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The Un-Intended Convergence: How the Finnish Unemployment Reached the European Level

CESifo Working Paper, No. 878

Provided in Cooperation with:
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Suggested Citation: Koskela, Erkki; Uusitalo, Roope (2003) : The Un-Intended Convergence: How the Finnish Unemployment Reached the European Level, CESifo Working Paper, No. 878, Center for Economic Studies and ifo Institute (CESifo), Munich

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THE UN-INTENDED CONVERGENCE: HOW THE FINNISH UNEMPLOYMENT REACHED THE EUROPEAN LEVEL

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CESIFO WORKING PAPER NO. 878
CATEGORY 4: LABOUR MARKETS
FEBRUARY 2003

PRESENTED AT CESIFO CONFERENCE ON UNEMPLOYMENT IN EUROPE: REASONS AND REMEDIES, DECEMBER 2002

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THE UN-INTENDED CONVERGENCE: HOW THE FINNISH UNEMPLOYMENT REACHED THE EUROPEAN LEVEL

Abstract

The Finnish unemployment rose in the early 1990's from three to eighteen percent in four years. Unemployment has then decreased to the average European level, being 8.5 percent in October 2002. In this paper, we describe the shocks leading to this unforeseen increase in unemployment. We then discuss the role of labour market institutions in the adjustment process that has brought unemployment back to 'normal' levels. We argue that these institutions cannot be blamed for the increase in unemployment, but that more flexible institutions could have lead to a more rapid decline in unemployment.

JEL Code: E24, J51, J64.

Keywords: unemployment, labour market institutions.

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An earlier version of the paper was presented in the conference on "European Unemployment: Reasons and Remedies", Munich, December 6-7, 2002, jointly organized by the Yrjö Jahnsson Foundation and CESifo. We wish to thank Brendan Walsh as well as seminar participants for useful comments. We also wish to thank the seminar participants at the Institute for Labour Market Policy Analysis (IFAU) in Uppsala and at the Trade Union Institute for Economic Research (FIEF) in Stockholm for their comments on an earlier draft, and Kari Hämäläinen, Juhana Hukkinen and Juha Tuomala for comments and advice on data questions. Koskela wishes to thank *The Research Unit on Economic Structures and Growth (RUESG)* at the University of Helsinki for financial support.

1. Overview

Development in Finnish unemployment during the past twenty years is an exceptional episode in the modern economic history. For most of the1980s, 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 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 unemployment rate was 8.5% in October 2002.

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 mismatch problem in the labour market. 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 of 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 1.1 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.

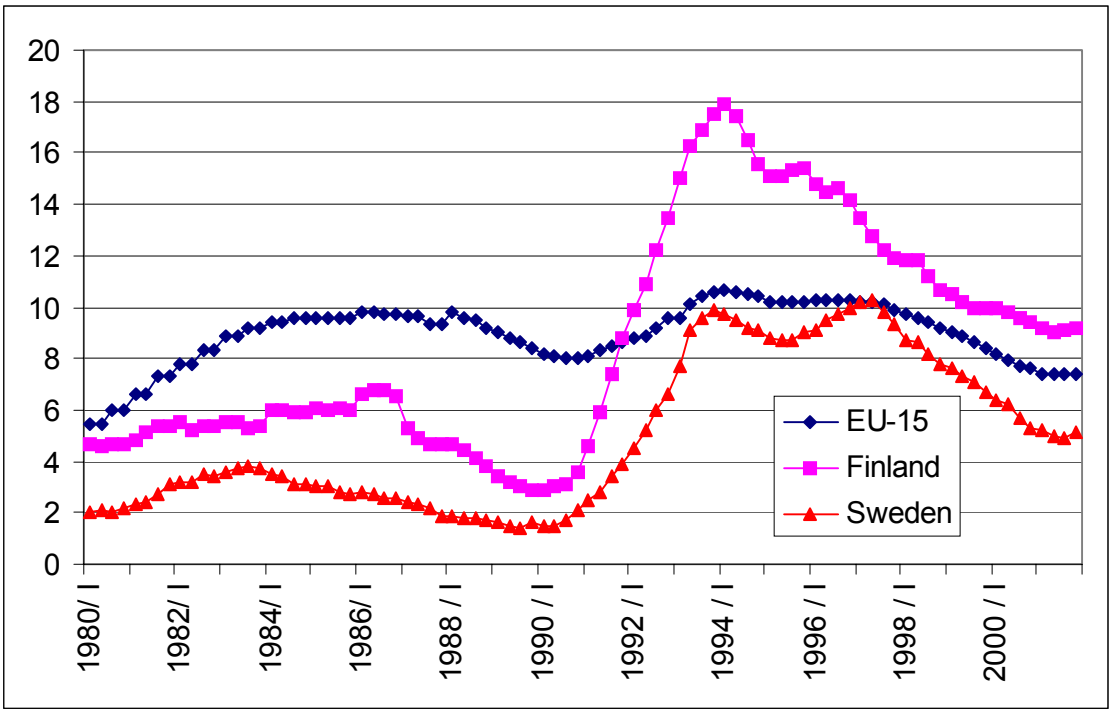

Figure 1.1. Standardized unemployment rates in Finland, Sweden and EU-15

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

As seen in Figure 1.1. 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 the unemployment rates

started to increase in 1991, reached the peak of 18% in 1994, and began a rapid decline that has lasted until 2001.

In this article we try to 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 1986-87. Growth accelerated significantly and the economy entered a period of overheating (see Figure 2.1). In the process the rate of inflation rose from about 2-3 percent in 1986 to about 7 percent in 1989-90, and 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

[1] See Honkapohja and Koskela (1999) for a detailed description of the overheating and the onset of the crisis. The Special Issue of Finnish Economic Papers (1996) and the recent compilation of research papers in Kalela et al (2001) contains a number of studies on different aspects of the Finland's depression.

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) Economic policies were not sufficiently restrictive in countering the boom. 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 the interest rate. In the late 1980s, interest rates were on average 6 per cent higher in Finland than e.g. in Germany. This, and investors' belief in Markka's fixed exchange rate, provided further impetus to the inflow of foreign capital in terms of foreign-currency denominated borrowing by firms mainly in the non-traded sector.

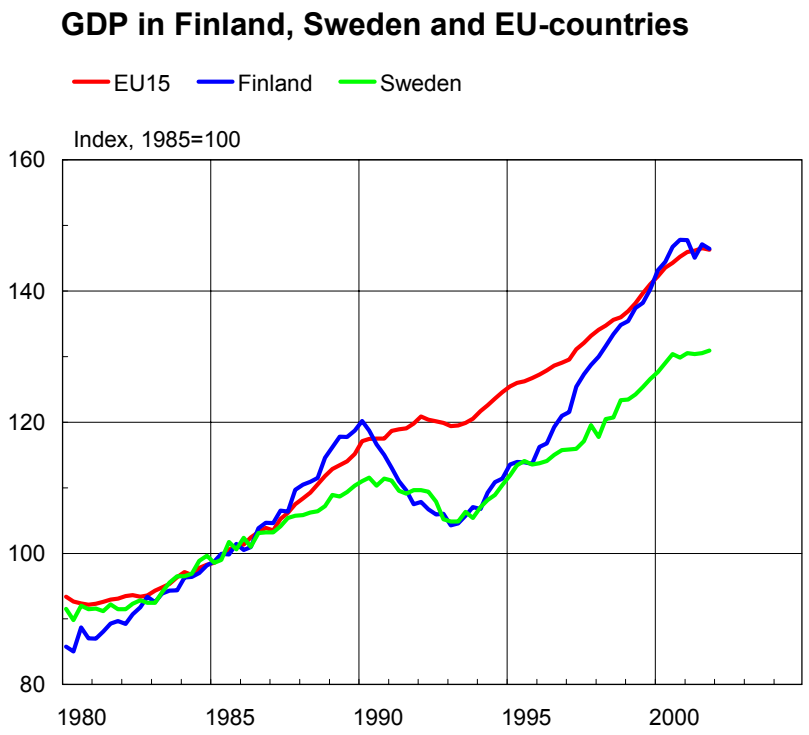

Figure 2.1: GDP in Finland, Sweden and EU-countries

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. The decline in the GDP stopped and a turnaround took place in the fall 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 2.2.) 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.

