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Employment Policies and Displacement in the Youth Labour Market

Per Skedinger*

Summary

■ To what extent do employment regulation and job-creation policies crowd out jobs for young people? First, an analysis of employment regulation, based on time-series data of legislative changes in six European countries, suggests that strict regimes are in most cases associated with higher teenage unemployment, but that the effects for 20–24 year-olds are small. Second, a study of Swedish job-creation programmes for young people indicates considerable displacement of regular employment. The effects are larger than those found in previous studies, where data aggregated over all age groups were used. ■

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Per Skedinger*

In the last decade, persistent unemployment has emerged as a major problem in many OECD economies and this development has triggered a renewed interest in employment policies. The basic aim of employment policies is to either preserve or create jobs, often with disadvantaged groups in mind. Opinions differ widely regarding the merits of such policies, however; some argue that employment policies may be extremely helpful in combatting unemployment, while others are quite sceptical.

The purpose of this paper is to examine this issue from the perspective of the youth labour market. Even those countries that have managed to keep overall unemployment at relatively low levels still show substantially higher unemployment rates for youths than for adults, with few exceptions (OECD 1994a, 1994b, 1994c). The success or failure of employment policies may thus be even more important to youths than to adults.

Two specific types of policies, and their consequences for the youth labour market, are considered here: employment regulation and job-creation programmes for young people. In evaluating these policies, I focus on the *displacement* effects, i.e., to which extent the young workers are crowded out from employment. Although the main concern in this paper is with the Swedish labour market, some evidence for other countries is also provided.

Employment regulation takes many forms, the most important of which concern rules regarding dismissals and fixed-term contracts. It is

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mainly the interests of prime-age and older workers that are protected in this way, so it seems justified to inquire whether such regulation has negative effects for young persons. In Section 1, I examine whether youth unemployment has been affected by legislative changes that have occurred in a sample of European countries, including Sweden.

In Section 2, I discuss the effects of Swedish job-creation programmes for youths. Many new measures have appeared during the unemployment crisis of the 1990s, including a "job development scheme for young people" (*ungdomspraktik*), in which large numbers of youths have taken part. It is reasonable to assume that these programmes have displaced many regular jobs. Using time-series data for Sweden, I investigate the extent to which job-creation measures really have improved the employment situation for young persons.

The effects of employment regulation and job-creation programmes should not be regarded in isolation. If employment protection laws make it more difficult to screen employees and contribute to displacing many jobs, there may be a rationale for putting more emphasis on special measures for young people. This second-best argument carries much less weight, however, if the job-creation programmes themselves crowd out regular jobs to a great extent.

The paper concludes with a summary of the results and some policy arguments in view of the findings.

1. Employment regulation

After briefly describing the Swedish system of regulation, I proceed to the theoretical predictions regarding the effects of regulation on unemployment and present available empirical evidence for Sweden and other countries. In the final part of this section I look at cross-country evidence relating the strictness of employment regulation to youth unemployment and report on an econometric analysis using time-series data for a subset of countries, including Sweden, where important policy changes have occurred.

In Sweden, as in many other European countries, employers' decisions regarding the hiring and firing of employees are restricted by extensive legislation.[1] The Employment Protection Act (*LAS*), passed in 1974,

[1] Surveys of this legislation are provided in CEC (1993), Edin and Holmlund (1993), Grubb and Wells (1993) and Emerson (1988).

obliges employers to supply proof of justification, give advance notification and consult with trade unions prior to dismissals. Employees should be laid off in inverse order of seniority in the case of collective redundancies. If a court decides that a particular dismissal is unfair, the employee is awarded monetary compensation. There is no severance pay for dismissals with "justified" reasons, which include lack of work and gross misconduct. Restrictions are also imposed on the use of fixed-term contracts and temporary work agencies. The Employment Protection Act applies to all firms, regardless of size.

In 1982 some of these restrictions were lifted in order to facilitate exceptions to permanent contracts and allow for a probationary period of six months. Further steps towards liberalisation were taken in 1994, when the probationary period was extended to twelve months and a firm was allowed to exempt two employees from the seniority rules. However, these amendments were repealed by the new Social Democratic government in 1995.

1.1. Effects of employment regulation

The basic prediction in the literature is that employment regulation adds to employment adjustment costs, reducing the outflow from unemployment into employment, but also the inflow to unemployment from employment (Emerson, 1988). Thus, the net effect on unemployment is theoretically *ambiguous*. It follows from the reduced flows that employment adjustment is smoothed out over the business cycle, so that fluctuations in unemployment become smaller. A more recent line of research focuses on the effects of employers' expectations regarding future business conditions (Bertola, 1990). If firms are optimistic, the probability of having to fire a newly employed worker some time in the future is regarded as small and dismissal costs will be regarded as less important when hiring. Under such circumstances, employment regulations could contribute to lower average unemployment over the business cycle. Conversely, if the prevailing mood is pessimistic, the effects will go in the opposite direction: unemployment is higher with employment regulations.

In view of these theoretical predictions it seems plausible that employment regulation has effects for marginal groups in the labour market, such as the young, the handicapped and immigrants, that are quite *different* from the effects for other groups. Young people form a relatively large share of the new entrants on the labour market, and generally have less work ex-

perience than other groups. Regulations that bring about a decrease in the hiring rate are thus likely to affect youth more than older workers. Employers, who have little knowledge about the productivity of young workers, may be reluctant to hire them since they represent a more risky investment in the presence of employment adjustment costs (Kazamaki, 1991). Restrictions on fixed-term contracts could, under such circumstances, prove to be a major obstacle to youth employment, since such restrictions limit the possibilities of a screening period before a worker is taken on as a permanent employee. The strength of the effects of dismissal provisions is probably closely linked to the existence of restrictions on fixed-term contracts. It is especially likely that the joint occurrence of these two restrictions acts as a significant barrier to youth employment.

When assessing the consequences of employment regulations for young people, it is important to note that firing costs in many cases are *age dependent.* A typical feature of dismissal regulations in many countries is that severance pay is smaller and/or that notice periods are shorter for young workers (CEC, 1993; Grubb and Wells, 1993; Rasmussen 1993). Other firing costs are basically independent of the characteristics of the worker who becomes redundant, e.g. expenses due to consultations with trade unions, court procedures, or notification of public authorities. Another type of regulation of potential importance is the imposition of seniority rules. Adherence to such practices increases a young person's risk of being laid off relative to other groups. There is very little evidence available on the application of the last-in first-out principle in different countries, but Rasmussen (1993) argues that it is followed more strictly in Sweden than in the other Nordic countries.

It is sometimes argued that rational employers would adhere to these rules in any case and that legislation adds little, if anything, to employment adjustment costs (Buechtemann, 1989). This idea seems to be supported by the fact that the available empirical evidence on the unemployment consequences of employment regulation is inconclusive; some authors are unable to find any relationship (Bertola, 1990), while other studies suggest that (long-term) unemployment is increased (Heylen, 1991; Lazear, 1990; OECD, 1993). Grubb and Wells (1993) argue that work patterns are affected: for instance, there is likely to be a shift from dependent employment to self-employment, since the latter cannot be regulated.

Few empirical studies are concerned with the effects on young people of employment regulation, and the evidence is mixed. On the one hand,

there is survey evidence indicating that firms are more concerned with the *quality* of recruits as a consequence of employment regulation (Agell and Lundborg, 1995; Eliasson and Kazamaki Ottersten, 1994; Hart and Trinder, 1986). This should reinforce firms' unwillingness to hire young and inexperienced applicants. Employers often report that they are restricted by the last-in first-out rules when dismissals are necessary (von Essen, 1995). If this is the case, young employees may be put at a disadvantage by regulation.

On the other hand, econometric studies in which young people have been analysed separately do not lend strong support to the suggestion that they are hard hit by employment regulation. Lazear (1990) investigates whether dismissal restrictions increase (decrease) the ratio of youth to adult unemployment (employment) in a pooled data set including six countries.[2] Using a quantitative measure of severance pay and notice requirements, he finds no significant effects of regulation. Lazear does not mention whether the age-related differentials in firing costs, discussed above, are taken into account. It should also be noted that his analysis is rather incomplete, since the legal possibility of using fixed-term contracts is not considered.

In a study on Swedish data, Holmlund (1978) analyses the effects of the introduction of the Employment Protection Act in 1974. He concludes that neither unemployment rates nor the probability of leaving unemployment were significantly affected by this legislation. However, the time period considered is too short (1970–77) to include the regulatory changes of 1982. Another disadvantage of both Lazear's and Holmlund's studies is that the regressions contain few additional variables that may be important in explaining the labour market behaviour of youth.

