The Declining Economic Status of Young Workers in OECD Countries

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Abstract

This paper examines youth labor markets in OECD countries in the 1980s and 1990s. In this period the youth share of the population fell in most countries, while the industrial mix of employment shifted toward sectors that normally hired relatively many youths. Despite these trends and increased enrollments in school that by itself should have reduced the supply of young workers, the economic position of young workers deteriorated relative to that of older workers. The wages of youths relative to adults fell, and the employment rates of youths declined sharply, particularly among men; and many young persons postponed marriage. One important reason for the adverse labor market experiences of youths was the high overall rate of unemployment in OECD countries, which had disproportionately large impacts on young workers in the "active job market" in virtually all countries. In addition, whatever caused the labor market to shift against the less skilled in advanced countries showed up particularly sharply among the young.

Throughout the OECD, young people had greater problems in the job market in the 1990s than in earlier decades. In some countries, this shows up in relatively high unemployment rates and low rates of employment to population. In other countries it takes the form largely of reduced wages for young workers. The worsened job market for the young occurred despite three trends favorable to them: a demographically induced decline in their relative supply; increased enrollments in school, which should have lowered the supply of youths to the job market; and an expansion of low-wage service industries that traditionally hire many youths. This chapter documents the dimensions of the deterioration in the youth job market and isolates the aggregate unemployment rate as the only variable that is consistently related to that deterioration. Finding that high aggregate unemployment excessively affected young workers in the 1990s is consistent with earlier NBER work (see Clark and Summers, 1981). Our analysis also shows, however, that aggregate unemployment by itself falls far short of explaining the pattern of change. Conditional on aggregate unemployment, the male employment-population rate trended down while female employment-population rate trended up, as did the employment-population rate for teenagers in school of both sexes.

The Transition into Work

Over a period of years any given cohort of young people moves from near full enrollment in school to negligible enrollment in school; and from negligible labor market activity to high levels of labor market activity. The length of the transition period depends on the pattern of elementary and secondary education and of higher education and vocational training in a country and on the economic attractiveness of work. In most advanced countries, the period covers 10-15 years: from roughly age 16 to ages 25-30. At age 16 the vast majority of the young are enrolled in school; by ages 25-30 school enrollment rates are 5% or less. At age 16 employment-population rates and labor force activity rates are low; by ages 25-30 they are high for both men and women. In this section we examine the pattern of this transition and the effects of aggregate unemployment on the transition.

Figure 1 shows the transition in terms of the percentage of youths in school in two or three age cohorts, separately by gender, as those cohorts age. The horizontal axis reports the years since age 16 for specified cohorts. The vertical axis gives the percent of the youth cohort who are in school. The data for the European countries are derived from EUROSTAT-based surveys in which persons are asked if they are in school, regardless of their major activity. For most countries the figure covers the cohort aged 16 in 1983 and the cohort aged 16 in 1988, For the U.S. and Canada, the data series is longer, covering the 1973 cohort for the US and the 1976 cohort for Canada. The U.S. figures are limited to persons who report that their major activity is school and thus understate the numbers in school compared to most other countries[1]. The figure shows a universal decline in the percentage in school. In Europe and in Canada the curve for the 1988 cohort lies above the curve for the 1983 cohort, implying that years in school are increasing. Data for the individual countries shows that this is due in large part to sharp upward shifts in schooling in Portugal, Spain, and France. In the U.S., where post-secondary education increased earlier than elsewhere, the curves lie essentially on top of one another, implying a stable proportion enrolled in school as their major activity in the periods covered.

Figure 2 examines the transition from school to work in terms of the endpoint state of employment. This figure shows the percentage of youths in a cohort who are employed *regardless of whether they are in school or are out of school*. The pattern of cohort employment is a mirror image of the pattern for schooling shown in figure 1. The percentage working rises in a sigmoidal curve. For men, the cohort employment curves approach 85%-90% in most countries. But in Europe where the aggregate unemployment rate is relatively high, the cohort employment curves are lower than in the US with lower aggregate unemployment rates. Similarly, cohorts who entered the job market in the late 1980s tend to have lower employment rates than cohorts who entered earlier. The fall in the cohort employment curves was greatest for France and Canada (See Blanchflower and Freeman and OECD, 1996). For women the curves also have an S-shape, but the increases in the percentage working levels off at noticeably different levels among countries. In

many countries the female employment rates approach 75% or so, but in some countries, such as Greece, Spain, and Italy, they level off at much lower rates.

