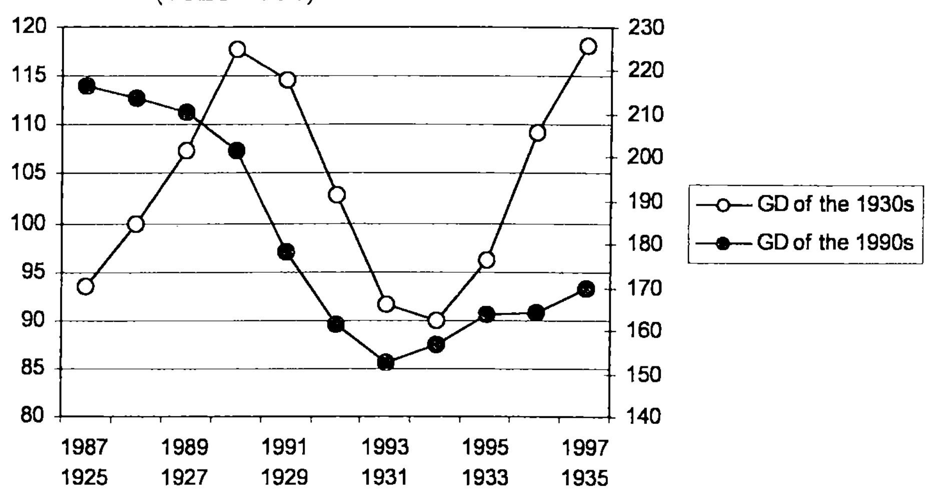
The same pattern as in the whole economy can be found by looking at the adjustment of labour markets in Finnish manufacturing industries (see Figure 3).[20] The recovery in employment was even more rapid in manufacturing industries during the 1930s compared with the adjustment of aggregate employment in the Finnish economy as a whole. In other words, from 1931 to 1935 employment in manufacturing industries surged upwards at an average annual rate of 3.2 per cent. In contrast, during the recovery from the slump of the early 1990s (i.e. from 1993 to 1997) employment in manufacturing industries grew at an average annual rate of 1.1 per cent.

Construction is an interesting industry, because of its extremely volatile nature (see Figure 4). In particular, there were extremely deep cuts in the number of employees in construction during the depressions of the twentieth century. The figure indicates that the rebound was indeed more rapid in construction during the 1930s compared with the recovery from the great slump of the 1990s. In other

syklit Suomessa ja Ruotsissa 1950–2000 [The growth trend and business cycles in Finland and Sweden, 1950–2000], *Kansantaloudellinen aikakauskirja* [The Finnish Economic Journal], vol. 97, 2001:2, 249–263, for a discussion of (a)symmetrical adjustment in the context of the Finnish business cycle fluctuations.

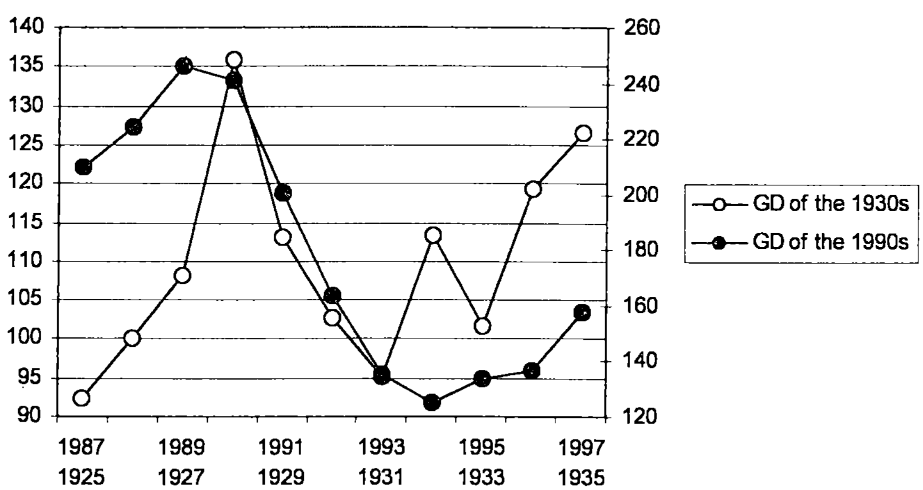
20 For a detailed account of employment and wages from 1925 to 1938 in Finland's manufacturing industries, see Heikkinen, Sakari, Teollisuustyöväestön työllisyys ja palkat Suomessa 1925–1938 [The employment and the wages of industrial workers in Finland, 1925–1938], unpublished manuscript. The Workers' Academy, Kauniainen, 7–8 September 2000.