1.2. Empirical analysis

We have noted that the empirical evidence on the effects of employment regulation on young people is rather meager. Some surveys contain information that can be used to evaluate the effects on youth unemployment, e.g. cross-country indices of the strictness of employment regulations and information regarding the development of regulation over time for indi-

[2] The countries under consideration were Israel, Italy, Norway, Spain, Sweden and the United States.

vidual countries. There is great variation in both employment regulations and unemployment, for adults as well as young people, across countries. The first step in my empirical analysis was to examine this variation. Before reporting the results, a few caveats seem appropriate.

The construction of a strictness index is obviously a complex issue. Such an index is based on many indicators, which may be regulated by legislation, collective agreements, or both. The rules may differ depending on the industry.[3] Some of the difficulties involved are discussed in Grubb and Wells (1993). Another problem in our context is the age bias of dismissal regulations. Available indices are based on the rules for the *average* employee, and it is not necessarily straightforward to apply them to young people. It should also be noted that minimum wage legislation, or similar regulation of wages in collective agreements, is not taken into account. Furthermore, the rankings do not take into consideration whether or not small firms are exempted. This is the case in many countries, but not in Sweden. To the extent that young persons are more likely to find jobs in small firms, e.g. in retailing, hotels and restaurants, this omission may be important. For these reasons the rankings reported below should be taken with more than the usual grain of salt.

Figure 1 plots rankings of the strictness of employment regulation for various countries against the aggregate unemployment rate. The latter variable was measured as an average for the period 1984–93. Since employment regulation was measured in a more subjective way, this index is represented by *two* different rankings, based on information in Grubb and Wells (1993) and Bertola (1990), respectively. A rank of 1 pertains to the least restrictive set of regulations. The Grubb-Wells ranking, in the upper figure, is based on the sum of rankings for dismissal restrictions and fixed-term contracts in EC countries.[4] As I have argued, these two indicators are likely to be the most important ones for youth unemployment. The Bertola ranking, which is shown in the lower figure, is based on a larger number of indicators and a somewhat different set of countries, including three non-EC nations – Japan, Sweden and the US.[5]

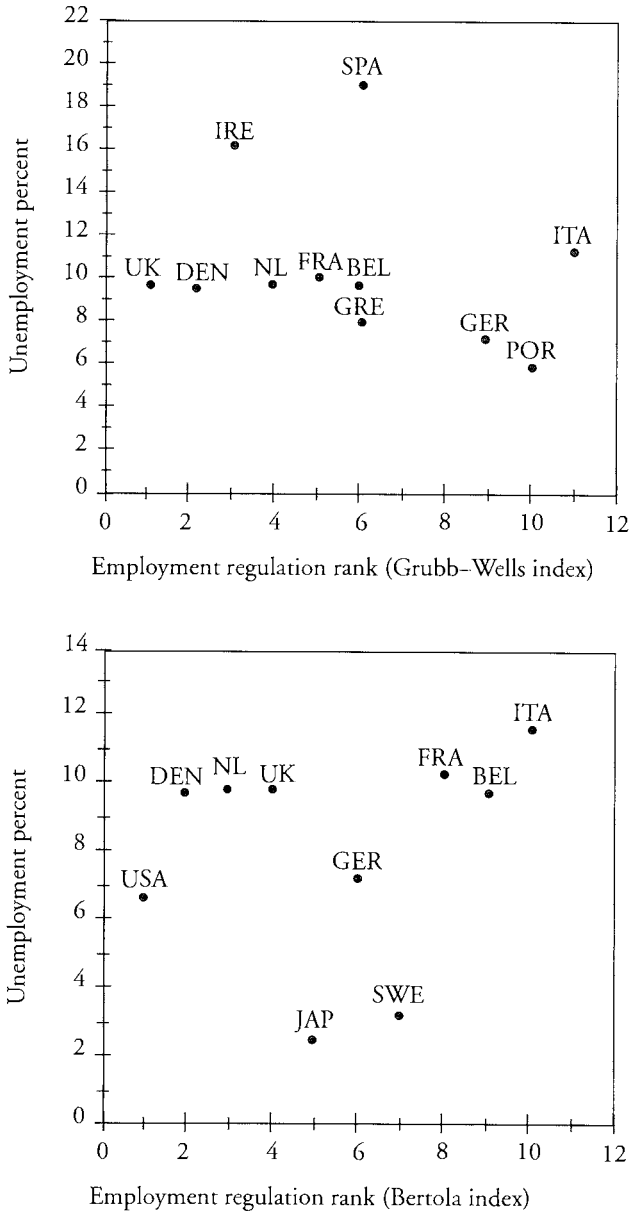
The correlation of the rankings for the common set of countries is rath-

[3] Storrie (1994) has studied the impact of the legislation concerning fixed-term contracts in the collective agreements of various Swedish industries. Stricter rules were applied in manufacturing and large companies than in service industries and small firms.

[4] The index is based on the unweighted sum of the indices RDSM and RFTC of Table 9 in Grubb and Wells (1993, p. 24).

[5] Sweden has since joined the EU.

Figure 1. The aggregate unemployment rate (as an average for 1984–1993) and employment regulation in various countries



Notes: The higher the rank order, the stricter the employment regulation.

Sources: Grubb and Wells (1993), Bertola (1990), OECD (1994a), and OECD Labour Force Statistics.

er strong. The main differences are that Germany is ranked higher than France and Belgium by Grubb and Wells, and that the United Kingdom is ranked lower than Denmark and the Netherlands by the same authors. Italy is considered to have the most restrictive regulation in both rankings.

As Figure 1 shows, there is a great deal of variation in unemployment rates across countries, between 3 per cent in Japan and 20 per cent in Spain. However, there seems to be little correlation between the strictness of employment regulations and aggregate unemployment. This observation is in accordance with much of the empirical literature. The rank correlation coefficient (ρ_c) in the upper figure is –0.33, with a *t*-value of –0.76. In the lower figure, we have $\rho_c = 0.19$ (*t*-value 0.55).

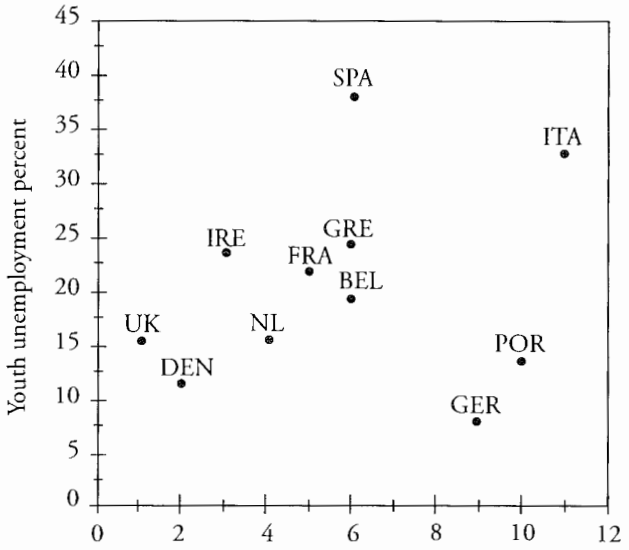
In Figure 2, the same indices are plotted against the youth unemployment rate. The youth unemployment rates are considerably higher than the corresponding aggregate rates in most countries, and vary between 5 and 38 per cent. The picture is mixed regarding the links with employment regulations: according to the diagram with the Grubb-Wells index there is no correlation at all ($\rho_c = 0.12$, *t*-value 0.57), but the Bertola index indicates a positive relationship ($\rho_c = 0.55$, *t*-value 1.88). Apparently the relationship is sensitive to the type of index used. It can be seen that among the three countries with the highest youth unemployment – Spain, Italy and Greece – only Italy belongs to the countries with the strictest regulations. Similarly, the countries with the lowest youth unemployment – Japan, Sweden and Germany – are not those that apply the most liberal rules.

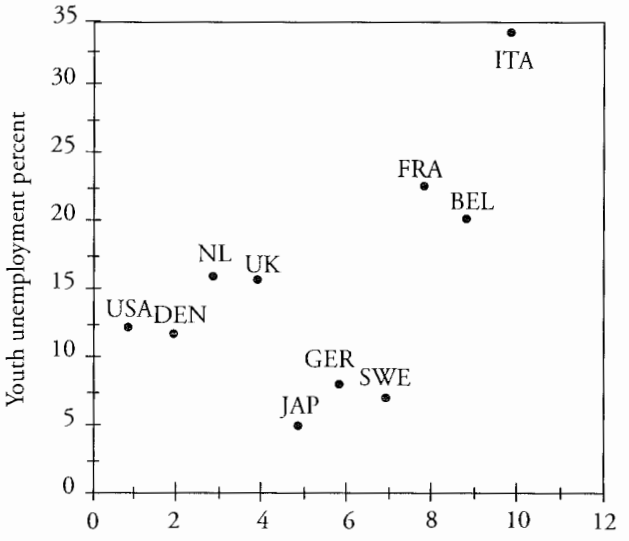
In Figure 3, I have divided the youth unemployment rate by the aggregate unemployment rate. This relative unemployment rate for young people provides a simple way of controlling for other factors that influence the general unemployment situation in a country. Relative youth unemployment ranges from 1.1 in Denmark and Germany to 3.0 in Italy. The ratio for Sweden is 2.2, which is above average. It is notable that *both* figures now indicate a *positive* relationship between the strictness of employment regulations and relative youth unemployment. We obtain $\rho_c = 0.56$ (*t*-value 2.04) in the upper figure and $\rho_c = 0.68$ (*t*-value 2.61) in the lower one.

