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Working Paper

Unintended convergence: how Finnish unemployment reached the European level

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6 • 2004

Erkki Koskela – Roope Uusitalo
Research Department
18.2.2004

Unintended convergence – how Finnish unemployment reached the European level

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The views expressed are those of the authors and do not necessarily reflect the views of the Bank of Finland.

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Unintended convergence – how Finnish unemployment reached the European level

Bank of Finland Discussion Papers 6/2004

Erkki Koskela – Roope Uusitalo
Research Department

Abstract

Finnish unemployment rose in the early 1990s from 3% to 18% in just four years. It has since fallen back to the average European level, being 9.0% in January 2003. In this paper, we describe the shocks leading to this unforeseen increase in unemployment. We then discuss and research the role of labour market institutions in the adjustment process that has brought unemployment back to a 'normal' level. We argue that these institutions cannot be blamed for the increase in unemployment, but that more flexible institutions could have led to a more rapid fall in unemployment once the Finnish economy began to recover.

Key words: economic crisis, labour market institutions, unemployment

JEL classification numbers: E32, J51, J64

Tahaton lähentyminen: miten suomen työttömyys saavutti eurooppalaisen tason

Suomen Pankin keskustelualoitteita 6/2004

Erkki Koskela – Roope Uusitalo
Tutkimusosasto

Tiivistelmä

Suomen työttömyys kasvoi 1990 luvun alkupuolella 3 prosentista 18 prosenttiin neljässä vuodessa. Sen jälkeen työttömyys on vähentynyt keskimääräiselle eurooppalaiselle tasolle ja oli 9 % tammikuussa 2003. Tässä keskustelualoitteessa kuvataan sokkeja, jotka johtivat tähän huimaan työttömyyden kasvuun. Sen jälkeen pohditaan ja tutkitaan työmarkkinainstituutioiden roolia sopeutumisprosessissa, joka on palauttanut työttömyyden eurooppalaisen keskitasolle. Työssä päädytään siihen, että työmarkkinainstituutioita ei voi syyttää työttömyyden kasvusta 1990 luvun alussa, mutta että joustavammat työmarkkinainstituutiot olisivat voineet johtaa nopeampaan työttömyyden vähenemiseen Suomen talouden alkaessa elpyä.

Avainsanat: talouskriisi, työmarkkinainstituutiot, työttömyys

JEL-luokittelu: E32, J51, J64

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1 Overview

Development in Finnish unemployment during the past twenty years is an exceptional episode in the modern economic history. For most of the 1980s, the unemployment rates were around five percent, similar to the other Scandinavian countries, but much lower than in the continental Europe. In just four years, beginning in 1991, the unemployment rate hiked to close to twenty percent. Increases of this magnitude within such a short period had not occurred in the OECD countries after the Second World War.

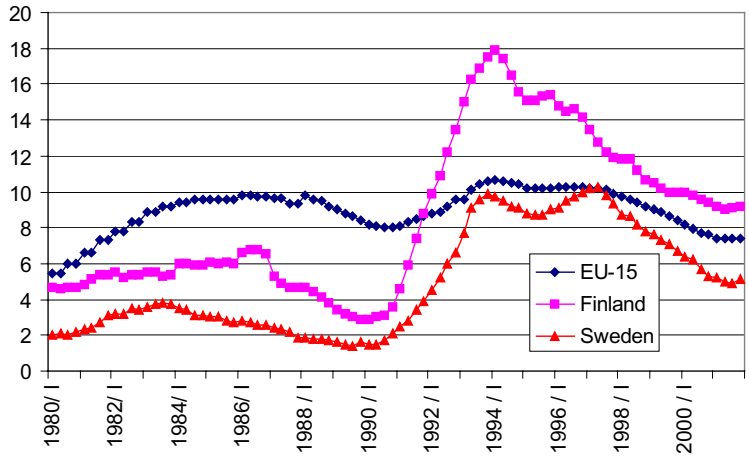
The recovery was almost equally remarkable. The average growth rate of the Finnish economy during the period 1994–2001 was 3.3, the second highest in the EU countries after Ireland. Despite the fast growth, the unemployment rate has remained high when compared to the pre-recession level. The latest figures at the time of writing of this report show that the seasonally adjusted unemployment rate was 9.0% in January 2003.

The Finnish economy experienced several adverse economic shocks in the early 1990's. These shocks were partly unavoidable developments in the international economy, such as the collapse of exports to the Soviet Union, the fall in the terms of trade, and the rise in the interest rates in Europe after the German unification. Domestic economic policies also contributed to the adverse development. Real interest rose to close to 15% and real asset prices fell creating problems first to the highly indebted private sector firms, and, eventually, to the banking sector. Due to adverse macroeconomic shocks job destruction was rapid during the first years in the 1990's. The inflow to unemployment rose by 60% compared to the pre-recession level.

The recession in the 1990's was also associated with a rapid re-structuring of the economy. The recovery in the sectors with largest declines in employment during the recession was slow compared with the rapid growth in some new service sectors. This created a large mismatch problem in the labour market. As we will argue later on, the labour market institutions cannot be blamed for the decline in employment in the early 1990's, but some institutional features, particularly the unemployment benefit system, clearly slowed the adjustment by lessening the incentives for regional and occupational mobility. This is also reflected in the large increase in the duration of unemployment during the 1990's.

It is perhaps most informative to start with a picture that puts the Finnish unemployment in perspective by comparing the Finnish unemployment rates to the EU average. It is also natural to compare the Finnish experience to the Swedish one, as the two neighbouring countries have rather similar labour market institutions and faced partly similar shocks.

Figure 1. **Standardized unemployment rates in Finland, Sweden and EU-15**



Source: OECD Main Economic Indicators. Before 1988 EU-12 from OECD Employment Outlook.

Figure 1 presents the seasonally adjusted standardized unemployment rates in Finland, Sweden and EU-15 since 1980. The figure shows that the Finnish (and Swedish) unemployment rates were much below European average for most of the 1980s. The low unemployment rate in Scandinavian countries was often cited as evidence on the success of the Scandinavian model with corporatist wage-setting. For example, Layard, Nickell and Jackman (1991) argue that coordinated bargaining moderates wage growth and decreases unemployment by internalising the employment effects of wage bargains. But as seen in Figure 1 the Scandinavian model appears to have worked less well during the 1990s. Unemployment rates increased rapidly in both Finland and Sweden, and followed very similar time pattern in the late 1980s and early 1990s. In Finland, unemployment rate started to increase in 1991, reached the peak of 18% in 1994, and then began a rapid decline that lasted until 2001.

In this article we provide a detailed description of the events, and come up with some explanations for the exceptional development. The rest of the article is organized as follows. We start in section 2 by describing the macroeconomic development leading to the crisis in the early 1990s. This is followed in section 3 by an analysis of the structural changes during, and perhaps, because of the recession. The latter part of the paper is more micro-oriented, looking first, in section 4, at the effects of various labour market institutions on the level of unemployment. In section 5, we examine the changes in the duration of unemployment. Finally, section 6 summarizes our findings.