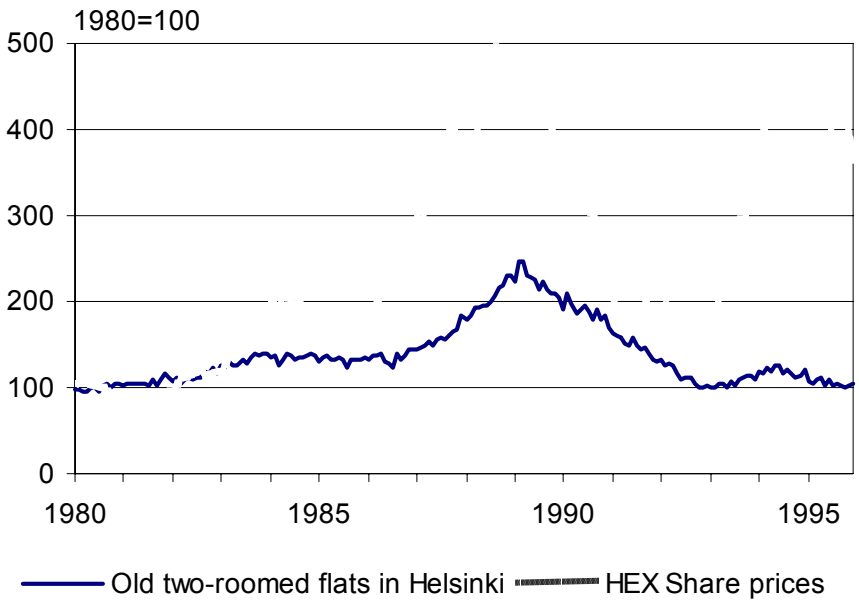

Figure 2.2. Real asset prices

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 2.3.) 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.

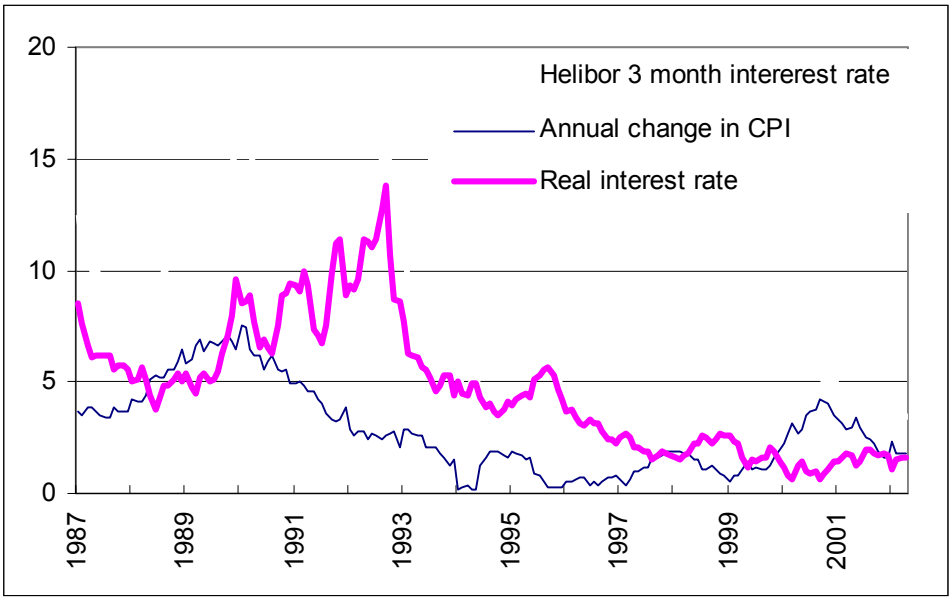

Figure 2.3 Real interest rates

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 2.4).

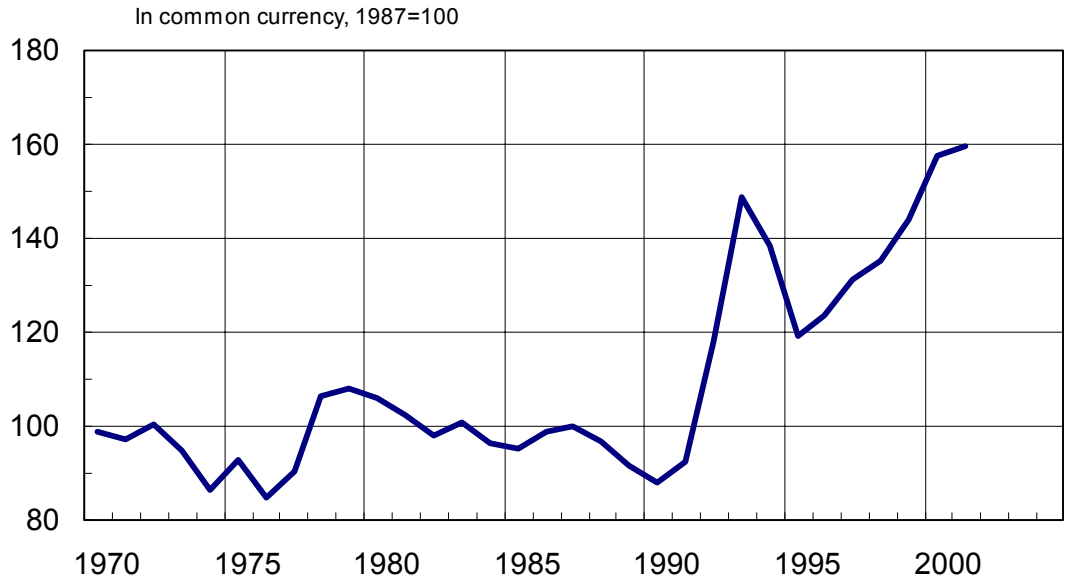

Figure 2.4. Relative unit labor costs in 14 competitor countries / Finland

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. We analyze this question in section 4.4. 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. The program was well received in the markets and the interest rate differential to Germany dropped dramatically.

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

In this section we describe structural changes that occurred in Finland in the 1990s. First, we look at the shifts in employment across industries during the recession and recovery and present the development of the Beveridge-curve during the last three decades in section 3.1. Second, we describe the changes in the structure of unemployment in terms of age, education and region in section 3.2.

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.

In figure 3.1, we show the flows into and out of unemployment based on data from unemployment offices. The figure shows how the increase in the inflow to unemployment occurred over a relatively short time period. The number of new unemployment spells was exceptionally high for only three years 1991, -92 and -93. During these three years more than 50 000 new job seekers entered the unemployment offices each month. By 1994, the inflow was back to the pre-recession level. Similar rapid movements cannot be seen in the outflow of unemployment. In fact the outflow has increased rather smoothly during the whole period.[2]

[2] As the pool of unemployment increased, outflow rate, calculated as a fraction of the unemployed ending the spell during the month, naturally dropped dramatically.

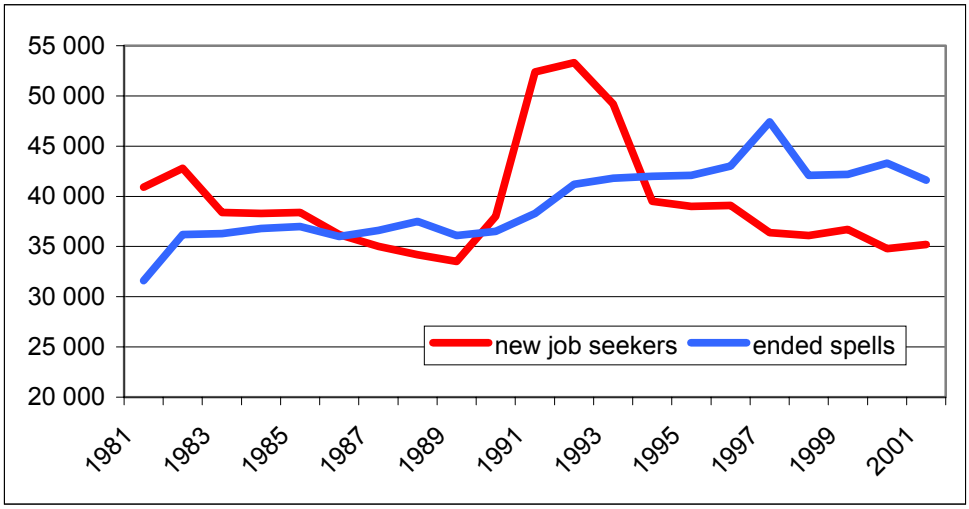

Figure 3.1 : Flows into and out of unemployment

Source: Finnish Labour Review 1/2002

3.1 Sectoral shifts in employment and mismatch

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 3.2 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 3.2. 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 a mismatch problem in the labour market. Unemployed ex-construction workers were poorly equipped to find jobs in the growing service sector. Skill-requirements were often higher than the education level of the unemployed. Uneven regional development also contributed to the mismatch problem.