Germany emerges as an outlier, with considerably *less* unemployment than predicted by the strictness of regulation.[6] This may well be ex-

[6] When Germany is excluded, ρ_c gets a value of 0.87 (*t*-ratio 4.67) in the upper figure and 0.81 (*t*-ratio 3.67) in the lower one.

Figure 2. The youth unemployment rate (as an average for 1984–93) and employment regulation in various countries





Notes: Youth is defined as those aged under 25. Unemployment figures for Belgium, Denmark and Greece refer to 1993. See also the note to Figure 1.

Sources: See Figure 1.

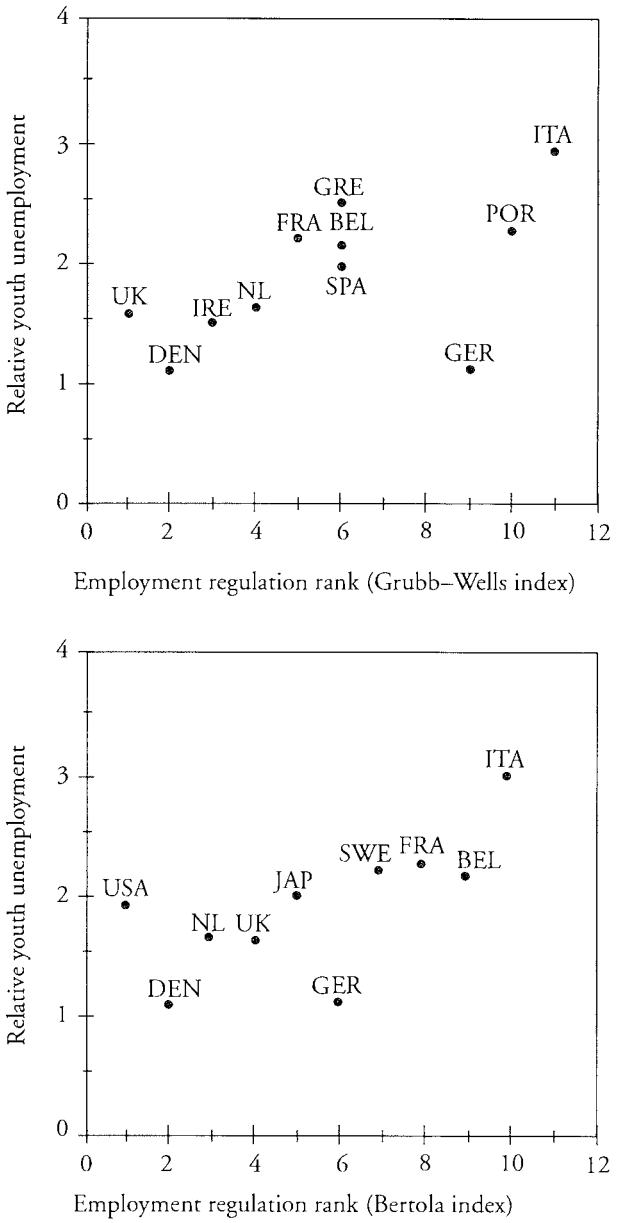
plained by the country's particular institutional arrangements pertaining to the youth labour market. The German *apprenticeship* system may have contributed to making the youth unemployment rate about as low as the aggregate rate. Apprentices form a large share of total youth employment, around 70 per cent, and relative wages are low, between 26 and 37 per cent of adult wages depending on age and industry (OECD, 1994c). Of course, the apprenticeship system is not unique to Germany. Denmark, another country with low relative youth unemployment, has arrangements that are similar to Germany's in terms of comprehensiveness and allowances. The French system, though, differs in two important respects – only 20 per cent of total youth employment is accounted for by apprentices and relative wages are higher. It is therefore to be expected that France is not an outlier in the figures in the same way that Germany is.[7]

Mosley (1992) sets relative and standardised youth unemployment rates in relation to an index of employment protection for ten EC countries. The analysis is based on unemployment data for one year only (1989) but a conclusion similar to ours is reached, i.e., there is a positive relationship between relative youth unemployment and the strictness of employment regulations ($\rho_c = 0.41$).

As mentioned above, the age bias of employment regulations is not accounted for in our rankings. Grubb and Wells (1993) present information regarding notice periods and severance pay, in months, for employees with a tenure of 9 months, 4 years and 20 years, respectively. Their data refer to no-fault individual dismissals. A large share of young employees can be expected to have no more than 9 months on the job, so this information may be better suited for the purposes of our analysis than averages. It turns out, however, that the regulations are highly correlated across tenure groups. For instance, we obtain the rank correlation coefficients $\rho_c = 0.54$ for notice periods and $\rho_c = 0.91$ for severance pay when we compare the rules for those with 20 years' and 9 months' job tenure. When a new index is calculated, based on the rules for the group with 9 months' tenure (instead of an unweighted average of three job duration periods), the correlation with the country rankings in the Grubb–Wells index used in the figures is very high ($\rho_c = 0.95$). This is explained both by the high correlation across tenure groups for the rules concerning notice and severance pay as well as by the existence of many age-indepen-

[7] Austria, which is not included in the indices, also has an apprenticeship system similar to the German one.

Figure 3. Relative youth unemployment (as an average for 1984–93) and employment regulation in various countries



Notes: Youth unemployment is the unemployment rate for youths aged under 25 divided by unemployment for all persons. Unemployment ratios for Belgium, Denmark and Greece refer to 1993. See also the note to Figure 1.

Sources: See Figure 1.

dent rules that determine the strictness of regulations. We are therefore able to conclude that the results are not altered in any substantial way by taking the age bias in notice and severance pay regulations into account. The bias resulting from last-in first-out rules, on which there is no information, is not considered here.

Does the observed relationship survive when other country characteristics that might affect youth unemployment are controlled for? In trying to answer this question, I chose to exploit the time-series variation in employment regulation, and investigate whether *changes* in legislation have had any effect on youth unemployment. My focus is on the two areas of regulation which I believe to be the most important: dismissals and fixed-term contracts.

The following criteria were used to select the countries to be included in the econometric analysis. First, legislative changes have occurred, so that policy regimes can be labelled as "strict" and "liberal", respectively, and at least two periods with one policy regime, strict or liberal, can be observed. Second, OECD data on the relevant unemployment figures covering the above periods had to be available. Unfortunately, many candidates did not fulfill these two criteria, so the final sample consists of the following six countries: France, Germany, the Netherlands, Spain, Sweden and the United Kingdom. Although small, the sample consists of countries where important policy changes have occurred. The experiences regarding youth unemployment in these countries should consequently be of considerable interest from a policy perspective.

Using information in CEC (1993), Emerson (1988), Hart and Trinder (1986) and the ILO Legislative Series (various issues), I identified the following policy regimes in the six countries (where the terms "liberal" and "strict" describe different periods in individual countries only, with no relation to other countries, as legislation varies greatly in both strictness and contents across countries):

France: The period 1985–88 is regarded as liberal, with strict periods before and after. In 1985 and 1986, the maximum duration of fixed-term contracts was extended to two years, with justifying reasons for such contracts expanded, and the requirement of prior official authorisation of dismissals for economic reasons was abolished. A partial policy reversal occurred in 1989, when the timetables for dismissals were extended, and the role of public authorities in the procedures was strengthened.

Germany: The period 1969–84 has been identified as strict, with liberal periods before and after. Legislation of 1969 required notice, prenotification or consultation with works councils and labour offices as well as compensation for unfair dismissals. In 1985, the maximum duration of fixed-term contracts was extended from 6 to 18 months, with no justification of reasons required.

Netherlands: Legislation governing dismissals was introduced in 1976. Approval of a labour office is necessary for all dismissals, except in cases of gross misconduct. Restrictions regarding notice, consultation with works councils and trade unions, and compensation were also imposed. A liberalisation took place in 1985, when the maximum time for public authorities to deliberate on proposed dismissals was reduced. There are no restrictions on fixed-term contracts in the Netherlands, except a limitation on the number of renewals. Thus the period 1976–84 is labelled as strict, whereas periods before and after are regarded as liberal.