Figure 3 Labour input index for Finnish manufacturing industries (1926=100)



Source: Statistics Finland: National Accounts.

Figure 4 Labour input index for construction industries (1926=100)

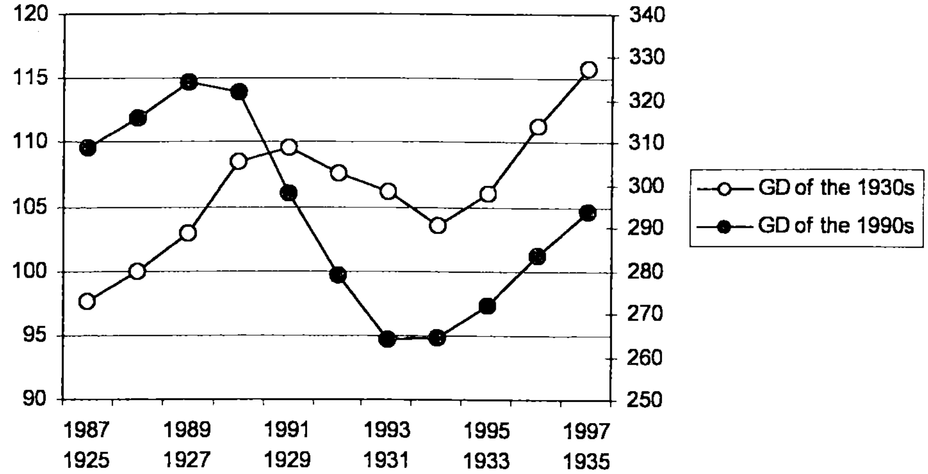


Source: Statistics Finland: National Accounts.

words, from 1931 to 1935 employment in the construction industry surged upwards at an average annual rate of 5.0 per cent. In contrast, during the recovery from the slump of the early 1990s (that is, from 1993 to 1997) employment in construction grew at an average annual rate of zero per cent.

The adjustment of employment in the private services sector reveals a different pattern (see Figure 5). The collapse of employment in this sector of the Finnish economy was more severe during the 1990s, but the recovery from the slump in fact happened at about the same rate. In other words, from 1931 to 1935 employ-

Figure 5 Labour input index for private services (1926=100)



Source: Statistics Finland: National Accounts.

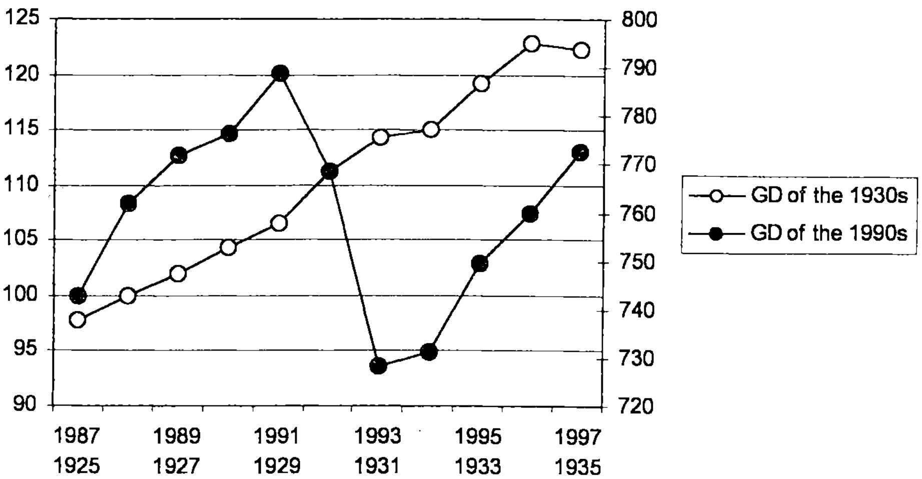
ment in private services grew at an average annual rate of 1.5 per cent. During the recovery from the slump of the early 1990s (that is, from 1993 to 1997) employment in private services grew within private services at an average annual rate of 1.1 per cent.