2 Economic crisis in the early 1990s

The record high increase in unemployment in the early 1990's was caused by large macroeconomic shocks, both international and domestic. The roots of the 1990's crisis can be traced to the overheating period in the late 1980's, so we first characterize the changes that occurred in the late 1980's.

2.1 The 1980's boom[1]

In the first half of the 1980's the performance of the Finnish economy, measured in terms of economic growth, was relatively smooth with an average growth rate slightly above the OECD-European rate. This smooth development changed around 1986–1987. Growth accelerated significantly and the economy entered a period of overheating. The rate of unemployment declined from the approximately 4 percent of the first half of the decade to about 2.5–3 percent at the end of 1989. Several factors were behind this change. Without trying to quantify their relative significance, these can be classified into the following categories: (i) Financial market deregulation, including both the abolition of regulation of domestic bank lending rates and the lifting of restrictions on private borrowing from abroad, led to an explosion of bank credit and large capital inflows. (ii) A sharp increase in the terms of trade as a result of the fall in energy prices and the rise in world market prices of forest products. (iii) Fiscal policy did not appear to counteract the fast growth. On the contrary, public consumption and investment contributed positively to it.

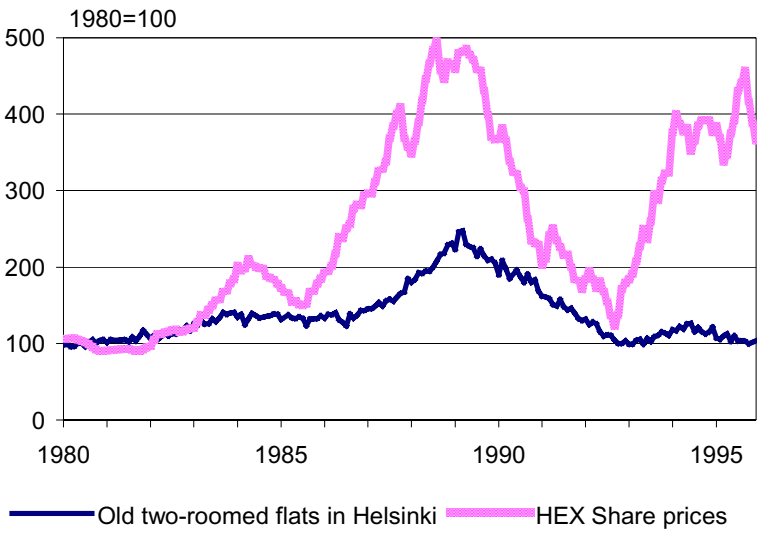
The process of financial deregulation in the second half of the 1980s, was problematic in several respects. First, its timing coincided with the upswing of the business cycle. Second, rules and practices in prudential regulation and bank supervision were left unchanged. Third, the tax system, which had favored debt financing of investments, was not reformed. Finally, monetary policy tried to maintain some tightness in the wake of the boom, which increased both the real and nominal interest rates. In the late 1980s, nominal interest rates were on average 6 per cent higher in Finland than eg in Germany. This, and the investors' belief in the fixed exchange rate, contributed to the capital inflow in foreign currency terms.

[1] See Honkapohja and Koskela (1999) for a detailed description of the overheating and the onset of the crisis.

2.2 Big negative shocks

The end of the boom came in 1990, when a rapid process towards bust started. Economic activity, as measured by the growth rate of the real GDP, declined extremely rapidly from a positive growth of 5.4% in 1989 to a negative growth of 6.5% in 1991. Thereafter, the decline continued, though at a slower pace through 1992 and most of 1993. While all domestic components of the aggregate demand contributed to the decline in economic activity, a particularly important feature was the major decline in investment activity. Also price inflation slowed down significantly. The emergence of a major banking crisis was a notable feature of the bust process. Rapidly falling asset prices (see Figure 2) and bankruptcies of firms led to credit losses, and the government had to provide public support for banks. The banking crisis was an episode of major financial restraint. Financial factors strongly accentuated both the rise and the fall in the aggregate demand.

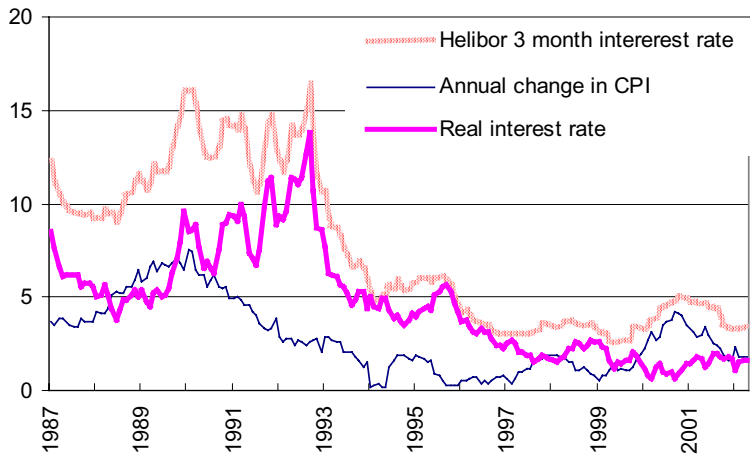
Figure 2. **Real asset prices**



Both international and domestic factors contributed to the onset of the crisis. These factors can be classified into 'bad luck and bad policies'. *First*, the Finnish exports to the market economies declined as a result of slow international growth, loss in the price competitiveness of the Finnish industry, and the fall in the terms of trade. With the collapse of the Soviet Union, the Finnish exports and imports to Russia dropped in 1991 by 70 percent almost overnight. *Second*, the German unification raised the interest rates in Europe as a result of loose fiscal and tight monetary policies in Germany. Higher interest rate caused a big negative shock to the highly indebted private sector. *Third*, monetary policy turned very restrictive in early 1989 after the revaluation of the Finnish markka. The defense of the

markka against speculative attacks increased nominal interest rates, and when the inflation rate decreased at the beginning of the recession, the real interest rate increased dramatically. (See Figure 3) The fixed exchange rate was eventually abandoned with the devaluation of the Finnish markka in November 1991 and its floating in September 1992. Depreciation of the currency improved the price competitiveness of the export sector but the companies that had large debts in foreign currency suffered large losses.

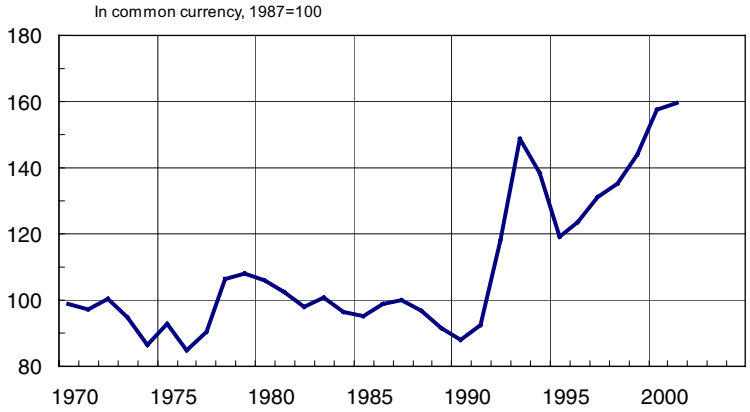
Figure 3. **Real interest rate**



2.3 Resumed growth

The Finnish economy turned around in late 1993. Initially this recovery was mostly concentrated in the export industries that benefited from the depreciation of the Finnish markka. Notwithstanding rapid growth during the period 1994–2001 – 3.3% and the second highest in the EU countries after Ireland – inflation has remained low and external competitiveness has increased rapidly (see Figure 4).