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[3]. Figure 3.3 describes the Beveridge-curve for the period 1971-2001. It shows how most of the

[3]Vacancy data refers to the average number of vacancies in employment offices during the month. As not all vacancies are reported to the employment offices, this is clearly an underestimate of the true vacancy rate. Time consistency of the vacancy series is also a problem. Since 1988, employers have been required to report open vacancies to the employment offices which increased the number of vacancies by almost 40%. Uusitalo (1999) experimented with different adjustments to the vacancy series using the time series of the number of help-wanted ads in the largest Finnish newspaper, Helsingin Sanomat, as a reference. The adjustment did raise the pre-1988 UV-curve upward, but did not change the visual impression, and most importantly, it did not affect conclusions about the large shift in the curve during the 1990s.

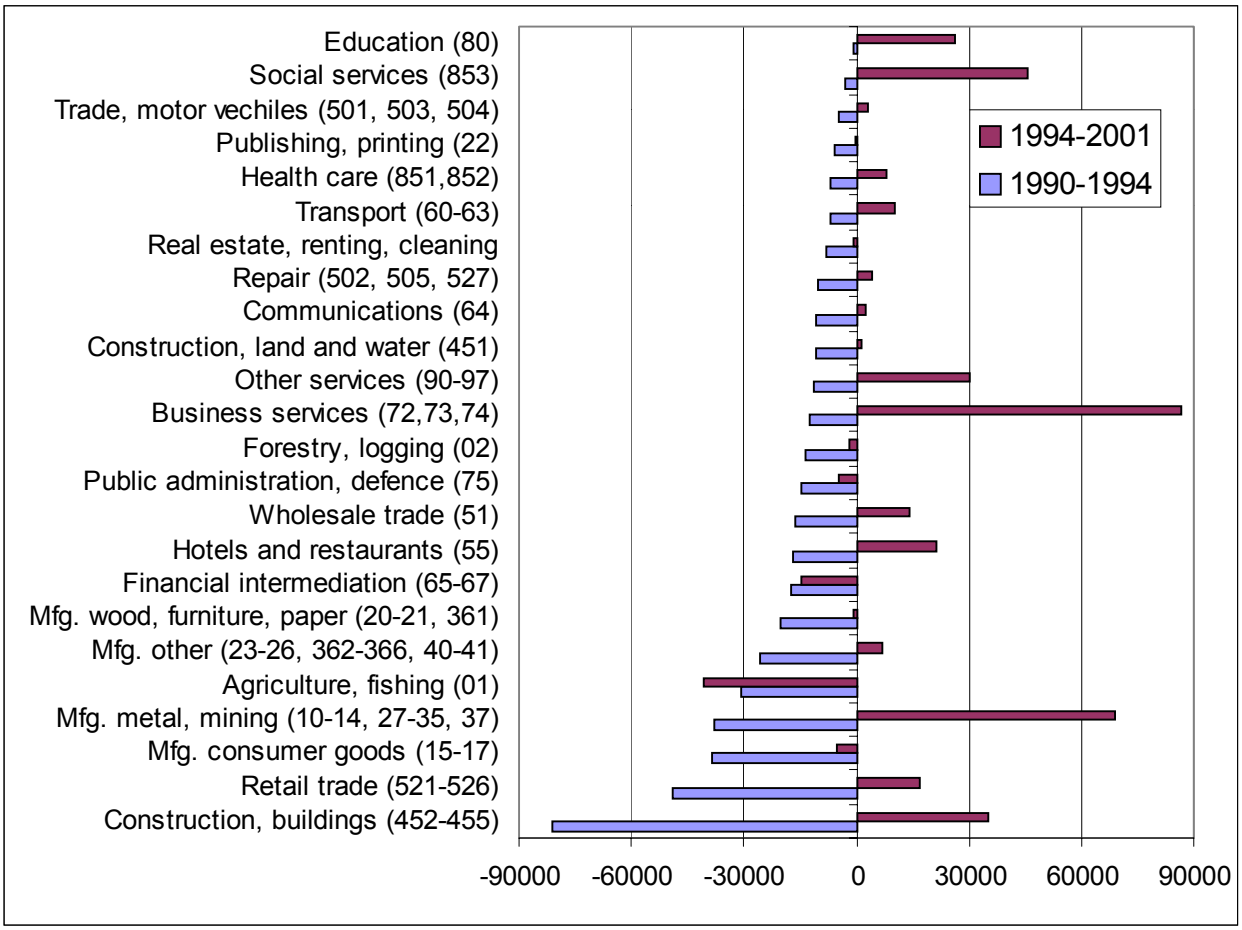

Figure 3.2: Change in employment by industry during the recession and recovery

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.

variation in the unemployment rate is related to business cycle (movements along the curve in north-west and 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 percent higher.

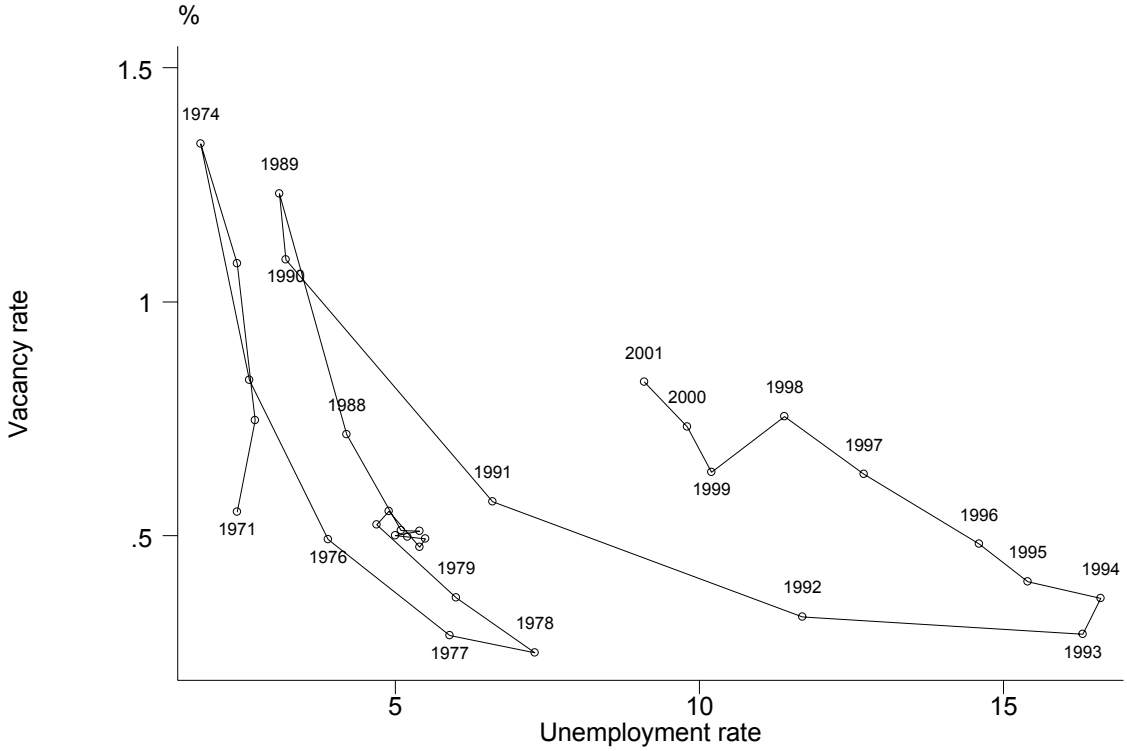

Figure 3.3: Beveridge Curve

Source: Finnish Labour Review 1/2002

3.2 The structure of unemployment

A complementary indication of growing mismatch to the Beveridge curve in the labour market is the increase in the variation in unemployment rates across age groups, education levels and different regions. According to Layard, Nickell and Jackman (1991), the NAIRU-unemployment rate is directly related to the coefficient of variation in the unemployment rates. Although the result depends on the number of assumptions on the wage- and price-setting, it is useful to examine the evolution of the unemployment rates at a more disaggregated level.