Comparative study of employment in the public sector reveals an additional interesting pattern in the adjustment of the Finnish labour markets (see Figure 6). Thus, during the early 1930s there was no decline at all in employment in the public sector of the Finnish economy. In contrast, during the 1990s there was a decline in public sector employment which contributed to the severe drop in aggregate employment in Finland. Thus, employment in the public sector fell at an average annual rate of 2.0 per cent from 1991 to 1993 during a phase of extremely steep decline in private sector output and a collapse in labour demand. However, it must be remembered that the scope of the public sector was limited during the 1930s compared with the 1990s.

Wage dynamics provides information about the underlying channels of labour market adjustment during the depressions of the twentieth century in Finland.[21] There are numerous studies which have investigated the adjustment of wages in the leading industrialised countries during the great depression of the early 1930s. For instance, there is an empirical study based on a panel of 28 local labour markets for the period 1926–38 which reveals that the British engineering industry adjusted to the severe falls in demand during the 1930s mainly by cutting hours

21 The account of wage changes based on the aggregate empirical evidence masks the underlying adjustment of wages at the individual level of the economy. The turnover of jobs and workers can introduce spurious correlations and composition effects into the aggregate movements of compensations. These effects arise from the characteristic feature of labour markets that the composition of employed persons changes during business cycles. See Abraham, Katharine & Haltiwanger, John C., Real Wages and the Business Cycle, *Journal of Economic Literature*, vol. XXXIII, 1995:3, 1215–1264, for an evaluation of the literature which stresses the notion that the empirical evidence from micro-panel studies points towards an important role for composition bias generated by the differential cyclical sensitivities in the employment of workers with different attributes.

Figure 6 Labour input index for the public sector (1926=100)



Source: Statistics Finland: National Accounts.

of work rather than adjusting wages.[22] Bernanke and Carey take a broader view of the adjustment of labour markets and use data from 22 countries to investigate the role of wage stickiness in propagating the great depression of the 1930s.[23] They discover that nominal wages adjusted rather slowly to falling prices, and that the resulting increases in real wages depressed the output of the countries' economies.

The comparison which follows focuses on the manufacturing industries of the Finnish economy, because the consistent indices of real and nominal wages are available for that particular segment of the Finnish economy.[24] The focus on manufacturing industries provides an incomplete picture of the adjustment channels of labour markets. The role of manufacturing industries was more limited during the 1930s compared with the situation during the great depression of the 1990s. The number of establishments in the manufacturing sector was 3 773 in 1930 and the number of persons employed was 144 931 at the same time.[25] This means that the average size of a Finnish industrial manufacturing establishment was in fact quite small during the early 1930s (that is, the average size of establishment measured by the number of employees was 38), which may have facilitated the

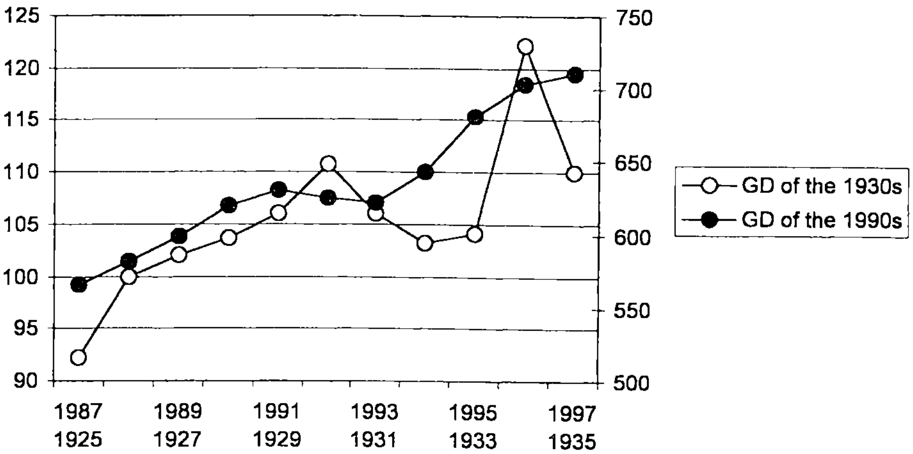
22 Hart, Robert A., Hours and Wages in the Depression: British Engineering, 1926–1938, *Explorations in Economic History*, vol. 38, 2001:4, 478–502.