Spain: The period 1984–89 is considered as the liberal one, and periods before and after strict. In 1984, new firms were allowed to use fixed-term contracts for a period of 6 months to 3 years. Dismissal restrictions were severe during the whole observation period. In 1990, the maximum compensation for dismissals was increased.

Sweden: The period 1974–81 is regarded as strict, with periods before and after labelled as liberal. (Further details may be found in the introduction to Section 1.)

United Kingdom: The strict period refers to 1975–79, with liberal periods before and after. In 1975, legislation was introduced in order to safeguard against unfair dismissals, with justifying reasons, notice, consultation with trade unions and compensation required. The use of fixed-term contracts has never been restrained in the United Kingdom. Some of the restrictions on dismissals were relaxed in 1980, when e.g. small firms were exempted. Since then, there has been a consistent trend towards deregulation of dismissal restrictions.

The dependent variable in the econometric analysis is the youth unemployment rate. The maintained hypothesis is that periods with *stricter* employment protection laws are associated with *higher* youth unemploy-

ment. The unemployment data are disaggregated into teenagers and young adults between the ages of 20 and 24 (except for the Netherlands), as well as males and females, which makes it is possible to distinguish among effects for different subgroups. There are thus four such groups for each country.

It is also conjectured that strict regimes give rise to a stronger effect for teenagers than for young adults, and a stronger effect for females than for males. This is because both teenagers and females are more likely to be new entrants on the labour market, and because legislation may make employers more reluctant to hire females of child-bearing age than older women. On the other hand, this tendency towards higher unemployment for certain groups may be mitigated if potential job-seekers are discouraged into leaving, or not entering, the labour force as a consequence of legislation.

In the analysis, the impact of legislation is captured by dummy variables, with a value of 1 indicating a "strict" regime. Legislation is taken as exogenous, although it is recognised that the incorrectness of this assumption would lead to econometric problems. It is conceivable that high unemployment increases employee demands for employment protection. However, there seem to be fewer grounds for expecting that *youth* unemployment, in itself, would act as a trigger of legislation.

I also controlled for other factors that can be expected to influence youth unemployment. On the demand side, cyclical conditions are represented by unemployment for all persons and the growth rate in real GDP. These variables should be important if young people are more sensitive to business conditions than adult workers. Relative employment costs are not available, which is a great disadvantage. For countries with minimum wage legislation (France, the Netherlands and Spain), however, there is information on the legal minimum. This variable is available for a shorter period than the rest of the data set, so minimum wage data were used in a later stage of the analysis to test for stability.

On the supply side, demographics may be important. An increase in the number of young people in the population should increase youth unemployment if various age groups are imperfect substitutes in production. In order to account for this possibility, a variable relating youth population to total population was included.[8]

[8] Data were not available for Spain.

A trend was also incorporated, which may account for a number of unobserved factors on both the demand and the supply side, e.g. increasing skill requirements due to technological progress, increasing educational attainments of young people relative to older workers, or increasing "choosiness" of the young unemployed due to improved standards of living and/or increased relative replacement ratios. Since these forces affect youth unemployment in opposite directions, it is hard to interpret the trend variable in any meaningful way. It was included in the regressions mainly as a check for robustness.

The linear regression equations were estimated by SUR (seemingly unrelated regression). If the error terms are contemporaneously correlated across equations, this technique is more efficient than OLS. Equations for the four groups in each country were estimated as one system. It seems reasonable to assume that the error terms across groups within a particular country are more correlated than the errors for a certain group among countries. For expositional convenience, the results for males and females are presented in different tables. I have allowed for dynamics in the estimated relationships, when indicated by exploratory regressions.

The first set of regressions, for males, is displayed in Table 1. The results reveal substantial *differences* across age groups in responsiveness to employment regulation. The coefficient of the legislation dummy is *positive* and *significant* for teenagers in all countries, except France, while it is *insignificant* for young adults (20–24 years) in all countries except Germany. The interpretation of the coefficients is that unemployment among e.g. Swedish teenagers rose by 1.5 percentage points during the strict period of 1974–81, as compared to the estimation-period average of 6.0 per cent.

The only country where teenagers obtain a smaller coefficient than young adults is Germany. The divergent results for Germany may be explained by its apprenticeship system, where teenagers, but *not* 20–24 year-olds, take part in large numbers. Labour market institutions may thus have shifted the unfavourable effects of employment protection from the former to the latter age group.

There is no reason to expect the coefficients for the legislation dummy to be equal across countries, given the heterogeneity of the policy regimes. It is not surprising that liberalisation of fixed-terms contracts in countries with strict dismissal restrictions, i.e., France, Germany and Spain, yields a reduction in youth unemployment. The relatively large coefficient for the United Kingdom is less expected, however, considering

Table 1. Estimated unemployment equations for males, by country and age group. Dependent variable: male youth unemployment. Seemingly unrelated regressions (SUR)

Variable	France		Germany		Neth.	Spain		Sweden		UK	
	15–19	20–24	15–19	20–24	15–24	16–19	20–24	16–19	20–24	16–19	20–24
Dummy for period(s) with strict legislation	1.582 (1.57)	0.382 (0.41)	0.982 (4.48)	1.232 (9.42)	2.214 (6.30)	8.576 (8.01)	0.635 (1.12)	1.458 (2.78)	0.558 (1.92)	3.618 (4.01)	–0.327 (0.44)
Unemployment	2.228 (4.22)	1.519 (4.56)	1.293 (15.05)	1.753 (29.75)	2.169 (28.19)	3.507 (27.20)	1.923 (28.20)	2.345 (6.58)	2.728 (20.45)	2.674 (14.22)	1.063 (5.10)
Real GDP growth	–0.623 (3.98)	–0.264 (1.94)	–0.128 (3.14)	–0.048 (1.68)	–0.384 (4.71)	–0.699 (4.69)	–0.075 (0.98)	–0.192 (1.48)	–0.018 (0.38)	–0.350 (2.49)	–0.295 (1.96)
Ratio of youth to total population	2.454 (1.91)	0.201 (0.41)	0.055 (0.92)	0.149 (1.49)	–1.841 (4.56)			0.281 (0.46)	0.556 (2.93)	2.375 (4.94)	0.515 (0.47)
Trend	–0.388 (1.68)	–0.275 (2.53)	–0.128 (3.98)	–0.194 (8.46)	–0.738 (6.12)	–1.695 (15.44)	–0.414 (7.15)	–0.015 (0.50)	0.130 (7.74)	–0.437 (4.63)	0.215 (2.54)
Male youth unemployment (t–1)	0.771 (6.33)	0.514 (3.27)						0.328 (2.79)			0.581 (2.91)
Male youth unemployment (t–2)	–0.368 (3.19)							–0.368 (3.89)			–0.394 (4.67)
R^2 (adj)	0.965	0.977	0.973	0.992	0.987	0.989	0.995	0.819	0.971	0.962	0.953
DW	2.48	1.63	1.75	1.92	1.76	1.98	1.75	1.42	1.76	2.29	2.51
Mean of dep. variable	13.89	10.22	3.97	4.89	12.75	27.82	19.94	6.01	4.37	16.27	13.77

Notes: All equations include an intercept. The estimation periods are the following: France 1970–92 (15–19), 1969–92 (20–24); Germany 1967–90; Netherlands 1973–92; Spain 1972–92; Sweden 1968–92 (16–19), 1966–92 (20–24); United Kingdom 1970–92 (16–19), 1972–92 (20–24). See text for specification of the periods with strict legislation. Absolute t-values in parentheses.

Sources: Youth unemployment and unemployment for all persons: OECD Labour Force Statistics (various issues).
Legislation dummy: CEC (1993), Emerson (1988), Hart and Trinder (1986) and the ILO Legislative Series (various issues).
Real GDP growth: OECD Economic Outlook (various issues).
Ratio of youth to total population: (a) France: Annuaire Statistique de la France; (b) Germany: Statistisches Jahrbuch für die Bundesrepublik Deutschland; (c) Netherlands: Statistical Yearbook of the Netherlands; (d) Sweden: Labour Force Surveys; (e) United Kingdom: United Kingdom Annual Abstract of Statistics. Various issues for (a) – (e).

the liberal rules regarding fixed-term contracts throughout the estimation period.

On the whole, the two cyclical variables, especially overall unemployment, work according to expectations. The coefficient for real GDP growth, however, is sometimes insignificant. The results regarding the relative population variable are not entirely satisfactory. Significance is achieved in only a few cases, and in one instance with the "wrong" sign (the Netherlands).

The results concerning males largely carry over to females, but the evidence in Table 2 is not as clear-cut as in the former case. For female teenagers, the legislation dummy comes in significantly with a positive sign in all cases, apart from Germany where the coefficient is negative and significant. Only in France and Germany do the results indicate that unemployment among young adult females is increased by strict legislation. The conjecture that females, in general, are more sensitive to regulations than males does not receive strong support (except in the French case).