Figure 3.4 describes the unemployment rates by ten-year age categories. At the end of the 1980s, the unemployment rates were very low in all but the youngest age group and there was very little dispersion in the older age groups, unemployment rates ranged between two and three percent. For the youngest group the unemployment rate was almost nine percent. At the onset of the recession the unemployment rates increased in all age groups. Interestingly, the dispersion of unemployment rates, measured by the coefficient of variation, across age groups

actually decreased. Youth unemployment increased to a very high level: This appears to reflect a general decrease in the labour demand that had the largest effect on the group that was in the weakest position in the labour market. The decrease in the unemployment rates was rather uniform in all age groups. The unemployment rates of older groups decreased to 7 – 9 percent, youth unemployment to 20 percent.

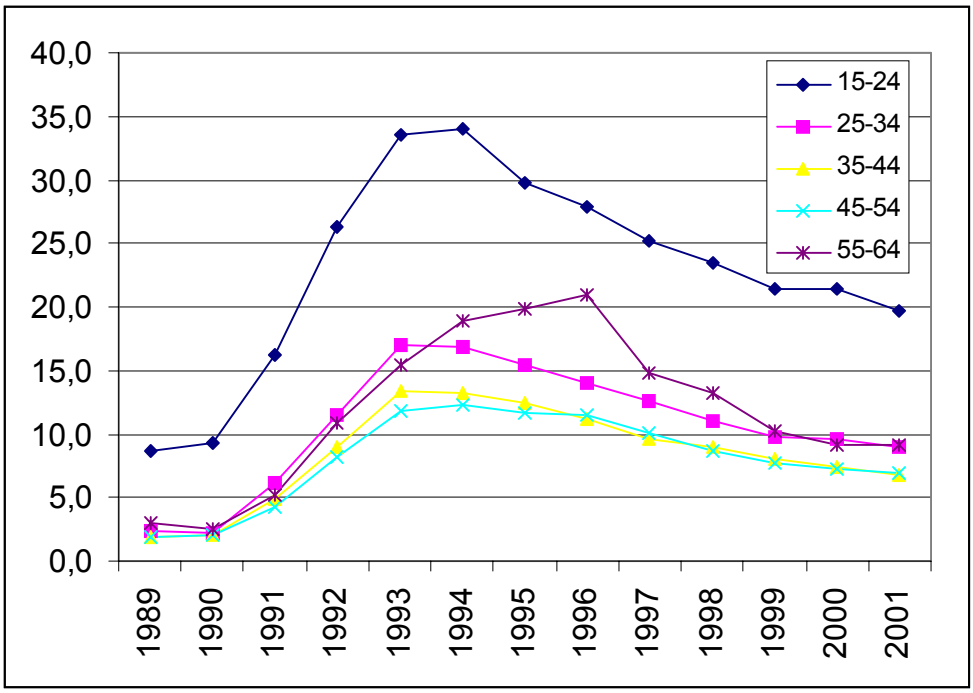

Figure 3.4: Unemployment rates by age

Source: Labour Force Surveys

The evolution of the unemployment rates by the level of education shows no large surprises. The unemployment rate among the group with the lowest education is much higher than unemployment of the group with higher education. The unemployment rate for those with university education never rose above five percent. Measured by the coefficient of variation, the dispersion of the unemployment rates has been slowly increasing after 1994. In relative terms, the decline in unemployment has been slightly slower for the lowest educated group.

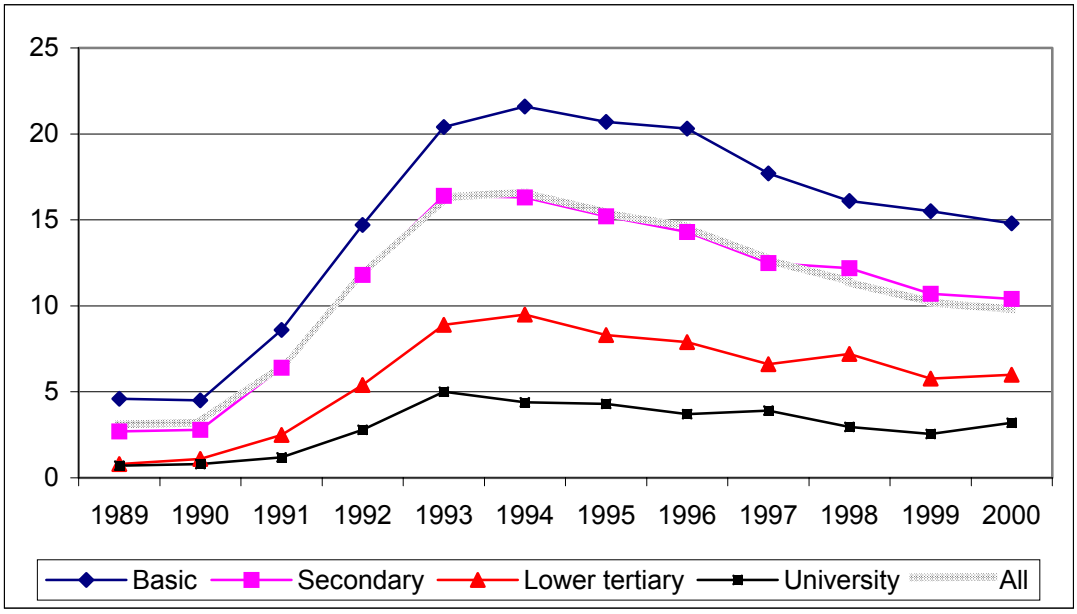

Figure 3.5: Unemployment rates by the level of education.

Source: Labour Force Surveys. Note: Unemployment rates up to 1999 are re-calculated according to the new classification by Statistics Finland.

Finally, we look at the development of regional unemployment. Unemployment rose rapidly in all regions during the early 1990s, but the relative variation measured by the coefficient of variation was smaller in 1994 than in 1990. During the economic recovery regional variation in the unemployment rates has increased. Employment growth has been rapid in the capital region and Southern Finland, and much slower in the high unemployment regions in Northern and Eastern Finland.

Regional unemployment rates presented in Figure 3.6 come from 15 regional Employment and Economic Development Centres (TE-Center). Showing 15 lines in a graph creates a messy figure. Therefore, we demonstrate the changes in dispersion by drawing hopefully more informative "box-whiskers" –plots. In the graph, the box shows the inter-quartile range in regional unemployment rates, and the line in the middle the median. The whiskers extend to the lowest and highest values that lie within 1.5 quartile range from the lower and upper quartiles. The remaining outliers are indicated with plots. Figure 3.6 indicates clearly that regional differences in unemployment have increase**d** during the recovery period.