23 Bernanke, Ben S. & Carey, Kevin, Nominal Wage Stickiness and Aggregate Supply in the Great Depression, Working Papers, 5439. Cambridge (MA): National Bureau of Economic Research 1996.

24 See, for instance, Björgum, Jorunn & Bogefeldt, Christer & Kalela, Jorma, Krisen og arbeiderbevegelsen, in *Krisen och Krispolitik i Norden Under Mellankrigstiden*. Mötesrapport, Nordiska Historikermötet i Uppsala 1974. Uppsala: Almqvist & Wicksell 1974, for a comparison of the labour markets in Nordic countries during the 1930s. The decline in real wages in Swedish manufacturing industries happened at about the same rate compared with Finland during the early 1930s. In contrast, there was no decline in real wages in Norway at the same time.

25 *Suomen taloushistoria 3: Historiallinen tilasto* [Finnish economic history 3: Historical statistics], ed. Kaarina Vattula, Helsinki: Tammi 1983, 120.

Figure 7 Real wage index for Finnish manufacturing industries (1926=100)



Source: Statistics Finland: National Accounts.

downward adjustment of wages at the plant level of the Finnish economy. Moreover, manufacturing was on average an expending sector of the Finnish economy during the 1920s. The pattern of events in the 1920s indeed offers a sharp contrast to that in the 1980s, which showed a continuous decline in the proportion of manufacturing industries. In particular, this aspect of structural change may be linked to the rapid rebound of the manufacturing industries' demand for labour after the great depression of the early 1930s.

The focus on manufacturing industries further reduces the importance of the characteristic feature of underlying differences in the adjustment of wages across industries and occupations during the great depression of the 1930s. A fairly well-known example concerns the way civil service salaries moved during the 1930s. Thus, there was only a moderate fall in civil servants' nominal salaries during the early 1930s. The index of civil servants' nominal salaries declined from 1166 in 1930 to 1100 in 1933.[26]

The pattern of adjustment in terms of real wages can be summarised as follows. During the 1990s there was a moderate fall in real wages in the manufacturing industries (see Figure 7). However, during the depression of the 1930s there was a severe fall in real wages which helped to maintain employment despite the collapse in labour demand.[27] In other words, real wages decreased in response to rising unemployment during the 1930s, as ought to be the case according to most theories of wage-setting. The timing of employment and wage fluctuations in manufacturing industries means that this line of thinking supposes that there were

26 *Suomen taloushistoria 3*, 459.

27 See Kalela, Jorma, *Pulapolitiikkaa: Valtion talous- ja sosiaalipolitiikka Suomessa lamavuosina 1929–1933* [The depression policy: The economic and social policy in Finland in the years of the depression, 1929–1933]. Studies, 13. Helsinki: Labour Institute for Economic Research 1987, for a study that documents the same pattern. See Forsman, Pentti, Pulapolitiikka – taasko ajankohtainen? [The depression policy – actual again?] *Kansantaloudellinen aikakauskirja* [The Finnish Economic Journal], vol. 84, 1988:2, 166–172, for a discussion.

lags in the effect produced by falling real wages on the demand for labour resources during the slump of the early 1930s. This supposition is consistent with the occurrence of adjustment costs associated with the hiring of employees at the plant level of the Finnish economy.

The pattern of the adjustment in labour markets means that real wages were definitely more procyclical by nature during the 1930s compared with the situation in Finnish manufacturing industries in the 1990s. In fact this observation is consistent with the conclusion that there was more room for the immediate effects of demand and supply factors to operate in wage-setting because of the absence of institutional regulations and rigidities during the 1930s. In particular, the huge increase in real wages in 1934 (that is, almost 20 per cent) can most likely be explained by the favourable effects of devaluation which made possible a strong rebound in aggregate economic activity (as reported in Table 2).