In addition to the regressions in Tables 1 and 2, I tried many other specifications. These estimates are not reported, but some of the results are discussed below. First, I ran the same regressions as in the two previous tables and added a minimum-wage variable, i.e., the legal minimum in per cent of average wages for prime-age workers (25–54 years). This variable is available for only three countries – France, the Netherlands and Spain – and the estimation period for each country is shorter than before (OECD, 1994c). The results of this exercise are that if a legislation dummy was previously significant, it remains so after the introduction of minimum wages. The wage variable met with mixed success, however, and in some cases the coefficient turned out to be insignificant.

I also experimented with an interaction variable for the strictness of legislation and GDP growth, in order to investigate whether the effects of legislation differ in "good times" and "bad times" (see Bertola, 1990). Rasmussen (1993) also argues that strict regulations should increase the cyclical sensitivity of youth unemployment. The results failed to support this hypothesis.

It is quite possible that the legislation dummy picks up other influences on youth unemployment, unaccounted for in the analysis. It would have been desirable to have information on the number of youths in labour market programmes, which have been important in many of the countries.[9]

[9] Such measures may, however, at least in part, be prompted by shifts in the age distribution of unemployment caused by employment regulation itself.

Table 2. Estimated unemployment equations for females, by country and age group. Dependent variable: female youth unemployment. Seemingly unrelated regressions (SUR)

Variable	France		Germany		Neth.	Spain		Sweden		UK	
	15–19	20–24	15–19	20–24	15–24	16–19	20–24	16–19	20–24	16–19	20–24
Dummy for period(s) with strict legislation	4.921 (2.28)	1.432 (2.28)	–1.321 (3.17)	1.870 (7.13)	0.214 (0.39)	3.662 (2.37)	0.701 (1.17)	1.558 (2.27)	–0.564 (2.50)	3.688 (4.54)	0.414 (0.89)
Unemployment	4.493 (3.73)	2.754 (10.46)	1.011 (6.08)	0.880 (7.93)	0.926 (8.90)	2.325 (5.99)	1.473 (11.72)	1.263 (3.17)	1.259 (11.91)	2.031 (12.38)	0.889 (8.88)
Real GDP growth	–1.295 (3.25)	–0.085 (0.88)	0.021 (0.42)	–0.128 (3.05)	–0.040 (0.64)	–0.504 (2.10)	–0.157 (1.55)	–0.434 (2.94)	–0.039 (0.84)	–0.207 (1.66)	–0.149 (2.01)
Ratio of youth to total population	10.146 (4.12)	–0.265 (0.43)	0.857 (7.19)	0.054 (0.21)	2.192 (4.56)			0.349 (0.45)	–0.569 (3.49)	3.070 (7.06)	–0.243 (0.55)
Trend	–0.228 (0.49)	–0.233 (2.67)	–0.199 (0.51)	–0.085 (2.26)	0.671 (4.55)	–0.809 (5.08)	–0.250 (3.10)	–0.110 (3.15)	–0.024 (1.79)	–0.272 (3.38)	–0.061 (1.78)
Female youth unemployment (t–1)	0.804 (6.98)	0.387 (3.67)	0.445 (2.93)	0.534 (8.78)	0.592 (4.75)	0.386 (3.32)	0.470 (7.37)	0.495 (4.23)	0.321 (5.02)		0.442 (4.55)
Female youth unemployment (t–2)	–0.403 (3.05)	–0.219 (2.39)	–0.390 (3.67)		–0.381 (3.16)			–0.258 (2.44)			
R^2 (adj)	0.950	0.993	0.987	0.987	0.993	0.985	0.998	0.732	0.954	0.961	0.976
DW	2.32	2.33	2.13	2.45	2.57	1.60	1.42	1.66	2.47	2.18	2.38
Mean of dep. variable	28.84	16.73	5.96	6.22	13.33	36.99	28.63	7.14	4.46	12.75	8.61

Notes: The estimation periods are the following: France 1970–92; Germany 1970–90 (15–19), 1969–90 (20–24); Netherlands 1975–92; Spain 1973–92; Sweden 1968–92 (16–19), 1967–92 (20–24); United Kingdom 1970–92 (16–19), 1971–92 (20–24). See also the notes and sources to Table 1.

The period 1985–89 was identified as liberal in all of the countries examined and it is therefore of interest to compare the development of youth unemployment in the sample countries with that of the United States, where no general legislative changes have occurred. When regressions for US male teenagers were run with the same variables as in Table 1, it turned out that the period 1985–89 was *not* associated with lower unemployment, in contrast to the experiences in the other countries.

Another problem is that the variables may be non-stationary, which is common in time-series analysis. The high values of R^2 are perhaps an indication of this.[10] The remedy usually suggested is to first-difference the data, but this procedure involves losing a great deal of information with the associated risk of committing type I errors, i.e., rejecting the null hypothesis when it is in fact true. As a compromise, additional estimations were performed where relative youth unemployment was used instead as the dependent variable. These tests gave results concerning the effects of legislation that were quite similar to those presented here, but the explanatory power of the regressions was greatly reduced in most cases.

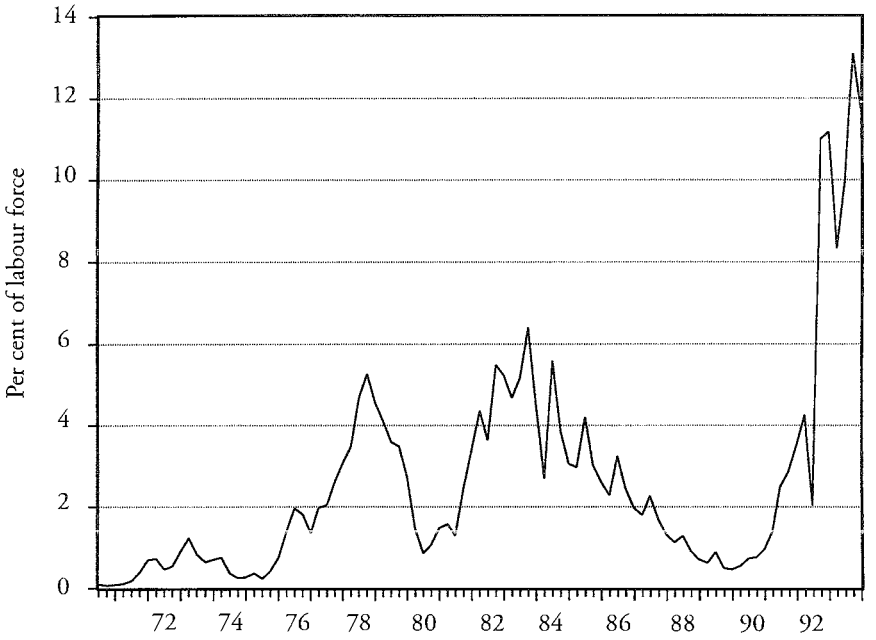
2. Job-creation programmes

I now turn to the second type of policy to be evaluated, i.e., job-creation programmes. Sweden has a long tradition of active labour-market measures. In short, this tradition has amounted to providing training programmes and relief jobs to prime-age workers. A policy shift occurred in the late 1970s and early 1980s, when young people were targeted to a much larger extent than previously. This coincided with the introduction of a variety of special measures for youth. The strong emphasis on youth programmes has continued into the 1990s, when unemployment reached previously unobserved levels. Many new programmes, such as the job development scheme (*ungdomspraktik*), have engaged large numbers of young participants.

After a brief overview of these measures, I discuss some of their potential effects. I then turn to an econometric analysis where the focus is on the displacement effects: to what extent do programmes crowd out regular jobs? The relevance of this question is underscored by the massive scale of youth measures in Sweden and the many different types of programmes that have been implemented.

[10] Formal tests for non-stationarity have little power in the small samples used here.

Figure 4. The number of youths in job-creation programmes in Sweden, 1970:3 – 1994:1



Notes: The data refer to 16–24 year-olds and are seasonally adjusted.

Sources: National Labour Market Board (Labour Market Statistics and unpublished statistics), Statistics Sweden (Labour Force Surveys).