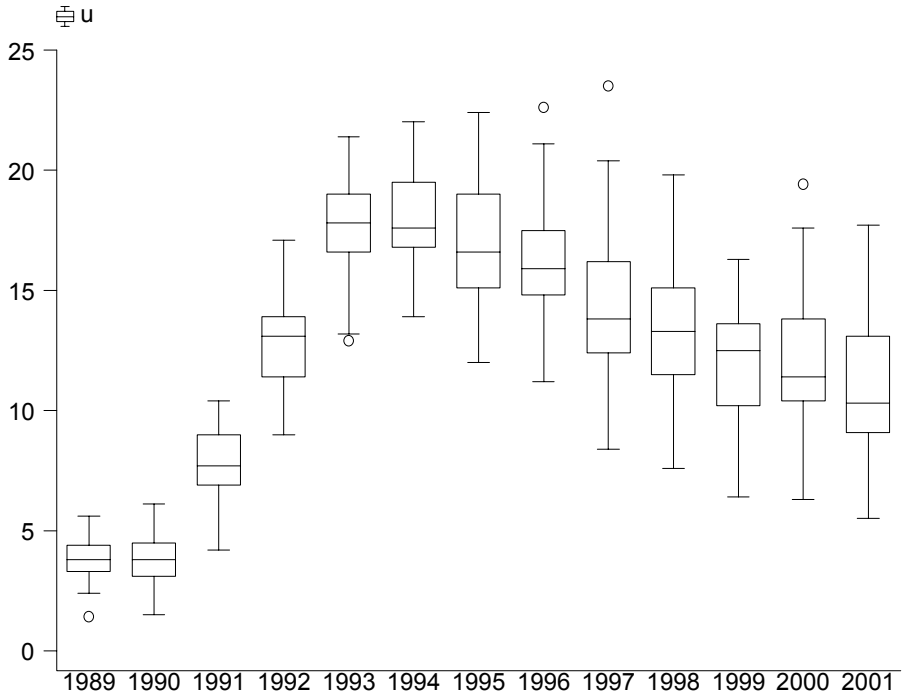

Figure 3.6: Regional dispersion of unemployment rates

Source: Unemployment by TE-center according to Labour Force Surveys as reported in the Finnish Labour Review 2/2002.

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 what follows in sections 4.2.-4.6 we describe the main features of these institutions in Finland, survey the empirical evidence on their effects on unemployment and present some new analyses.

Recent research has provided some evidence in favour of the view that accounting for the interaction between economic shocks and labour market institutions can go a long way to explain both the higher average European unemployment compared to that in the US, and the cross-country differences within Europe. (Ball (1999) and Blanchard and Wolfers (2000)). Below we provide evidence on the interaction of shocks and institutions in Finland by examining the effects of unemployment insurance in the different stages of the business cycle.

4.2 Job Protection

Compared to the other European countries the employment protection in Finland does not stand out as particularly strict. The OECD Employment Outlook (1999) ranks 26 OECD countries according to the strictness of the employment protection legislation. Finland is on the 12th place, counting from the more flexible end. Employment protection is clearly stricter than in the US, the UK and the other Anglo-Saxon countries, but more flexible than in the other Scandinavian countries (excluding Denmark), and than in the most countries in Central and Southern Europe.

In Finland the employer may terminate a permanent contract if "the work to be offered has diminished substantially and permanently for financial or production-related reasons". (Employment Contacts Act (55/2001)). The employees must be consulted in collective dismissals. Advance notice is required; the shortest notice period is two weeks for the contracts that have lasted for less than a year. The notice period increases with tenure, up to six months for the contacts that have lasted for more than 12 years. The employers can also temporarily lay-off workers with 14 days notice, but many union contracts include rules that increase minimum notice periods stated in law.

There are no particularly strict rules governing temporary contracts. Temporary contracts are possible for specific reasons, for example, to replace a permanent employee during temporary absence or if the nature of work is temporary. Contracts can be renewed, but several consequent temporary contracts entitle the worker to the same rights as permanent contracts.

Temporary contracts have become more popular after recession. Up to the early 1990s approximately 10 percent of the workers were employed on temporary contracts. Temporary contracts became more common after 1994, so that 16 percent of employees were on a temporary contract in 1997. The share fell slightly over the period 1997-2000. (see,

Kauhanen 2001). It appears that during a recession the firms are more likely to offer temporary contracts and the workers more likely to accept these.

Temporary contracts clearly increase the flow into unemployment. In 1997, 63 percent of the new unemployment spells were 'caused' by ending of a temporary contract. However, temporary contracts probably also increase flows out of unemployment so that their effects on the level of unemployment are unclear.

4.3 Unemployment benefits and unemployment

The unemployment benefit system may have large impacts both on the level and the duration of unemployment. Below, we first describe the level and the duration of benefits as well as the eligibility rules of the current system. We then go through the main changes to the system during the past twenty years, survey the existing Finnish evidence on the effects of unemployment benefit scheme and provide some new findings.

4.3.1 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 insurance 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 unemployed 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.

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 22,75 euro per day. 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. The earnings-related part is 45% of the difference between previous daily earnings and the basic allowance. There is no ceiling on the unemployment benefits, but earnings exceeding 2045 euro per month increase the allowance by only 20% of the exceeding amount. In practice, this implies that for the median 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%.

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.

4.3.2 Main changes to the unemployment benefit system during last two decades

The current unemployment system is based on the Unemployment Security Act from 1984. The main features of the system have remained similar for almost twenty years. Below we describe the most important changes during the past two decades.

Benefit level

The unemployment allowance has increased by 9 % in real terms between 1984 and 2001. During the same period the real wage and salary index increased by 38%, so that the growth of benefits has clearly been much slower than the wage growth. As also the earnings-related unemployment benefits are linked to the basic allowance, the replacement rates have decreased considerably after the introduction of the Unemployment Security Act. The earnings-related benefits were further reduced in 1992 when the rate by which previous wages increase benefits was cut from 45% to 42%[4], and in 1993 when employee pension contributions were first deducted from the base wage before calculating benefits.

[4] The rate was raised back to 45% as a part of the national union bargaining agreement in 2001.

According to the original Unemployment Security Act, 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.

Benefit duration

The most important changes in the benefit duration concern the older workers and are linked to the rules governing the unemployment pensions. The unemployment pensions were first introduced in 1971. Originally, the pension was granted to the long-term unemployed who were over 60. The age limit was lowered to 58 in 1978 and further to 55 in 1980. After 1986, the age limit has been gradually increased back to 60. To secure the incomes of the long-term unemployed, the maximum duration of benefits for the unemployed over 55 was simultaneously increased so that the benefits last until the age when the unemployed become eligible for unemployment pension (Lundqvist 1996).

The extension of the benefit duration up to the age when the unemployed become eligible for the unemployment pension created a system where workers who become unemployed at the age of 53 can receive unemployment or pension benefits until the normal retirement age, 65. The system became popular during the recession, and is commonly known as "the unemployment pension tunnel". An important change in the legislation occurred in 1997 when the lower age limit for the benefit extension was raised from 55 to 57 years.

Eligibility rules

Eligibility rules for the earnings-related unemployment benefits have always required that an unemployed has been a member of an UI-fund, and that he has been employed prior to unemployment. The same employment condition was also introduced to the basic unemployment allowance in 1994. At the same time a new means tested benefit, the labour market support, was created for those who do not meet the employment condition. As a result the number of recipients of basic allowance rapidly decreased. Currently, most unemployed

receive either the earnings related allowance or the labour market support. Eligibility rules have become stricter over time.[5]