Figure 4. **Relative unit labor costs in 14 competitor countries /Finland**



Source: Bank of Finland

The low inflation and strong external competitiveness have been the result of two things: First, the European new architecture of inflation targeting has changed the relationship between economic growth and inflation. Second, the centralized wage bargaining, prevailing in most years, has moderated wage formation and, thereby, contributed to higher competitiveness of the manufacturing sector. Moreover, in Spring 1995 a new government was formed and from the start it formulated a program of fiscal consolidation that covered its term in office.

All in all, improved monetary credibility in the form of inflation targeting, the dominance of centralized bargaining and the systematic program of fiscal consolidation clearly played a role in the turnaround and resumption of economic growth in Finland in the mid-1990's.

3 Structural changes after recession

During just four years of the economic crisis, 450 000 jobs were destroyed. Total employment declined by 18 percent from its 1990 level. In the first quarter of 1994, employment was slightly below 2 million, at its lowest level since 1949. After 1994, employment has grown steadily, by approximately 2 percentage points each year. By 2001, total employment has grown by 313 000, or by about two thirds of the decline in the early 1990s.

During the recession some sectors suffered much more than others. Construction industry was hit particularly hard; half of the jobs in construction disappeared between 1990 and 1994. Employment declined by approximately 25% also in manufacturing, retail trade, hotels and restaurants, and financial

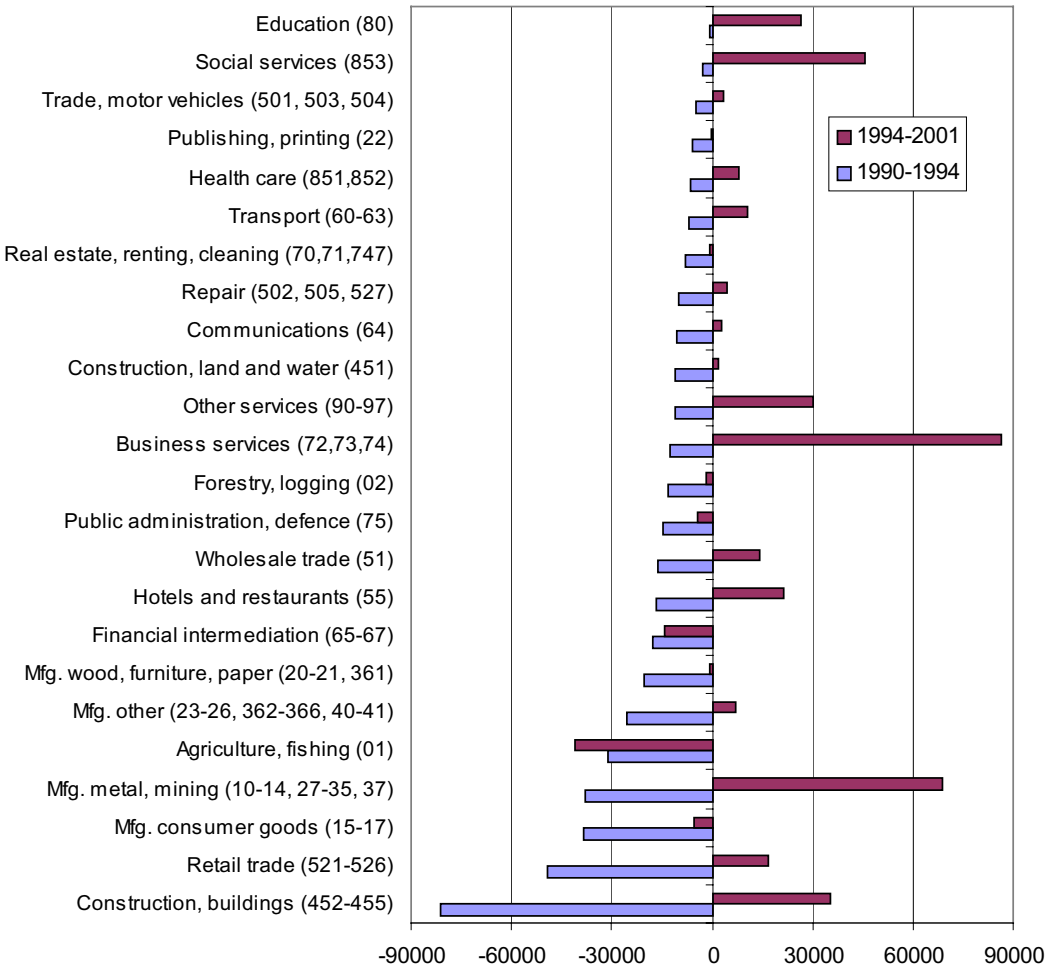
services. Figure 5 shows the contribution of different sectors to the total decline in employment.

Total employment increased rapidly during the recovery after 1994. The largest increases in employment occurred in the business services and in the manufacturing of equipment. The electronics industry was responsible for most of the growth in manufacturing; other manufacturing sectors experienced only modest employment increases. The service sector, particularly business services, education and social services, grew rapidly. After 1994, employment declined substantially only in agriculture and financial intermediation. Decline in the agriculture continues a long trend that had begun already in the 1960s. Decline in the financial intermediation is mostly due to the restructuring of the banking sector after the financial crisis.

As Figure 5 indicates, the newly created jobs were rather different from the jobs lost in the early 1990s. The most rapidly growing service sectors had only experienced small employment declines during the recession. Of the sectors that experienced large job losses during the recession, employment returned close to the pre-recession level only in the manufacturing of equipment. Less than a half of the employment decline in construction, and only a third of the employment decline in retail trade, was matched by subsequent employment growth after 1994.

The rapid structural change in employment created an increasing mismatch problem in the labour market. Unemployed ex-construction workers were poorly equipped to find jobs in the growing service sector. Since skill-requirements were often higher than the education level of the unemployed, the differences in unemployment rates across groups with different levels of education grew rapidly. The unemployment rate for those with only compulsory education exceeded 20 percent while the unemployment rate for those with university education remained around 3–4 percent. Uneven regional development also contributed to the mismatch problem. After the recession the employment growth was rapid in the capital region and Southern Finland, and much slower in the high unemployment regions in Northern and Eastern Finland.