The development of job-creation programmes in Sweden during the period 1970–94 is shown in Figure 4. These measures have varied greatly in size over time (in response to changes in economic activity). Participation rates have ranged from close to 0 per cent of the labour force in the early 1970s to 13 per cent at the end of the period. Current levels of programme activity are thus unprecedented. Table 3 presents a breakdown by programme type and age for the period 1978–93, where participation in absolute numbers is reported. (Training programmes are also included.) The table shows that relief work was the dominant means of job creation up to the mid-1980s. Special youth measures were introduced in 1984, with the advent of "youth teams" (*ungdomslag*). The idea behind this programme was to offer half-time employment to teenagers while encouraging job-seeking activities. A few years later, the youth teams were replaced by "job introduction" schemes (*särskild inskolningsplats*), which

Table 3. The number of youths in various labour market measures, by age, 1978–93

Year	Relief work		Labour market training	Temporary replacement scheme		Job introduction projects		Special youth measures				Total
								Youth teams and job introduction schemes		Job development scheme		
	18–19	20–24	18–24	18–19	20–24	18–19	20–24	18–19	20–24	18–19	20–24	18–24
1978	19 512	9 072	18 000	–	–	–	–	–	–	–	–	46 584
1979	19 979	9 452	19 631	–	–	–	–	–	–	–	–	49 062
1980	8 215	4 366	15 689	–	–	–	–	–	–	–	–	28 270
1981	6 864	5 663	11 071	–	–	–	–	–	–	–	–	23 598
1982	16 969	13 449	12 298	–	–	–	–	–	–	–	–	42 716
1983	18 483	19 777	12 914	–	–	–	–	–	–	–	–	51 174
1984	4 711	14 599	13 123	–	–	–	–	17 743	–	–	–	50 176
1985	47	7 844	11 977	–	–	–	–	30 542	–	–	–	50 410
1986	29	6 394	12 030	–	–	–	–	24 473	–	–	–	42 926
1987	22	4 997	12 465	–	–	–	–	17 869	–	–	–	35 353
1988	–	3 668	14 988	–	–	–	–	10 096	–	–	–	28 752
1989	–	2 189	11 842	–	–	–	–	4 487	–	–	–	18 518
1990	–	1 598	10 236	–	–	–	–	2 959	–	–	–	14 793
1991	–	2 265	17 439	292	470	–	–	9 617	–	–	–	30 083
1992	–	2 369	25 862	1 117	2 688	–	–	12 041	192	7 124	10 381	61 774
1993	–	238	11 580	602	2 694	262	4 489	579	80	17 333	40 338	78 195

Sources: National Labour Market Board, Labour Market Statistics and unpublished statistics.

provided work experience for teenagers in full-time jobs. But this programme never reached the same levels in terms of participation. The present unemployment crisis has initiated a wide variety of new labour market measures, the most important of which are "temporary replacement" schemes (*utbildningsvikariat*), "job introduction projects" (*arbetslivsutveckling*) and "job development schemes for young people" (*ungdomspraktik*).

In recent years, the job development scheme has been the predominant measure in terms of participation, providing on-the-job training and working-life experience to young people. Several features of this programme are noteworthy: i) its scale, with enrollment averaging 58,000 in 1993; ii) the focus on creating jobs in private firms, which deviates from the tradition of using public-sector employment as the norm in labour-market programmes (however, participants are not employed by the firms in the formal sense); iii) the levels of compensation, which are considerably lower than the market wage rates previously paid in youth measures;[11] and iv) the size of the subsidy, which is unusually large, i.e., it was 100 per cent until 1994, after which time the employers had to pay a fee of SEK 1,000 per month and trainee to the government (AMS, 1994).

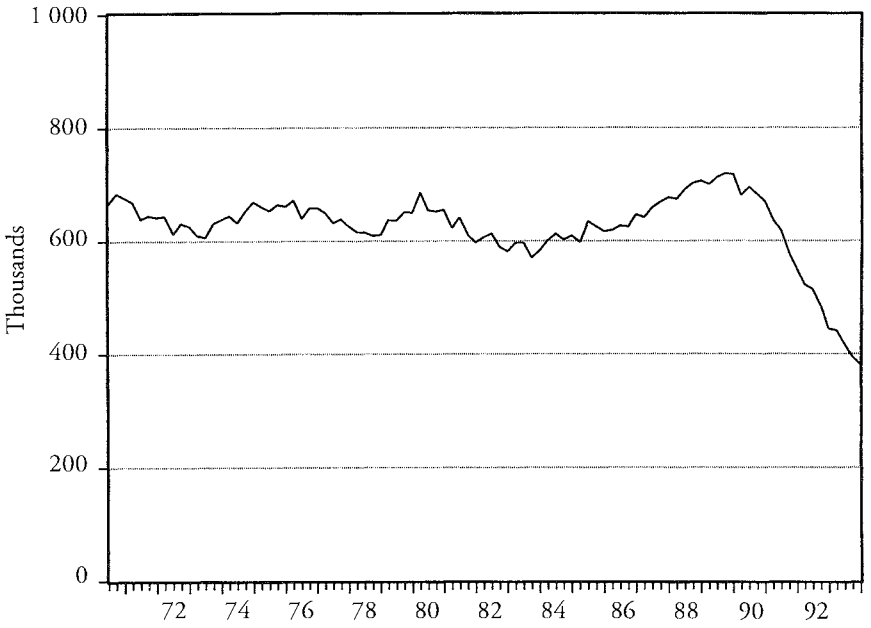
In January 1995, a new, but similar programme (*ungdomsintroduktion*) replaced the job development scheme for those above 20 years of age. The main difference from the previous measure is that the employer has to make a commitment to hire the trainee for at least six months when the programme is finished (after four months). For teenagers, the old scheme remains in effect until July 1995.

Figure 5 shows the development of youth employment for the period 1970–94. Only regular employment is considered, i.e., the participants in job-creation programmes who are counted as employed in the labour force surveys have been subtracted from the total.[12] The recent fall in youth employment is quite dramatic; about half the number of regular jobs have disappeared since 1989.

[11] As of January 1994, the compensation is SEK 245 per day for participants aged 18–19 and SEK 338 for those aged 20–24 (AMS, 1994). Young people who are eligible for unemployment benefits from unemployment insurance funds receive compensation that is equivalent to the unemployment benefits.

[12] Accordingly, participants in relief work, temporary replacement schemes, youth teams and job introduction schemes have been deducted from total employment. Participants in job development schemes and job introduction projects are not counted as employed in the labour force surveys.

Figure 5. The number of youths in regular employment in Sweden, 1970:3 – 1994:1



Notes and sources: See Figure 4.

2.1. Effects of youth measures

Job-creation programmes for youth have both direct, or individual, effects on participants and indirect (general-equilibrium) effects on employment for other groups, youth as well as adults. While the indirect effects are the primary concern of this study, I also briefly discuss some of the direct effects.

In the short term, programmes contribute to lower open unemployment while reducing the job search intensity of the participants as a probable side effect. What matters in the long term is whether the programmes increase the "employability" of those taking part. This is indicated by the probability of getting a regular job after the programme is finished as well as the level of future wages. Empirical evidence regarding the success of Swedish youth programmes in this respect is mixed; job prospects, but not incomes, seem to be positively affected.[13]

[13] A survey, which also discusses some of the methodological difficulties in the literature, is provided in Johannesson and Zetterberg (1993).

The indirect effects operate through different channels. To begin with, there is the possibility of direct displacement, or crowding-out, of employment. This is most likely to affect close substitutes to youth labour in production, e.g. other young people, unskilled labour and older workers. Some employment effects may, however, go in the opposite direction; adults are in many cases complementary to young people in production, so adult employment may actually increase. Youth employment often requires tuition and supervision by older and more experienced colleagues, and young workers may assist older ones by performing routine tasks.

There is some empirical evidence regarding displacement effects in Swedish relief jobs. The results suggest that crowding out of regular employment may be substantial (Forslund and Krueger, 1994; Gramlich and Ysander, 1981). There have been no attempts in the literature to consider different types of programmes or examine the effects for different age groups. Wadensjö (1987) found that youth teams reduced unemployment among teenagers, but it is not possible to draw any conclusions regarding the exact size of the displacement effect from his estimates.

Displacement of jobs may also occur through wage formation. It has been argued that labour-market programmes may contribute to increased wage pressure and most, but not all, of the empirical evidence seems to be in favour of this hypothesis.[14] The idea is that the provision of programmes improves the position of laid-off workers, and this strengthens the bargaining position of trade unions *vis-à-vis* employers in wage negotiations. However, if the programmes are targeted towards young persons – or other groups of "outsiders" – theory suggests that wage pressure should be reduced, since the likely effect is that "insiders" will encounter more competition from "outsiders" (Calmfors and Lang, 1995). Empirical evidence in this area is scant, but one study suggests that relief jobs have increased young workers' wages to a relatively large extent and have thus contributed to the observed compression of wage differentials across age groups (Skedinger, 1992). However, the impact on youth wages was derived from overall relief jobs, and not the age-specific rates. Other evidence indicates that the targeting of programmes on young people has not increased employment significantly – a result which is not in support of the theory (Calmfors and Skedinger, 1995).