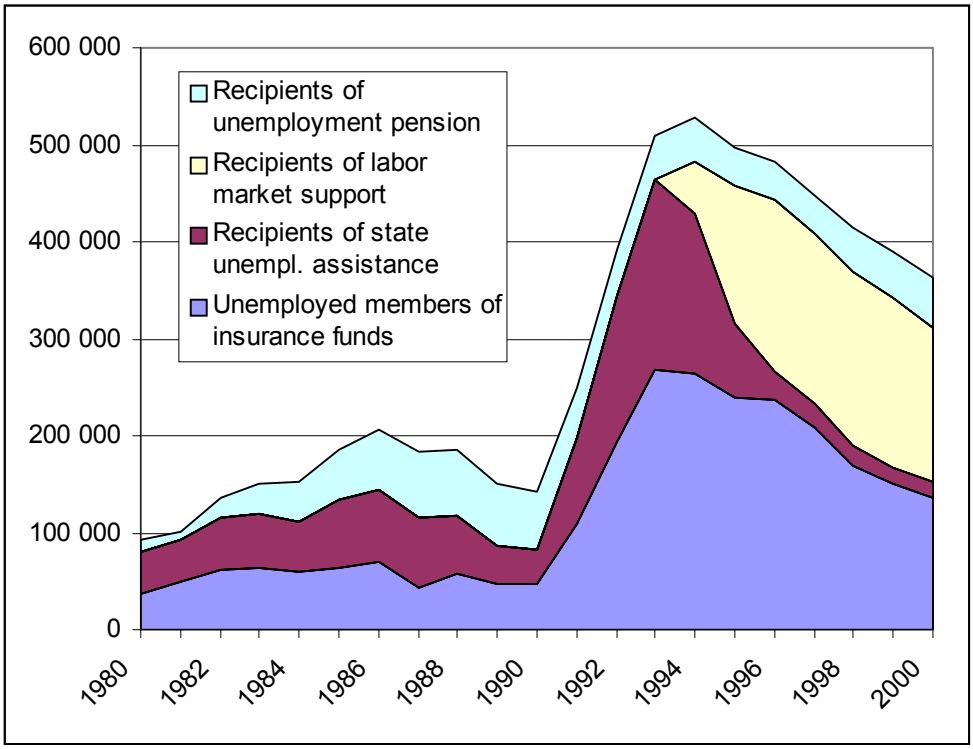

Figure 4.1: Recipients of unemployment benefits

Source data: Finnish Labour Review 1/2002

Figure 4.1 shows the evolution of the number of recipients of different unemployment benefits during the past twenty years. The changes in the eligibility criteria appear to do a good job in explaining the numbers. Roughly half of the unemployed receive the earnings-related unemployment benefits. The decrease in the number of recipients of the unemployment assistance, and the corresponding increase in the number of recipients of the labour market support, reflects the change in employment condition in 1994. The number of 'unemployed' on the unemployment pension increased during the 1980s when the age limit was lowered and decreased beginning in the end of 1980s after the gradual increases in the age limits. Note also that the number of recipients of the earnings-related benefits has

[5] Prior to 1997, the unemployed were eligible for the unemployment allowance if they had been employed for six months during past two years. In 1997, the requirement was raised to 43 weeks.

decreased after 1994 much more rapidly than the number of recipients of the unemployment allowance or the labour market support.

4.3.3. 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 and matching the data with information on the actual unemployment benefits. The results indicate that a higher replacement ratio lowers the exit hazard and that the effect is larger for non-members of the UI-funds. He also finds that there is a peak in the baseline 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) and Kyyrä (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.

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. A clear illustration of the problem is that both Lilja (1993) and Kettunen (1993) find that employment hazards are higher for the UI-benefit recipients who have higher replacement rates.

Evidence on the effect of the duration of unemployment benefits is somewhat more convincing. Rantala (2002) studies the effect of the change in the lower 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. Figure 4.2 shows the "transition rates" to unemployment by age between 1995 and 1999. In the figure the unemployment entry rate is defined as the fraction of the workers employed at the end of year t-1 who are unemployed at the end of year t. This measure clearly misses short unemployment periods and is, therefore, also influenced by the duration of unemployment spells. Nevertheless, the figure clearly shows that 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.

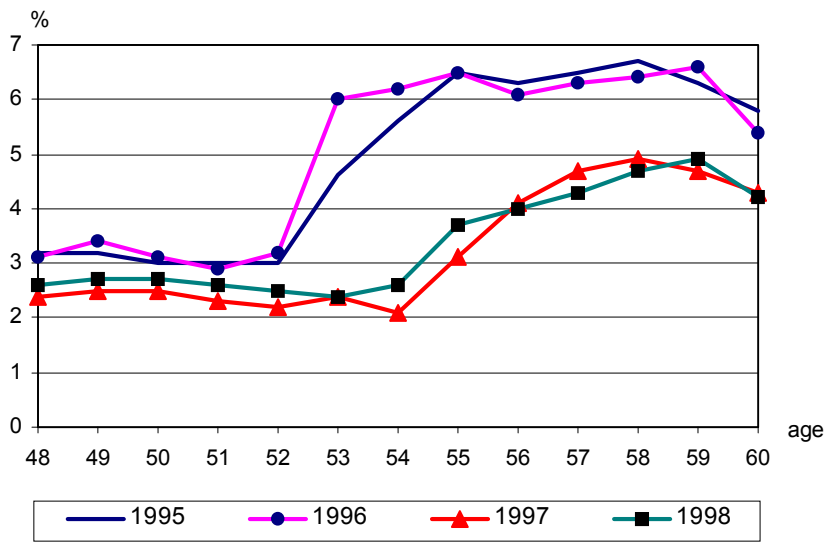

Figure 4.2: Transitions to unemployment by age

Source: Rantala (2000)

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 4.3, 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 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.

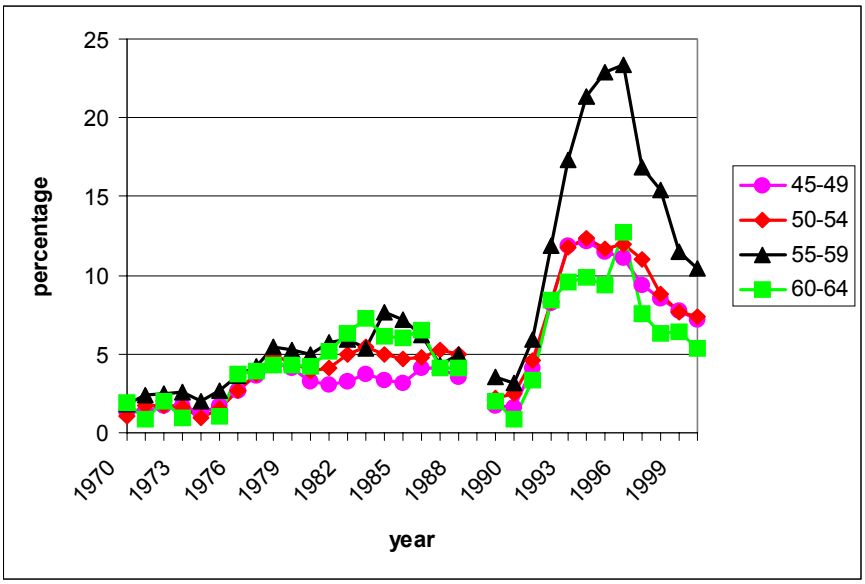

Figure 4.3: Unemployment rates by age
Source: Hakola & Uusitalo (2001)

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, which contains information from various registers and covers the entire Finnish population.[6] Of the 104 358 new 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.

Below we draw empirical hazard rates separately by the exit route, treating other exits as censored observations. The top left corner of figure 4.4 that 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. Partly this is due to that fact that most exits to out of labour force occur at the older age that is outside our sample. 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.

[6] 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.