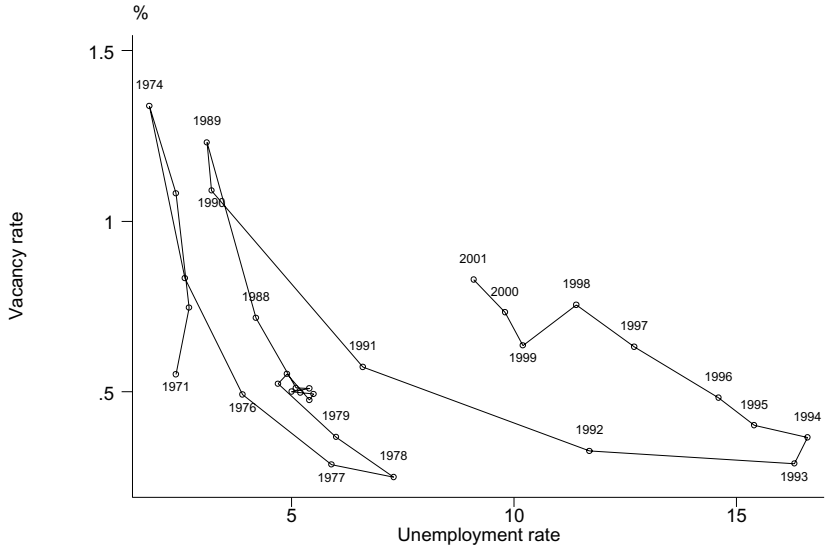
Figure 5. **Change in employment by industry during the recession and recovery**



Source: Own calculations based on data from the Labour Force Survey. Industry classification according to ISIC 2-3 digit classification as used in the LFS.

The clearest indication of growing mismatch is the Beveridge-curve that shows the relationship between the unemployment rate and open vacancies in the employment offices. Figure 6 describes the Beveridge-curve for the period 1971-2001. It shows how most of the variation in the unemployment rate is related to business cycle (movements along the curve in north-west – south-east direction). However, the curve has also clearly moved out. Eyeball econometrics reveals two clear outward shifts in the curve. The first occurred in late 1970s and the other much larger shift in the early 1990s. By the year 2000, the vacancy rate is back to its level in 1988, but the unemployment rate is about six percentage points higher.

Figure 6. **Beveridge curve**



Source: Finnish Labour Review 1/2002

4 Labour market institutions

4.1 Labour market institutions and unemployment

It has often been suggested that the low unemployment rate in the US is due to dynamic and flexible job markets, while the high European unemployment results from rigid and inflexible markets. An important issue is then to ask: which features of labour markets do generate unemployment and which do not matter?

Nickell (1997) classifies labour market institutions into the following categories: (i) employment protection and labour standards, (ii) benefit replacement ratio and benefit duration, (iii) active labour market policies, (iv) union density and coverage of bargaining agreements, (v) co-ordination of wage bargaining, and (vi) the tax wedge. In our working paper (Koskela and Uusitalo, 2003) we examine these institutions in detail. However, many institutional features are rather similar in Finland than in many other European countries. For example, taxes or job protection may have something to do with unemployment, but the effects are likely to be similar than in many other European countries. We have little to add to the discussion on the effects of these institutions, and refer the reader to the article by Nickell (2002) in this book. Here we concentrate on the institutions that differ from the other European countries and which we believe are most important for the Finnish case. Therefore, we start with a description of the

unemployment benefits, continue by discussing wage bargaining system, and conclude with some remarks on the active labour market polices.

4.2 Unemployment benefits and unemployment

4.2.1 The current benefit system

Unemployment benefits system in Finland consists of labour market subsidies and unemployment allowances. Unemployment allowance can be further classified to the basic allowance paid by the state through the Social Insurance Institution (UA) and the earnings related allowance paid by the unemployment funds (UI).

In order to qualify for an unemployment allowance the unemployed must have been employed for 43 weeks during the past two years. Earnings-related allowance also requires that the unemployed worker has been a member of an unemployment insurance fund for 10 months prior to unemployment.

Unemployment allowance can be received for 500 days. An exception is made for the unemployed who turn 57 before the benefits expire. These unemployed are entitled for an extension of benefits until the age of 60. The age limit for the benefit extension was 55 up to 1997 and will be raised to 59 in 2005. The extended duration of unemployment benefits for the older workers is popularly known as unemployment pension tunnel. The unemployed who lose their jobs after age of 55 can receive unemployment and unemployment pension benefits up to the retirement age. These unemployed have minimal incentives to search for work, and, consequently, a job loss after age of 55 most often leads to a permanent exit from the labour market (Hakola and Uusitalo, 2001).

Those unemployed who do not meet the employment condition, or who have already received unemployment allowance for 500 days, can receive a labour market subsidy from the state. The labour market subsidy is paid, subject to the means test, for an unlimited period. Both the labour market subsidy and the basic allowance are currently 23 euro per day (2003). Dependent children increase the benefits. The earnings-related unemployment allowance consists of a basic amount equal to the basic allowance, and of an earnings-related part, which is 45% of the difference between previous daily earnings and the basic allowance. There is no ceiling on the unemployment benefits, but the earnings exceeding 2072 euro per month increase the allowance by only 20% of the exceeding amount. In practice, this implies that, for the median income earner (2142 e/month), the gross replacement rate is 55%. Since benefits increase by only a

fraction of the previous earnings, replacement rate decreases with earnings. For someone earning twice the median income, the gross replacement rate is 38%.[2]

Unemployment benefits are taxable income just as wages and salaries. Due to the progressive taxation net replacement rates are higher than gross replacement rates. Accounting for the effect of the income taxes increases the replacement rate for the median earner from 55% to 64%. Other earnings-related benefits such as housing allowance further increase net replacement rates.

4.2.2 Evidence on the employment effects of unemployment benefits

The effect of the unemployment benefits on re-employment has been subject to a number of studies during the past ten years. Below we survey a selective sample of the Finnish studies.

Kettunen (1993) uses data from the Ministry of Labour by drawing a random sample of 2077 unemployed from the flow into unemployment during 1985. He finds that a higher replacement ratio lowers the exit hazard and that the effect is larger for the non-members of the UI-funds. He also finds that there was a peak in the hazard rates after 20 weeks of unemployment when unemployment benefits were reduced by 20%. Another early study worth mentioning is by Lilja (1993). She estimates competing risk models of exit from unemployment based on data from Finnish Labour Force Surveys 1984–1987. She does not calculate the replacement rates, but estimates the model separately for the recipients of unemployment insurance (UI) and basic unemployment allowance (UA). The hazard rate for the UI-recipients is twice as high as for the otherwise similar UA-recipients. As the UI-recipients have generally much higher replacement rates this suggests that other factors vary considerably across the two groups.

Holm, Kyyrä and Rantala (1999) attempt to improve the estimates by using forward-looking measures of replacement rates. As unemployment periods are often associated with significant wage decreases, the replacement rates based on the previous earnings may overstate the gains from re-employment. They estimate expected post-unemployment wages based on data on those who exit from employment and show that the expected gain of employment increases considerably the likelihood of employment.