[14] Many studies, including Calmfors and Forslund (1991) and Calmfors and Nymoen (1990), find that labour market programmes contribute to increased wage pressure, while the results of Edin, Holmlund and Östros (1993) suggest the contrary (for training programmes). A recent survey of the empirical literature is Skedinger (1994).

The strengths of the various effects outlined above depend on the design of the programmes. Turning to this issue, I pay special attention to the characteristics of the largest youth programme, the job development scheme for young people.

A low compensation level, as in this scheme, should induce more active job search among programme participants and also make the programme less expensive than other youth measures in terms of outlays for benefits. Since youth programmes do not improve the situation for redundant, prime-age workers, the theory outlined above does not predict that the wage demands of regular employees will be affected by compensation levels in those programmes.

The eligibility requirements are also important for the outcome of the programme. A worrisome feature of the job development scheme is that some of these requirements have not been met in practice and the rules may also have been too lax in the first place. The programme was intended to be used as a last resort, when nothing else works, but the formal rules regarding waiting periods have apparently not been enforced.[15] This is a serious drawback, since pressure from parents and the young people themselves to enter the programme earlier may give rise to a selection process, whereby those who are most likely to get regular jobs anyway – due to higher educational attainment and the presence of other personal characteristics favoured by employers – become overrepresented in the programme. This is a deadweight cost which the programme administrators seem to have little incentive to avoid in the present system.

There is also a possibility that youth programmes may act as a substitute for school enrollment, especially for teenagers, where the main alternative to programme participation may be formal education rather than a regular job. The eligibility requirement is that youths aged 18–19 years should have completed two years of secondary school (*gymnasium*) before entering the job development scheme. In contrast to the waiting rules, there is no indication that this rule has not been enforced (AMS, 1993).

A large subsidy – another characteristic of the job development scheme – should create a great deal of displacement, since the employer's incentive to substitute for other types of labour increases with the subsidy. Although the government's intention is that the trainees should not

[15] According to the rules, youths aged 18–19 should have been registered with the unemployment office for at least 8 weeks and 20–24 year-olds should have been registered for at least 16 weeks. However, this condition was fulfilled by only 37 per cent of the participants in 1992 (AMS, 1993).

serve as replacements for others in the workforce, it can be taken for granted that at least some substitution takes place. The frequent claim that little in the way of training has actually been offered to the participants makes this assumption even more plausible. Setting age limits for participation, as by definition is the case in youth programmes, should of course induce some displacement of workers just above the age threshold, regardless of the subsidy level. In the case of the job development scheme, this could mean that 25 year-olds are more adversely affected than others. But a large subsidy should increase youth employment in general, since the average cost of such labour is reduced. The size of the subsidy could also have consequences for wage formation, through the displacement effect. Workers may restrain their wage demands, for fear of being replaced with subsidised labour.

Aside from the number of persons affected, the seriousness of displacement depends on the "quality" of this displacement. We should worry more about displacement of youth than crowding out of adult workers, considering that the objective of youth programmes is to provide jobs for a particular segment of the labour force. Similarly, a concentration of displacement among youth to groups with relatively little education and work experience ought to be viewed less benignly. It is the combination of substantial within-group displacement and weak targeting of the programmes on the least employable youths that should be regarded as the most unfavourable outcome of the policy.

2.2. Empirical results

How much youth employment is displaced by job-creation programmes? Providing an answer to this question is not an easy task. The main difficulty is that simultaneity is likely to be present: in our context, this means that a reduction in employment induces a policy response in the form of more measures. In an OLS estimation, the displacement effect would thus tend to be confounded with the policy effect.

In principle, there are two ways of handling this problem. The first is the instrumental variables approach, where the relationships are identified through specification of the variables that shift the policy response function, but not the employment equation. As such instruments are often hard to find in practice, this method is relatively rare in the context of labour-market programme evaluations. An exception is Calmfors and Skedinger (1995).

The second method, adopted here, is to estimate a system of vector autoregressions (VAR). This approach also takes the simultaneity into account, but requires few assumptions regarding the structure of the model. Englund (1989) provides an accessible overview of the VAR method and Ohlsson (1993) is an application where crowding-out effects of labour market programmes are analysed. Youth programmes, however, are not explicitly considered in the latter study.

The econometric anlysis is based on aggregate time-series data. All major programmes where young people have taken part, and where also some displacement can be expected to have occurred, were taken into account. In effect, this means that all of the measures in Table 4, except labour market training, were included in the investigation. The number of programme participants was used as the unit of measurement.[16] I considered the effects on regular employment for the same age group as the target group of the programmes, i.e., young people under the age of 25.

In order to control for the business cycle, unemployment (for all persons) was also included as an explanatory variable. Unemployment was treated as exogenous in the VAR estimations. The wage for young workers is not available and therefore not included in the analysis. This means that the programme variable picks up both direct displacement and crowding out through wage formation.

The estimation period is 1970:3 to 1991:4. It was not considered appropriate to include observations after 1991, when the job development scheme was in operation. As this programme is quite different from the other job-creation programmes, both in terms of compensation levels and size, it did not seem meaningful to include it in the aggregate measure of programme activity.[17]

The VAR equations, estimated in linear form by OLS, are displayed in Table 4. Prior to the estimations, the stationarity of the time series was tested. Non-stationarity was rejected for job-creation programmes, employment and unemployment, respectively.[18] In the estimations, there are two

[16] Only half the number of participants in youth teams have been added to the total number of participants in the programmes, since youth teams offered only half-time employment.
[17] Unfortunately, there were too few observations to perform a separate analysis of job development schemes.
[18] The following Dickey-Fuller statistics were obtained for the estimation period 1970:3–1991:4, in tests with an intercept, no trend and four lagged difference terms: –2.98 (job-creation programmes); –3.15 (employment); –3.05 (unemployment). The MacKinnon critical value is –2.90 at the five per cent level. The series used in the tests were seasonally adjusted.

Table 4. Vector autoregressions, 1971:3 – 1991:4. Dependent variables: the number of youths (16–24 years) in regular employment (N) and the number of youths (18–24 years) in job-creation programmes (JCP)

Variable	N	JCP
Employed youths (t–1)	0.464	–0.149
	(3.23)	(2.69)
Employed youths (t–2)	0.178	0.033
	(1.16)	(0.56)
Employed youths (t–3)	–0.083	0.026
	(0.58)	(0.47)
Employed youths (t–4)	0.080	0.059
	(0.58)	(1.12)
Youths in programmes (t–1)	–0.410	0.558
	(1.21)	(4.26)
Youths in programmes (t–2)	0.853	–0.181
	(2.37)	(1.31)
Youths in programmes (t–3)	–0.660	0.506
	(1.79)	(3.56)
Youths in programmes (t–4)	0.462	–0.021
	(1.40)	(0.17)
Unemployment rate · 1 000	–21.088	–0.235
	(4.30)	(0.12)
Mean of dep. var. · 1 000	641.1	15.1
R^2 (adj)	0.917	0.792

Notes: The estimated equations include an intercept and seasonal dummies. There are 82 observations in the sample. Absolute t-values in parentheses.

Sources: Employment and unemployment: Statistics Sweden, Labour Force Surveys (various issues). The data have not been adjusted for definitional changes.
Labour market programmes: National Labour Market Board, Labour Market Statistics (various issues) and unpublished statistics.

equations with employment and job-creation programmes as dependent variables. In addition to the exogenous unemployment variable, four lags of each endogenous variable were included. The equations also contain an intercept and seasonal dummies, the coefficients of which are not shown.

The estimated VAR coefficients are not easily interpreted, so it is more meaningful to focus on the impulse-response functions generated by the

model. The impulse-response functions trace the response of job-creation programmes and employment to shocks in the errors, i.e., sudden increases in those variables. It is thus possible to examine the crowding-out effects on employment from increases in job-creation programmes. In order to identify the model, it is necessary to assume that shocks to the error of one of the equations in a given period do not affect the other equation in the same period. In this case, I follow Ohlsson (1993) in making the assumption that sudden increases in employment in the first quarter have no impact on job-creation programmes during the same period. He found empirical support for this hypothesis when analysing job-creation programmes and unemployment on quarterly data aggregated over all age groups. It does not seem unlikely that a similar relationship also holds for young people.

The estimated response functions are displayed graphically in Figures 6 and 7. When job-creation programmes increase by one per cent of the labour force in the first quarter, the results in Figure 6 show that employment is reduced by more than one per cent during the same period. This estimate implies *complete substitution*, i.e., for every programme place created by the government, approximately one job is displaced. Moreover, the initial increase in programmes is followed by a quick reduction; after three quarters about half of the new places have disappeared. From this level, however, there is only slow downward adjustment in subsequent time periods. Not surprisingly, the fall in employment is also rapidly diminishing, and after six quarters there is even an increase in jobs as compared to the initial situation. It is possible, through Monte Carlo simulations, to compute standard errors for the impulse responses.[19] These exercises show that for job creation, the estimates are significantly different from zero (at the five per cent level) during the first five quarters, and for employment, significance is achieved for the first two quarters. (The subsequent increase in employment is thus not significant.)