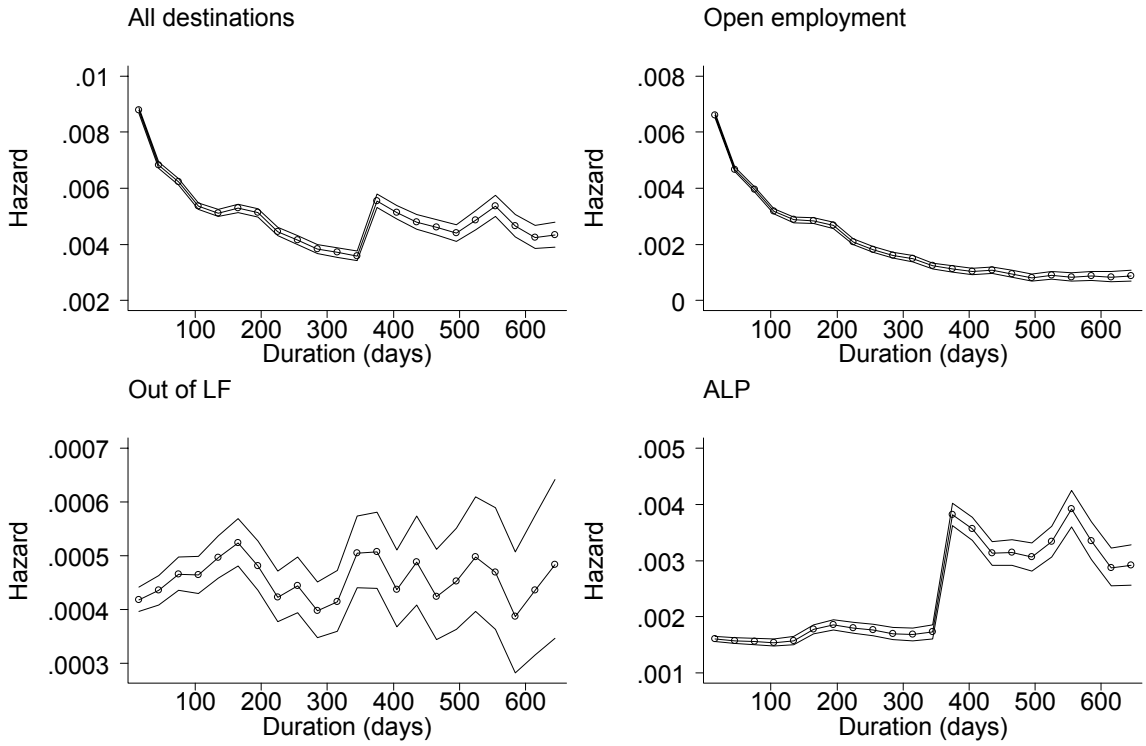

Figure 4.4: Hazard of exit from unemployment

4.4 Unions and wage formation

4.4.1 Union density

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 October 2001.

4.4.2 Unions and unemployment insurance

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.[7]

The funding of the unemployment benefits is designed to moderate the wage-pressures. After a reform in 1999, the state pays the labour market subsidies and the basic unemployment allowances. State also subsidises UI-funds by paying a share of the earnings-related unemployment allowance. The state subsidy corresponds to the amount of unemployment assistance. The rest of the insurance benefits are funded by mandatory contributions from both the employers and the employees and by the membership fees. An increase in unemployment leads to increases in the contributions from employers and employees. As the unions and the UI-funds cover roughly the same sectors, this creates a system of experience-rating in the unemployment insurance contributions that should lead to lower wage increases and higher employment (Holmlund and Lundborg, 1988).[8]

4.4.3 Wage bargaining

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 (Holm 2000).

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. The first central agreement was negotiated between the government and the employer and employee organizations in 1968. 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, -80, -83, -88, -94, -95, and

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[7] Using data from 13 European countries over the period 1960-2000 Checchi and Lucifora (2002) also find that Gent-system increases the union density.

[8] The 1999 reform effectively increases the degree of experience-rating because an increase in wages is not matched by an increase in the government subsidy to the UI-funds (Sinko, 2001).

2000) when no central bargain was reached and bargaining occurred at the industry-level. Even in the absence of a central bargain has been reached, not all unions accepted the bargain.

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. These studies find that unemployment is lowest in the 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 4.1, 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, 3%. 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, i.e. 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 4.1, this has not been the case in Finland. Nominal wage increases have exceeded the bargained wage increases by 4%, on average, 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.

To conclude, the results using Finnish data lie in conformity with findings from cross-country data according to which the centralized bargaining will moderate wage formation 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.

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 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, and inflation an insignificant positive effect, on both the bargained and the actual wage increases. The dummy variables for different bargaining regimes were highly significant in all estimated equations. Adding a time trend to the equations had only a small effect on the estimated differences across bargaining regimes but lowered the coefficient on unemployment rate so that it was no more significant at the 5 % level.

4.5 Active labour market policies

Government spending on the active labour market programmes (ALMP) has been on the rise in most OECD countries over the past two decades. Measured as a fraction of GDP, the expenditure on ALMP has been higher in Finland than in the EU- countries, on average. While expenditures on ALMP have increased in the 1990's, the rise in ALMP has not been proportional to the increase in unemployment.

Figure 4.5 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 and 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.

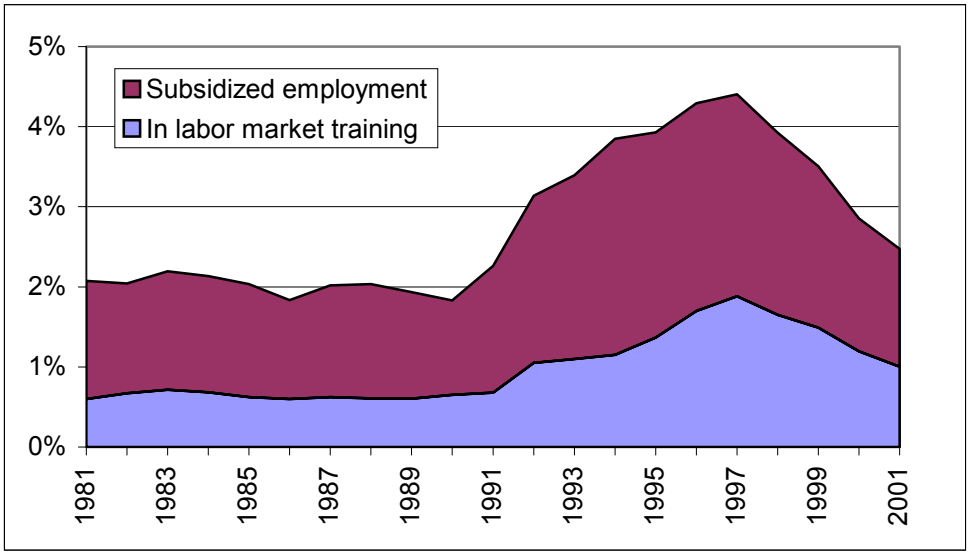

Figure 4.5: The share of the labour force in active labour market programs
Source: Finnish Labour Review 1/2002

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.[9]

There are not many studies on the macroeconomic effects of the ALMPs. According to Eriksson, Suvanto and Vartia (1990) ALMPs have not had any effect on wages, but their data do not cover an interesting period of 1990s. Pehkonen (1997) studies youth labour market programs and argues that ALMP may have substantial displacement effects but fails to find robust estimates of the likely size of the displacement effects.

4.6 Labour taxes and unemployment

In Finland labour taxes are among the highest in the OECD countries. In 2000, the tax rate for a single wage earner with average income exceeded the Finnish tax rate only in Italy, Belgium, Denmark and Germany. Since the Finnish tax system has no deductions for dependent children the relative tax rate for families with children is even higher.

Figure 4.6 describes the development of the tax wedge for the average production worker in Finland between 1987 and 2002. During the period 1991-1995 the tax wedge increased from 52.1. % to 60.2 % and has then decreased to 56.6% in 2002. The largest changes have occurred in the income taxes and in the compulsory employee contributions to the unemployment insurance and pension systems. The changes in the consumption taxes and the employer contributions (main part of which consists of pension contributions) have been rather modest. A single factor that caused a jump in the tax rates in 1994, was removing tax deductions for dependent children. Also the reductions in the tax wedge after 1995 had to do with income taxes. Following the reforms starting in 1996, an earned income tax deduction was introduced to municipal taxes. Earned income tax deduction was then substantially increased in 1997 and 1999. Also the marginal tax rates in the higher tax brackets have been lowered.

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[9] International evidence seems roughly similar. Programmes with a training content seem most likely to improve employment probability, while subsidy schemes have shown dismal performance. See e.g. Kluve and Schmidt (2002).