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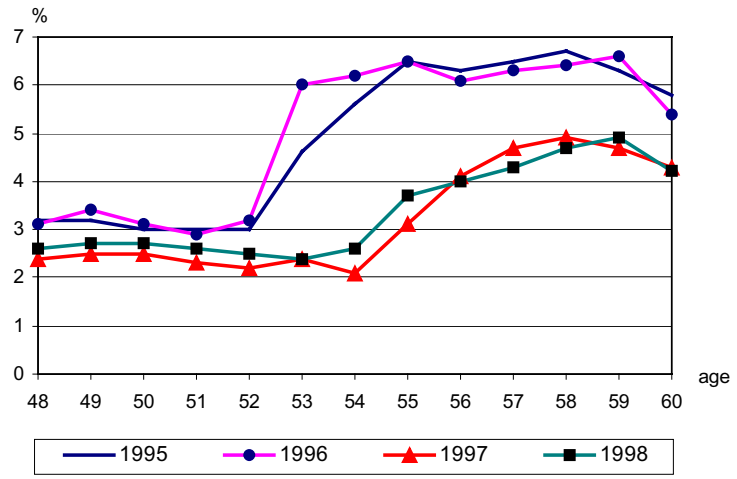
[2] According to the original Unemployment Security Act in 1984, the earnings-related unemployment benefits were reduced by 20% after 100 days of unemployment. In 1987, the rule was changed so that the benefits would be reduced by 12.5% after 200 days. In 1989, the paragraph was abolished, and since then the earnings related benefits have been paid without a reduction up to 500 days.

A common problem in the existing Finnish studies is the lack of convincingly exogenous variation in the replacement rates. The variation in the replacement rates is driven by the variation in previous earnings, and is hence correlated with a number of factors that may influence the re-employment probabilities.

Evidence on the effect of the duration of unemployment benefits is somewhat more convincing. Rantala (2002) studies the effect of the change in the age limit of the 'unemployment pension tunnel' in 1997. The change effectively reduced the maximum benefit duration to 500 days for workers who were between 53 and 54 years old. Prior to the reform they could keep receiving unemployment benefits up to the retirement age. According to Figure 7 – which shows the 'transition rates' to unemployment by age between 1995 and 1999 – the unemployment risk increases considerably at the beginning of the unemployment tunnel. Before the reform, the unemployment risk doubled from 3 to 6 percent when the workers turned 53. After the reform the unemployment risk for the 53–54 -year-olds was similar than for the younger workers. In 1997–1998, the unemployment risk increases only after the workers turn 55, and meet the new age criteria.

Figure 7. **Transitions to unemployment by age**



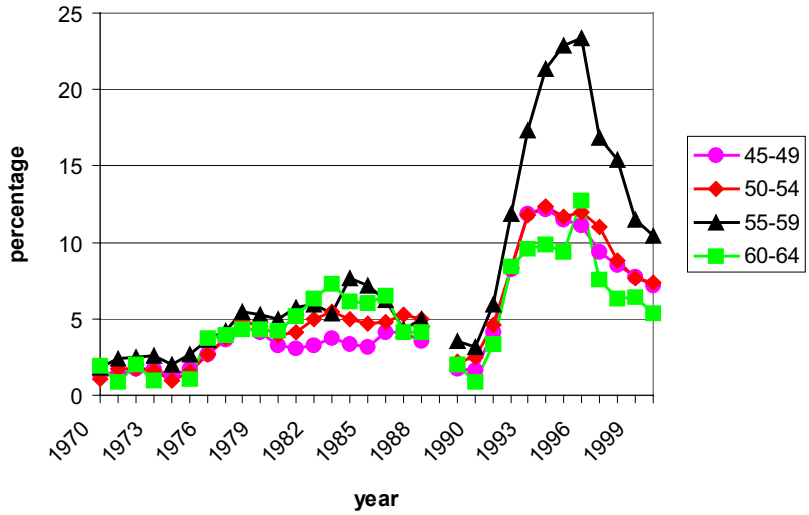
Source: Rantala (2002)

There are important interactions between unemployment benefits and economic shocks. Hakola and Uusitalo (2001) show that the incentives created by the generous unemployment benefits for the older unemployed had little effect on the unemployment rates before the recession. As seen in Figure 8, the unemployment rates for the 55–59 -year-olds were close to the unemployment rates of the younger groups up to the early 1990s. The generosity of benefits suddenly started to matter during the recession. The unemployment rates of 55–59 -year-olds

increased to over 20 percent, twice as high as for the younger age groups. Similar interaction effects between shocks and institutions can be found also in micro cross-section data. Using a linked worker-firm panel, Hakola and Uusitalo (2001) show that the effect of the unemployment tunnel eligibility on displacement probability is much larger when the firm faces a negative demand shock.

Extended unemployment benefits for the older workers are responsible for a large share of aggregate unemployment. In 2000, one third of all registered unemployed (including those on unemployment pension) were over 55. The effect on long-term unemployment is even larger; in 2000, two thirds of long-term unemployed were over 55.

Figure 8. **Unemployment rates by age**



Source: Hakola & Uusitalo (2001)

A number of studies on the effect of the benefit duration focus on the hazard of employment around the benefit exhaustion date. For example, Meyer (1990) and Katz and Meyer (1990) note that, in the US, the probability of leaving unemployment rises just prior to when the benefits elapse. Carling et al (1996) find a similar but smaller effect using Swedish data. They also note that the exit rates to various training programs rise dramatically around the time of the benefit exhaustion.

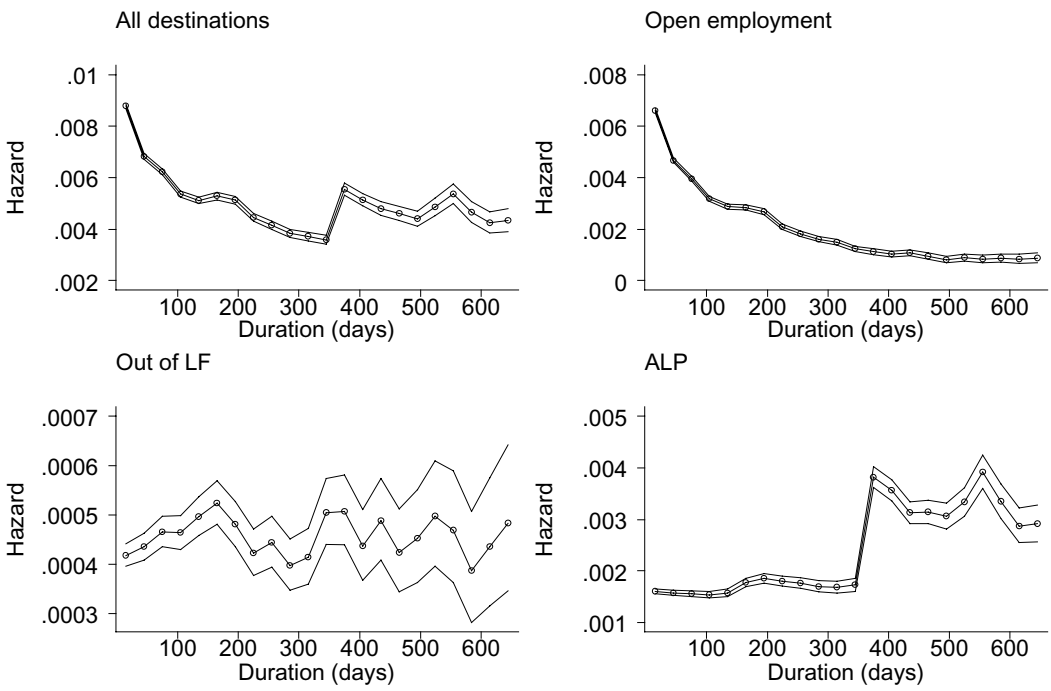
To examine the question we constructed a data of all unemployment spells experienced by 350 000 individuals drawn from the Employment Statistics of

Statistics Finland.[3] We select all new entrants to unemployment between 1995 and 1998. Of the 104 358 unemployment spells, 57 percent ended in re-employment. Some 30 percent of the unemployed entered training programs or subsidized jobs, and 9 percent moved out of the labour force.