In Figure 7, I consider the effects of a one per cent increase in employment during the first quarter. This results in a quite moderate decrease in programme activity, however. The reduction is about 0.15 per cent of the labour force during the second quarter. (Recall that the first-period response was set to zero in the model.) Both employment and job creation return to initial levels after approximately two years. Significance is ob-

[19] The procedure, which draws on results in Kloek and van Dijk (1978), is available in the RATS 4.10 software program.

Figure 6. Effects of an increase in job-creation programmes for youths during the first quarter

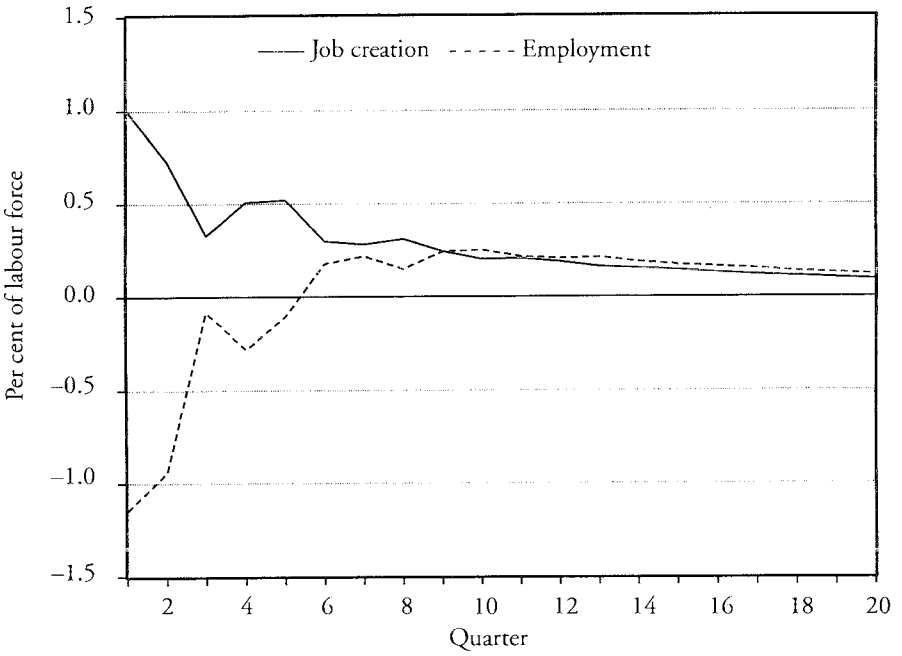
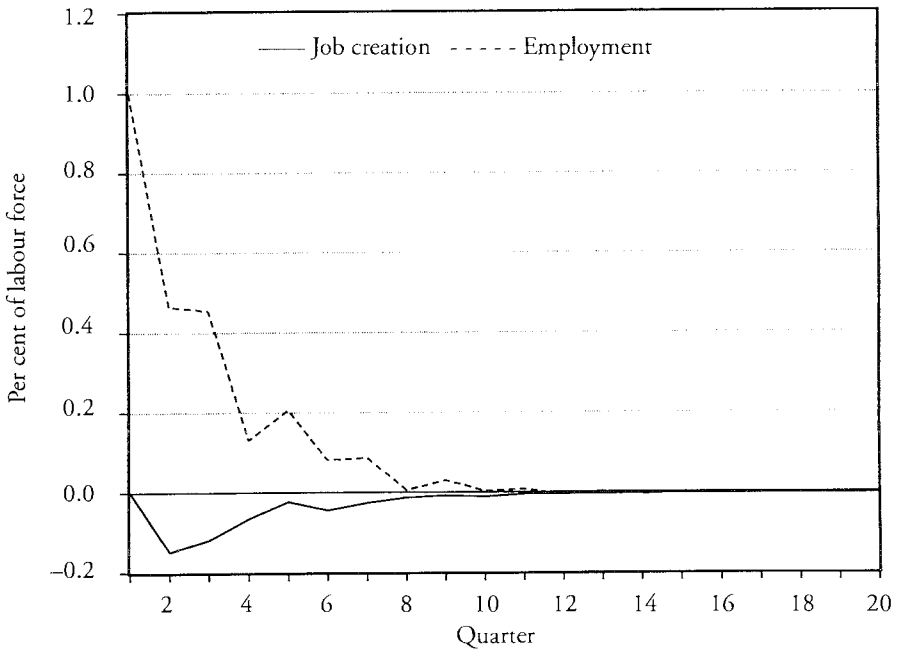


Figure 7. Effects of an increase in youth employment during the first quarter



tained during the first three quarters for employment and for the second quarter as concerns job creation.

To sum up, we have found that the displacement of regular employment from job-creation programmes is far from trifling. The effects are *larger* than those found in Ohlsson (1993) and Forslund and Krueger (1994), who used data aggregated over all age groups. A shortcoming of our analysis, however, is that the different programme types could not be examined separately. Hence the results give us little guidance concerning the desirability of shifting resources from one type of programme to another. In particular, it should be noted that the new measures created in the 1990s were not considered. It is possible that the size of the displacement is different for these programmes.

3. Concluding remarks

The belief that young people are hurt by employment regulation receives support in this study. The econometric analysis, based on data for six European countries, suggests that teenage unemployment is increased, while there is generally no effect on young adults between the ages of 20 and 24. An interesting question from a policy viewpoint is whether further steps towards liberalisation could contribute to lower youth unemployment. However, even if employment regulation can be identified as a contributing factor behind youth unemployment, the conclusions for policy are far from straightforward.

On the one hand, it might be argued that a shift in the age distribution of unemployment, caused by employment regulation, is not altogether undesirable, since young people are more likely to find jobs than older persons. For instance, the young are typically more mobile geographically. Protection of older workers could thus even contribute to lower average unemployment. On the other hand, many young people may fail to gain a foothold in the labour market, with unappealing distributional and social consequences. The findings elsewhere that employment regulations cause an increase in long-term unemployment should also be an argument in favour of reform. It is not surprising that most governments seem to be especially concerned about the labour market situation for young people.

If employment regulation results in increased segmentation of the labour market, there are good reasons to consider the possibilities of *partial*

reform concerning certain areas of legislation, groups of workers, etc. (Saint-Paul, 1993). I have argued that the legality of fixed-term contracts may be important for the employment prospects of youth, since on-the-job screening of inexperienced workers is facilitated under such a regime. The contract period should be long enough to allow for sufficient screening, and the shortening of this period from twelve to six months in Sweden may well be ill-advised. A long trial period also reduces the risk associated with hirings during times of economic uncertainty.

The formalities concerning fixed-term contracts could also be reduced, e.g. by giving employers full discretion in hiring young people on such terms. It may be more efficient to reform fixed-term contracts in this way rather than to allow them only in certain types of firms, e.g. new enterprises, as has been the case in many European countries. This should reduce the risk that firms simply use a fixed-term contract to hire workers who would have been recruited anyway on a permanent contract.

Partial reforms may create their own problems, however, as illustrated by the Spanish experience. Fixed-term contracts were legalised while dismissal restrictions remained basically unchanged for those with "permanent" jobs in Spain. It turned out that the ensuing increase in jobs with fixed-term contracts was associated with a marked increase in wage growth for the permanent core of employees, who became effectively insulated from reductions in the workforce (Bentolila and Dolado, 1994).

An argument that strengthens the case for partial reform is that the demand for employment regulation is probably lower among employed youth than among employed adults. Young people are more likely to quit, as they may try to gain experience in many different jobs before deciding on a more permanent line of work. The costs of policy reform, in terms of reduced welfare for the employed, may thus be considerably smaller for young persons.

The results in this paper also indicate that Swedish youth programmes generate substantial worker displacement among young people themselves. If the estimates are correct, the net contribution to youth employment is quite modest. The new programmes implemented in recent years were not examined, however, and the results may not be applicable to them. I have argued that programme design is likely to be important for the size of the crowding-out effects, but I have not been able to incorporate this aspect into the empirical analysis. At any rate, it seems crucially important that the job development scheme is scaled down in order to avoid locking-in effects as the economy recovers.

Some of the links between employment regulations and job-creation measures have received little attention, although they may be quite important in the labour market for young people. For example, the screening aspect is an important motive for employers to take part in youth programmes (Main and Shelly, 1990). Under a strict employment protection regime, firms would prefer hiring a participant in a programme instead of a regular employee to a greater extent than otherwise. The screening objective could, however, probably be accomplished more efficiently by allowing greater flexibility in employment contracts instead of relying on large-scale programmes that inevitably displace many young workers.

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