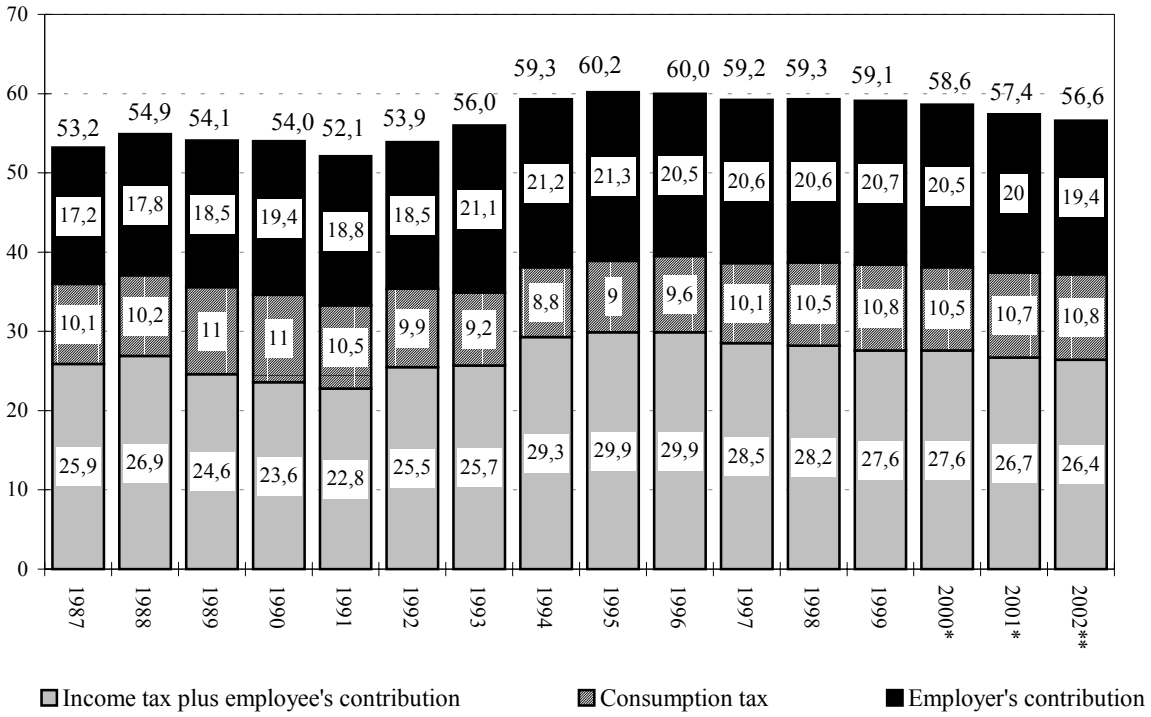

Figure 4.6 Tax wedge for the average production worker 1990-2002

Source: Taxpayers Association of Finland

It is not easy to assess the effect of the changes in taxation on unemployment. The main problem is that tax burden is not exogenous. In the early 1990s the tax rates were increased to cover the government budget deficit, largely due to the increase in the costs of unemployment. Improving government finances in the later part of 1990's have made modest tax deductions possible. At the same time the unemployment rate has decreased.

Theoretically, of course, an increase in either payroll, income or consumption taxes may lead to an increase in the labour costs and, therefore, reduced employment. Most recent Finnish estimates suggest that roughly half of the changes in the income taxes are shifted to higher labour costs. The incidence of the payroll taxes would seem to fall slightly more to the employers leading to higher changes in the labour costs. (Honkapohja, Koskela and Uusitalo (1999)). Earlier studies that also use aggregate or industry data have obtained rather similar results (Holm, Honkapohja and Koskela (1994), Pehkonen (1999), Kiander and Pehkonen (1999)).

Honkapohja et. al (1999) use industry-level time series and find that the long-run elasticity of employment with respect to labour costs is, on average, -0.7. The estimates from panel data consisting of 500 largest Finnish companies observed over the period from 1986 to 1997 are smaller and vary depending on the exact specification. These estimates suggest that decreases in taxation after 1995 have contributed to the increase in employment but the effects are not very large.

Finland has naturally been included in several cross-country studies that have evaluated the effects of labour taxes on unemployment. The results of such comparisons usually indicate that higher taxes lead to higher unemployment, even though the conclusions tend to be rather cautious. For example, Nickell and Layard (1999) conclude: "…the balance of evidence suggests that there is probably some adverse tax effect on unemployment and labour input. Its precise scale, however, remains elusive". Daveri and Tabellini (2000) summarize their findings as follows: "We obtain evidence of a highly significant and very large effect of labour taxes on the unemployment rate in continental Europe…the estimated coefficient of labour taxes ranges from about 0.3 to over 0.5 depending on the specification". Their estimates from Nordic countries, are of the same sign, but not statistically significant. This might suggest that taxation will have weaker effect on wage formation and thereby on unemployment in corporatist economies than in economies where the degree of centralization of wage bargaining is lower.

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 in the municipal sector.

During the recession in the early 1990s this favourable picture changed completely. First, followed by a large increase in the inflow to unemployment, 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.

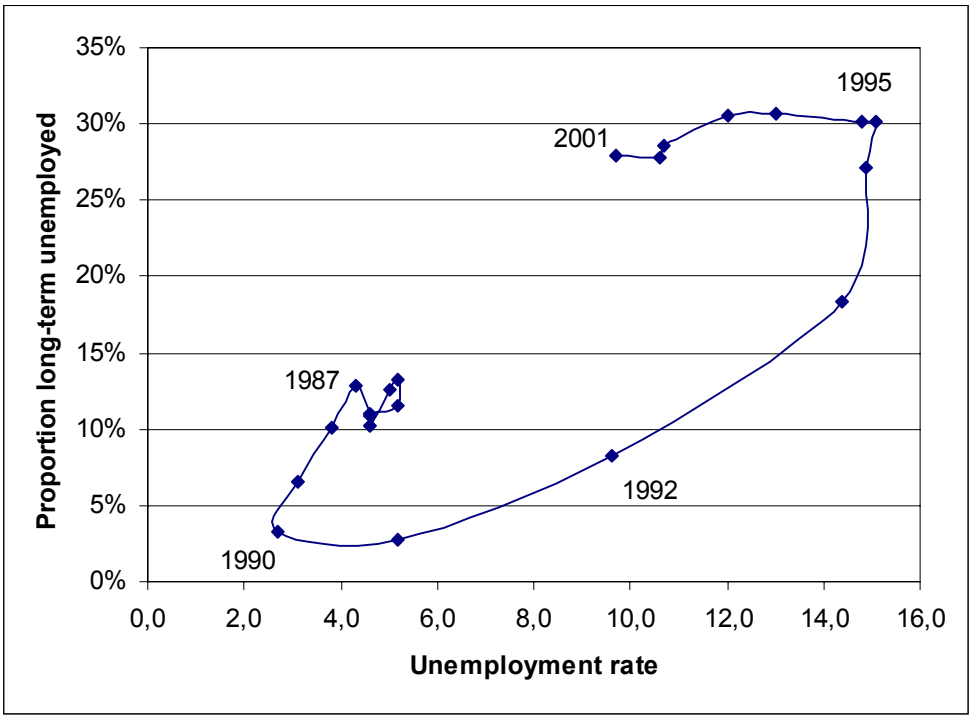

Figure 5.1: Proportion of long-term unemployed 1981-2001
Source: Finnish Labour Review 1/2002

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.

To look at the issues more closely, we performed some empirical calculations using administrative data from the unemployment offices. We use 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 collect 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 5.1, 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 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 5.1 Reason of ending unemployment

Year	Reason %					Total
	ALP	Employed	Out of LF	Recall	Unknown	
87	5.32	60.58	9.55	1.93	22.62	28 383
88	4.54	57.42	8.04	8.28	21.73	29 838
89	4.44	57.43	8.44	8.12	21.56	28 194
90	8.80	41.76	9.04	7.72	32.69	31 192
91	15.05	24.89	12.97	3.09	44.01	57 309
92	18.57	24.25	16.12	4.32	36.74	66 016
93	24.35	23.47	15.96	9.12	27.11	67 613
94	27.12	37.73	16.31	5.33	13.51	64 585
95	28.63	38.55	15.50	4.69	12.63	64 395
96	28.69	39.27	13.81	4.46	13.77	66 027
97	27.88	40.38	12.71	4.51	14.52	57 162
98	25.97	42.48	11.14	4.77	15.64	53 554
99	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. The restriction is partly motivated by several changes in the active labour market policies that may weaken the comparability across the years. In table 5.2 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.

Table 5.2 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 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.

Baker (1992) examined whether the changes in the hazard rates over the cycle could be explained by the compositional effects. The composition of the inflow to unemployment may change over the cycle. 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. However, the results in Baker (1992) indicated that the composition of the inflow do not explain the variation in the duration.

We examine the composition effects in column 2 of table 5.2. 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 1992-94, 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 2002, 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. 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. High real interest rates were the huge 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. 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. Maybe the institutional rigidities started to matter only after a major shock. 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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