Clearly, the two depressions of the twentieth century were entirely dissimilar in terms of the nominal wage adjustment of the Finnish labour markets (see Figure 8). During the 1990s there was no decline in nominal wages at all in the manufacturing industries. This is in sharp contrast to the deep cuts in nominal wages which had been facilitated in the 1930s by the decentralised and unregulated nature of the labour markets.[28] The decline in nominal wages in the early 1930s cannot be fully explained by the fact that the process of deflation was at work at the same time. This deflation was affected in a drop in the cost-of-living index of the Finnish economy from 115 in 1930 to 100 in 1933.[29] The empirical evidence supports the conclusion that the deep cuts in nominal wages in the 1930s made possible the severe reduction in real wages which played an important role in the adjustment of labour markets in the manufacturing industries.[30]

During the great depressions of the 1930s and 1990s there was a rise in the level of labour productivity in the Finnish economy (see Figure 9). In particular, the standstill in labour productivity from 1931 to 1932 (and from 1990 to 1991) can be explained by "labour hoarding" during the initial phases of the great depressions. The rise off labour productivity to a higher level is in line with Joseph A. Schumpeter's theoretical concept of "creative destruction", so-called, according to which economic slowdowns is a time of "cleansing", during which outdated or unprofitable techniques are pruned out of the production system.[31] In other words, recessions tend to revitalise the economy, by virtue of the fact that

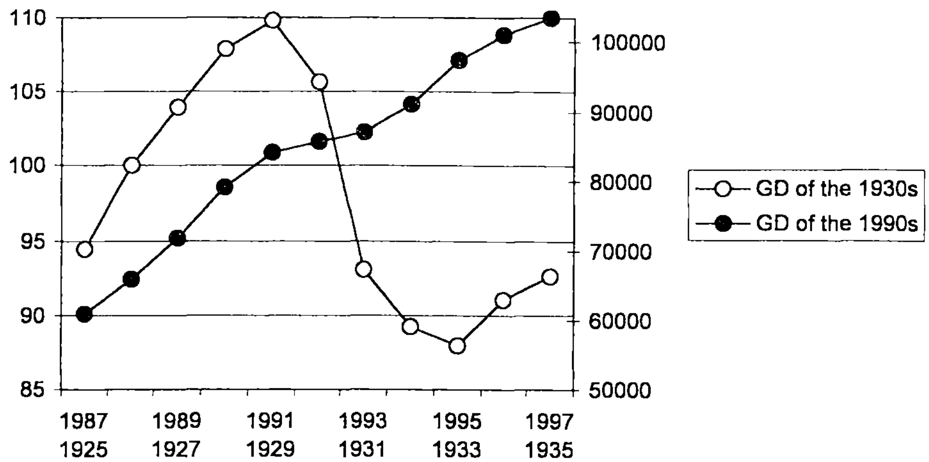
28 A study by Fregert, Klas, The Great Depression in Sweden as a Wage Coordination Failure. *European Review of Economic History*, vol. 4, 2000:3, 341–360, provides a detailed analysis of sticky nominal wages in Sweden during the depression of the 1930s. In particular, Fregert argues that the depression of the 1930s in Sweden is compatible with a coordination failure in wage setting, as first suggested by John Maynard Keynes.

29 *Suomen taloushistoria 3*, 459.

30 For an analysis of nominal wage dynamics in the United States from 1820 to 1860, see Margo, Robert A., *Wages and Labor Markets in the United States, 1820–1860*. Chicago: The University of Chicago Press 2000. The observation is that nominal wages lagged behind changes in prices.