In Figure 9, we draw empirical hazard rates separately by the exit route, treating other exits as censored observations. The top left corner includes exits to all destinations, shows two clear spikes in the hazard rate. The first is at 360 days and the second right after the maximum duration of the benefits at 500 days. However, when we look only at the exits to the open employment, these spikes disappear altogether! The hazard to the open employment shows negative duration dependence, but no effects of the benefit exhaustion. There is no clear pattern in the exits from the labour force. Finally, the lower right corner provides an explanation for the spikes in the hazard. Most labour market programs are targeted for the long-term unemployed who have been unemployed for over a year. This shows as a big increase in the hazard at 360 days. Hazard of entering the labour market programs also grows around the benefit expiration date.

[3] Employment Statistics contain information from various registers and covers the entire Finnish population. The information on unemployment spells is based on administrative data on the dates when the unemployed were registered at the employment offices. In order to focus on the unemployed who risk losing their benefits after 500 days, we restrict the sample to the unemployed who are under 53 at the start of the unemployment spell, and who receive earnings-related unemployment benefits. Information on the benefits is based on tax records and was available for 1995–1998. We excluded some 10% of the spells because the reason of ending the spell was unknown. The spells that did not end by the end of 1999 were treated as censored.

Figure 9. **Hazard of exit from unemployment**



4.3 Unions and wage formation

As in other Scandinavian countries, the union density is high in Finland. The union density has increased rather steadily from the 1960's to the early 1990's. Pehkonen and Tanninen (1997) report that the union density was 22% in 1960, and has since then increased, reaching 82% in 1992. According to the Working Life Barometer, the union density peaked at 86% in 1995 and has slightly declined during the latter half of the 1990's being 83% in 2001. One of the main reasons for increased union density is the increase in unemployment. Under a 'Gent-system' the unemployment insurance is organized around UI-funds administered by the unions and subsidized by the government. Membership is voluntary and the increase in the unemployment risk encourages workers to seek membership in the UI-funds. In most cases this is easiest to do by joining a union.

The wage bargains – containing an agreement on the general wage increase applied to all wages – are negotiated at the industry-level between the worker and the employer organizations. Collective agreements cover also non-union members in the sectors where at least half of the employers belong to an employer organization. In practice, this implies that 95 percent of the workers in Finland are covered by the union contracts.

Most bargaining rounds have started with negotiations between confederations of employer and employee unions, creating a high degree of co-

ordination in the individual union contracts. The union bargains have then been negotiated based on the wage increases agreed in the central agreement. There has been considerable variation in the degree of centralization between the different bargaining rounds. During the period 1969–2002, there have been seven bargaining rounds (1973, 1980, 1983, 1988, 1994, 1995, and 2000) when no central bargain was reached and bargaining occurred at the industry-level. Also even in the years when a central bargain was reached, not all unions accepted it.

Co-ordination in the union bargaining may moderate wage increases by internalising the cost of unemployment due to extensive wage increases. Calmfors (2001) summarizes the results of recent studies, which indicate that unemployment is lowest in countries where bargaining is most centralized. Given the variation in the degree of centralization between the different bargaining rounds, we can extend the previous analyses by examining the effects of the year-to-year differences in bargaining regimes within a country. With our data it is more natural to examine the effects of centralization on wage growth than on unemployment, and we report these results below.

As shown in the Table 1, the average bargained wage increases have been 1.8 percentage points lower during the centralized bargaining rounds. If one looks at the differences between centralized bargains with wide coverage (almost all unions accepting the central agreement) and decentralized bargains the difference is even greater, 4%. Controlling for the differences in unemployment and inflation at the time of wage negotiations does not alter the picture. The difference between central bargains and industry-level bargains is 3.3% and the difference between centralized bargains with wide coverage and decentralized bargains is 4.1%.

Wage drift, ie average wage growth that exceeds the bargained wage increases, may offset the wage moderating effects of centralized bargaining. According to figures in the rightmost column of Table 1, this has not been the case in Finland. On average, the nominal wage increases have exceeded the bargained wage increases by 4 percentage points, but the differences in nominal wage increases between the centralized and the industry-level bargains are approximately as large as the differences in the bargained wage increases.

Table 4.1 **Nominal wage increases by the level of wage bargaining**

Raw averages	**Number of cases**	**Bargained wage increase**	**Nominal wage growth**
Decentralized bargaining	7	6.5	10.1
Centralized bargaining (all)	27	4.7	8.9
Degree of centralization			
No coverage (decentralized)	7	6.5	10.1
Low coverage	3	8.4	13.3
Medium coverage	10	6.6	12.0
Wide coverage	14	2.5	5.1

Controlling for unemployment and inflation	**Number of cases**	**Bargained wage increase**	**Nominal wage growth**
Decentralized bargaining	7	7.7	12.2
Centralized bargaining (all)	27	4.4	8.1
Degree of centralization			
No coverage (decentralized)	7	7.3	11.8
Low coverage	3	7.1	10.6
Medium coverage	10	5.5	9.5
Wide coverage	14	3.2	6.7

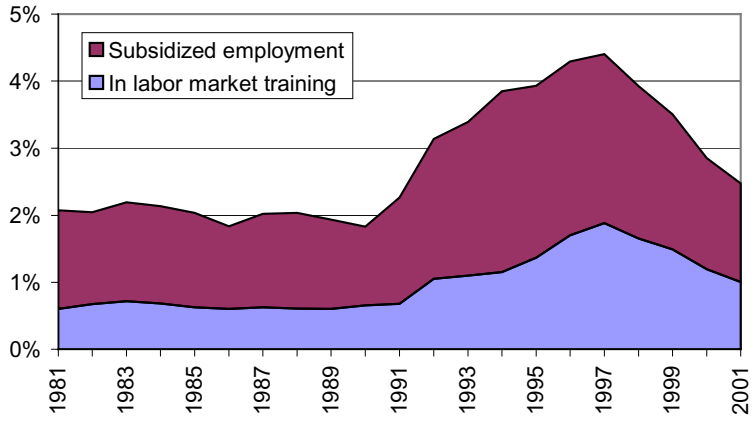
The numbers in the lower section of the table are based on a regression model of bargained wage increase (and nominal wage growth) on lagged unemployment and inflation rates and the dummies for the different bargaining regimes. Estimation period is 1969–2002 for the bargained wage increases and 1969–2000 for the nominal wage growth. Data on the degree of centralization, the bargained wage increases and the nominal wage growth are from Marjanen (2002). Unemployment and inflation rates are from Labour Force Survey and Consumer Price Index of Statistics Finland. In all estimated equations unemployment had a significant negative effect on both the bargained and the actual wage increases. The dummy variables for different bargaining regimes were highly significant in all estimated equations.

To conclude, the results using Finnish data lie in conformity with findings from cross-country data. The centralized bargaining moderates wage increases and, thereby, will decrease the equilibrium unemployment. Prime examples from the 1990's include national bargains in the recession years 1992 and 1993 when the wages were not increased at all. On the other hand, different rates of economic recoveries across industries lead to industry-level bargaining and somewhat higher wage increases in 1994 and 1995.

4.4 Active labour market policies

Figure 10 shows how the size of the active labour market programs has evolved during the past twenty years. In the 1980's the vast majority of programs were placements to subsidized jobs in the public sector. In the 1990's, the share of labour market training has increased. The total number of individuals in the different programs was highest in 1997 when more than 100 000 persons or more than 4% of the labour force were placed in active labour market programs. Simply adding the individuals in programs to open unemployment would increase the unemployment rate by 4%, but the calculation is not quite as simple because that some of these individuals are already classified as unemployed in the Labour Force Surveys.

Figure 10. **The share of the labour force in active labour market programs**



Source: Finnish Labour Review 1/2002

Most empirical Finnish studies on the effects of ALMPs have concentrated in estimating the employment effects of different programs using micro-level data. The results indicate that participation in training programs have, in general, improved labour market prospects. Hämäläinen (1999) finds that training programs have been beneficial for 80–90 percent of the participants, and Tuomala (2002) reports that labour market training has increased post-program employment probability and shortened the duration of unemployment. The results on the subsidized job programs are less encouraging. Tuomala (2002) finds that program participation has even reduced the probability of finding a job from open labour markets. Also Hämäläinen reports that subsidized jobs have been less effective than other labour market programs, but notes that placements to the

private sector improve labour market opportunities more than placements to the public sector.

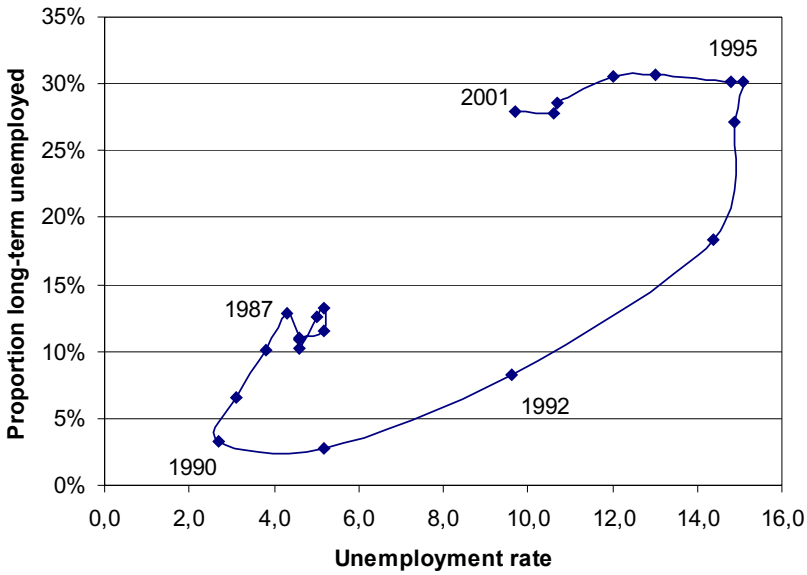
5 On the duration of unemployment

For most of the 1980s, long-term unemployment was not much of the problem in Finland. Average duration of ongoing unemployment spells was around 25 weeks, and the proportion of the long-term unemployed (unemployed for more than a year) slightly over 10 percent. This was partly due to favourable employment situation and partly to legislation enacted in 1987 (abolished in 1992) that required employment offices to place long-term unemployed to subsidised jobs.

During the recession in the early 1990s this favourable picture changed completely. First, the average duration declined and the fraction of the long-term unemployed fell to 3 percent. Then the fraction of the long-term unemployed grew together with the unemployment rate until 1995. By then almost a third of the unemployed were classified as long-term unemployed. Long-term unemployment remained high also after 1995 even though the unemployment rate was declining. The average duration of the ongoing unemployment spells has been approximately 52 weeks since 1995.

Long-term unemployment displays anti-clockwise loops and lags behind the unemployment rate. As shown by Machin and Manning (1999), a similar picture appears also in a number of other European countries. Variation in the inflow rates is partly responsible for the observed loops. It is also possible that the outflow rates for the long-term unemployed falls more in the recession, as the employers have a larger pool of unemployed to choose from. In the ranking model by Blanchard and Diamond (1994), employers always choose to hire the workers with the shortest unemployment duration. The ranking model therefore implies that the duration dependence increases during the recession.

Figure 11. **Proportion of long-term unemployed 1981–2001**



Source: Finnish Labour Review 1/2002

To look at the issues more closely, we performed some empirical calculations using administrative data from the unemployment offices. We used the same sample of as in the previous chapter containing all recorded unemployment spells experienced by 350 000 individuals, drawn randomly from the Employment Statistics. We collected information on the dates of entry into unemployment and exit out of unemployment for the period 1987–1999. After deleting some individuals with missing dates we were left with 664 000 unemployment spells. Given the long panel, we can examine the changes in the re-employment hazard and duration dependence over the whole business cycle.

First, in Table 2, we calculate the exit rates from unemployment to the active labour market programs, open employment, and out of the labour force. We find that only less than half of the unemployment spells end by an exit to open employment. The fraction of exits to open employment varies across the cycle, and account for only a quarter of exits during the worst years of recession. Opposite cyclical movements can be observed in the exits to the active labour market programs and out of the labour force. A high fraction of the unknown destinations, particularly in the early 1990s may have an effect on these estimates.

Table 2. **Reason of ending unemployment**

Year	Reason % ALP	Employed	Out of LF	Recall	Unknown	Total
1987	5.32	60.58	9.55	1.93	22.62	28 383
1988	4.54	57.42	8.04	8.28	21.73	29 838
1989	4.44	57.43	8.44	8.12	21.56	28 194
19990	8.80	41.76	9.04	7.72	32.69	31 192
1991	15.05	24.89	12.97	3.09	44.01	57 309
1992	18.57	24.25	16.12	4.32	36.74	66 016
1993	24.35	23.47	15.96	9.12	27.11	67 613
1994	27.12	37.73	16.31	5.33	13.51	64 585
1995	28.63	38.55	15.50	4.69	12.63	64 395
1996	28.69	39.27	13.81	4.46	13.77	66 027
1997	27.88	40.38	12.71	4.51	14.52	57 162
1998	25.97	42.48	11.14	4.77	15.64	53 554
1999	21.26	45.66	10.26	6.49	16.33	49 094
Total	21.13	37.77	13.23	5.44	22.43	664 082

Below, we focus on the exits to the open employment (including recalls from a lay-off) and treat all other exits as censored observations. In Table 3 we report results from fitting a simple parametric Weibull-model to the duration data. In the first column we include no covariates except the year dummies (entry year). The results are reported as hazard ratios restricting the year 1990 to one.