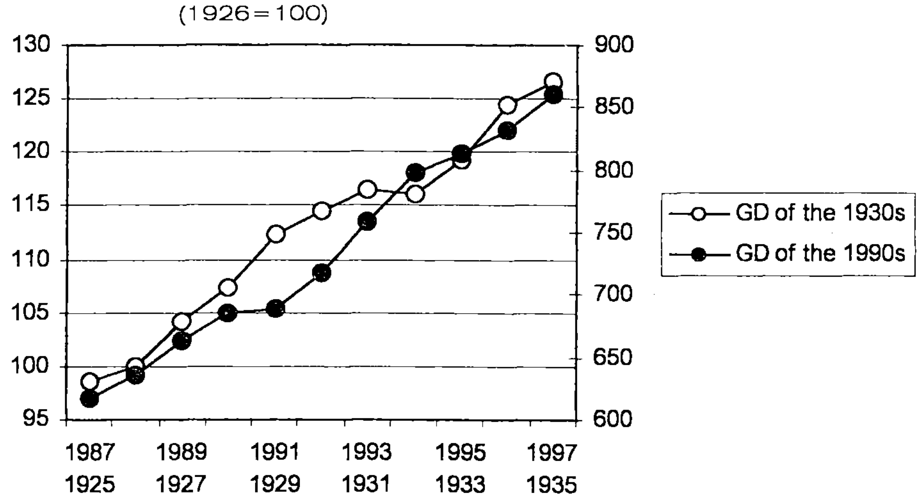
31 Schumpeter, Joseph A., *Capitalism, Socialism, and Democracy*. Harvard: Harper and Row 1942. See Caballero, Ricardo J. & Hammour, Mohamad L., The Cleansing Effect of Recessions, *The American Economic Review*, vol. 84, 1994:5, 1350–1368; and On the Timing and Efficiency of Creative Destruction, *The Quarterly Journal of Economics*, vol. CXI, 1996:3, 805–852, for the models of restructuring during the times of economic slowdown. See Maliranta, Mika, Productivity Growth and Micro-level Restructuring. Finnish Experience during the Turbulent Decades, Discussion Papers, 757. Helsinki: The Research Institute of the Finnish Economy 2001, for plant-level evidence about the sources of productivity growth during the great slump of the 1990s in Finland.

Figure 8 Nominal wage index for Finnish manufacturing industries (1926=100)



Source: Statistics Finland: National Accounts.

Figure 9 The level of labour productivity of the Finnish economy (1926=100)



Source: Statistics Finland: National Accounts.

productivity-improving measures are introduced because of their temporarily low opportunity costs during times of economic slowdown.

The evolution of labour productivity during Finland's great economic slump of the 1930s contrasts sharply with the earlier empirical evidence from the United States. In other words, during the great depression of the 1930s there was a drastic decline in the level of labour productivity in the United States.[32] However, as a

32 Ohanian, Lee. E., Why Did Productivity Fall so Much during the Great Depression?, *The American Economic Review*, vol. 91, 2001:2, 34–38.

consequence of the depressions there was no permanent acceleration of the rate at which labour productivity grew in Finland. For instance, the growth rate of labour productivity has not been particularly strong during the late 1990s.

Conclusions

Comparison of the Finnish labour markets indicates that the increase in employment was definitely much more rapid during the rebound from the great depression of the 1930s than during the recovery from the great slump of the 1990s. The same underlying pattern of adjustment in the labour markets of the Finnish economy applies to the manufacturing and construction industries.

However, there are certain important differences across industries. In particular, the collapse of employment in the private services sector was more severe during the 1990s, but the recovery took place at about the same rate. In addition, there was no decline at all in public sector employment during the 1930s, but such a decline did take place in the 1990s, thus contributing to the fall in aggregate employment in Finland.

The pattern of adjustment in terms of real wages reveals them to have fallen moderately in the manufacturing industries during the 1990s. However, during the depression of the 1930s there was a severe decline in real wages which helped to maintain employment despite the collapse in labour demand. Of course, another interpretation of the decline in employment during the early 1930s could be based on the Keynesian thinking that stresses the role of efficient demand.[33]

The two great depressions of the twentieth century in Finland were entirely dissimilar in terms of nominal wage adjustment. During the 1990s, nominal wages in manufacturing industries did not decline at all. This is in sharp contrast to the deep cuts in nominal wages during the 1930s facilitated by the decentralised and unregulated nature of labour markets during an era of deflation. The restructuring of the Finnish economy led to a rise in the level of labour productivity during the great depressions, which is in line with the process of so-called "creative destruction" in times of economic slowdown.

33 Keynes, John Maynard, *The General Theory of Employment, Interest and Money.* London: Macmillan 1936.