The estimation results show that hazard rates are clearly counter-cyclical. During the boom in the late 1980s the employment hazards were about 50 percent higher than in 1990. In contrast, during the recession, 1992–1993, the hazard was only third of the 1990 level. Towards the end of the 1990s, the hazard rates have been increasing, but are still below the pre-recession level. The duration dependence is documented by the Weibull-coefficient 'p' at the bottom of the table. For the exponential model with constant hazard the p is equal to one. Value 0.67 shows strong negative duration dependence. Probability of exit decreases rapidly with the spell duration.

Table 3. **Duration model for employment hazards**

		(1)	(2)	(3)
Year (base 1990)				
	1987	1.160	1.143	0.952
		(0.013)**	(0.013)**	(0.017)**
	1988	1.434	1.424	1.313
		(0.016)**	(0.016)**	(0.023)**
	1989	1.570	1.587	1.523
		(0.018)**	(0.018)**	(0.027)**
	1991	0.426	0.415	0.291
		(0.005)**	(0.005)**	(0.005)**
	1992	0.343	0.331	0.214
		(0.004)**	(0.004)**	(0.004)**
	1993	0.389	0.374	0.239
		(0.004)**	(0.005)**	(0.005)**
	1994	0.556	0.531	0.402
		(0.006)**	(0.006)**	(0.007)**
	1995	0.594	0.567	0.438
		(0.006)**	(0.007)**	(0.008)**
	1996	0.639	0.616	0.484
		(0.006)**	(0.007)**	(0.009)**
	1997	0.693	0.674	0.546
		(0.007)**	(0.008)**	(0.009)**
	1998	0.746	0.697	0.554
		(0.008)**	(0.008)**	(0.009)**
	1999	0.915	0.850	0.668
		(0.010)**	(0.010)**	(0.011)**
Age (base 35–44)				
	15–24		1.113	1.017
			(0.006)**	(0.008)*
	25–34		1.070	1.038
			(0.006)**	(0.008)**
	45–54		0.913	0.932
			(0.006)**	(0.009)**
	55–64		0.417	0.344
			(0.005)**	(0.005)**
Education (base primary)				
	Secondary		1.150	1.219
			(0.010)**	(0.015)**
	Vocational		1.413	1.641
			(0.007)**	(0.011)**
	Higher		1.544	1.800
			(0.009)**	(0.017)**
	University		1.733	1.949
			(0.021)**	(0.036)**
Female			1.028	1.077
			(0.004)**	(0.006)**
Disabled			0.487	0.370
			(0.006)**	(0.006)**
Local unemployment rate			0.999	0.999
			(0.000)**	(0.001)*
Observations		664082	663692	663692
P		0.67	0.70	0.94
Frailty				1.61

Reported coefficients are hazard ratios. Standard errors in parentheses
* significant at 5% level; ** significant at 1% level

The changes in the hazard rates over the cycle could be explained by the compositional effects. If groups that typically can expect relatively longer durations enter unemployment in proportionally greater numbers during the recession, the aggregate average duration will display countercyclical variation.
We examine the composition effects in column 2 of table 3. We add covariates measuring age, education and sex to the duration model. To capture the regional differences, we include a measure of the regional unemployment rate. We also add an indicator on whether an unemployed has been classified mentally or physically disabled by the employment offices. These additional covariates have a large impact on the hazard rates. As expected, the hazard rates increase with education and decrease with age. Females have a slightly higher hazard, and a higher regional unemployment lowers the hazard rates. Having been classified as disabled almost halves the re-employment hazard. However, adding all these covariates has little effect on the time pattern of the hazard rates. Hence, according to estimation results, the changes in the hazard rates over the cycle are not driven by the composition of the unemployed.

In the third column, we generalize the model to allow for unobserved heterogeneity. We make a standard assumption that the unobserved heterogeneity is multiplicative, and follows a Gamma distribution. The main impact of allowing for the unobserved heterogeneity is that our estimate of duration dependence declines. We also estimated the model allowing the duration dependence differ across the years (not reported in the table). The results were quite interesting. Negative duration dependence was strongest in the years 1992–1994, when the expected durations (and the unemployment rates) were at their highest level. The results are consistent with the ranking model by Blanchard and Diamond (1994).

6 Conclusions

What are the lessons that could be drawn based on the Finnish unemployment experience during the past twenty years? First one might observe that, in 2003, the Finnish unemployment rates are rather close to the European average both in terms of the level and the duration. An interesting question is why the unemployment rate remained so low until the late 1980s. An obvious candidate for the explanation is that the Finnish economy experienced much smaller shocks than the countries in the continental Europe.

During the 1980s, the Finnish economy was relatively isolated from the rest of the Europe. In the absence of free international capital movements the central bank could set the interest rates freely, and the devaluations of the Finnish markka could be used to adjust the price level to maintain the competitiveness of the export sector. Bilateral trade with the former Soviet Union contributed to the

stability. According to the bilateral trade agreements, an increase in oil prices led automatically to an increase in the export demand. Therefore, trade with the Soviet Union effectively isolated Finland from the oil price shocks that are often at least partly blamed for the increased unemployment in Europe in the 1970s. The liberalization of the financial markets in the end of the 1980s and the end of the bilateral trade agreements opened the Finnish economy to the outside shocks. The incomplete design of financial market deregulation associated with the fixed exchange rate target of the Finnish markka led to large indebtedness of the private sector both domestically and partly in foreign currency terms. High real interest rate and depreciation of the Finnish markka were large adverse shocks to the highly indebted private sector.

While the economic shocks provide a sufficient explanation to the rapid increase in the unemployment in the early 1990's, it is difficult to argue that these shocks explain the persistency of unemployment during the strong recovery period in the later part of 1990's.

If not the shocks, maybe the institutions should bare the blame. However, the labour market institutions today are not much different than in the 1980s. The main features of the unemployment insurance system are unchanged. The union density has increased but the union coverage has remained roughly constant. The main features of the wage bargaining system are also unchanged. The changes in the tax system and in the active labour market policies should probably be seen as the consequences and not as the causes for the development. Also empirically their effects on employment appear to have been relatively small. These institutions did not create high unemployment rates in the 1980s. Nickell (1999) calculates the change in the equilibrium unemployment rate from 1980s to 1990s in Finland based on the coefficients from cross-country regressions of unemployment on institutional features. He concludes that the changes in the institutions only explain the rise in equilibrium unemployment from 5.7 to 6.1 percent.

However, no major shocks hit the economy until the early 1990s. The institutional rigidities started to matter only after major shocks. Interactions between shocks and institutions a'la Blanchard and Wolfers (2000) might provide a better explanation for persistent unemployment. The easiest example is the unemployment tunnel, guaranteeing elderly unemployed benefits until retirement. The policy was introduced when the unemployment rates were low, and long-term unemployment rare. The extended benefits did not appear to have much effect then. Only when the recession created a need to cut the workforce, the benefits for the older started to matter, increasing the incidence and duration of unemployment.

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