How has the transition from school to work changed during the period under study? Table 1 provides a capsule picture of the activity status of young persons aged 18 and 22 by sex in 1997 and thirteen years earlier in 1984, by sex, as reported in labor force surveys. The table shows a general pattern of increased school enrollments; constant level of apprenticeships, an increase in the proportion of the young neither in school nor in the labor force, a fall in employment to population rates; and high rates of unemployment in most countries for youths of both genders. The rise in school enrollments is most marked outside the US. Among 18 year olds, in 1984 61 percent of US men and 56 percent of U.S. women were in school, considerably above the OECD averages by gender (48.8 percent for men, and 50.6 percent for women). By contrast in 1997, the U.S. 18 year old men are below the OECD average in the percentage enrolled in school and US women are slightly above the OECD average. The proportion of young men that are idle – that is neither in school nor in the labor force -- has increased over the period 1984-1997 and especially so in the UK and the US, although the level is considerably higher in the former case -- 11.4% and 6.8% for 18 year olds and 8.4% and 5.6% respectively for 22 year olds. The proportion of young women that are idle decreased in the OECD as a whole but increased, as it did for men, in Germany, the US and the UK. With respect to employment, employment to population rates fell between 1984 and 1997 in virtually all the OECD countries in the table. The unweighted average shows that 35.4% of 18 year old men were employed in 1997 compared to 43.8% employed in 1984 -- a drop of 8.4 percentage points; and that 29.9% of 18 year old women were employed in 1997 compared to 36.6% in 1984 -- a drop of 6.7% percentage points. The comparable figures for 22 year olds show a drop in employment rates for men of 7.0 percentage points compared to 4.0 percentage points for women. Interestingly, unemployment as a proportion of population –- which is a better measure of labor market slack than the unemployment rate in most countries because of reductions in the size of the labor force arising from increases in schooling –- declined

in most countries for both men and women. Major exceptions to this are to be found in Australia, France and Canada.

Table 2 presents employment/population rates for men and women for the years 1979, 1989 and 1997 for 15-19 year olds, 20-24 year olds and those aged 25-54 for twelve countries. The proportion of the population of the oldest age group that is employed has fallen slightly overall for men (91.6% in 1979 compared with 86.8% in 1997) but has increased by over ten percentage points for women (53.3% in 1979 and 63.9% in 1997). This contrasts with declines in these employment rates over the period 1979-1997 for women aged 15-19 and 20-24 in most countries. The main exceptions are for the 20-24 age group where there were increases over the period in question in the USA and Norway and to a lesser extent in Australia and Japan. In every country the proportion of total employment accounted for by the young appears to have declined. Overall, the main result from Tables 1 and 2 is that the transition period from school to work has grown longer.

One consequence of the longer transition period is an upward trend in the proportion of working youths at specific ages who were students.[2] This is shown in table 3 for young persons aged 18, 22, and 26. Among 18 year olds the rise in the student proportion of youth employment is substantial in some countries. For instance, in Denmark, the "in school" proportion of the employed rose from 23.9% in 1984 to 50.8% in 1994 among men and from 32.5% in 1984 to 63.5% in 1994 among women. The rise in the student share of the youth workforce is noticeable even in countries where students have not traditionally worked, such as France or Italy. Among all OECD countries in the sample the unweighted share of 18 year old male employees who were students rose from 15.7% in 1984 to 25.1% in 1994 among men. Similarly, the unweighted share of 18 year old female employees who were students rose from 14.4% in 1984 to 30.2% in 1994. There are similar trends for 22 and 26 year olds, though for these age groups the student proportion of young workers remains generally small. Over all, working while in school is becoming a more important part of school-to-work transition than the traditional model of school, then work.

Successful transition into the world of work varies considerably by educational attainment in every country. We illustrate this phenomenon across countries in Tables 4 through 7. Table 4 presents unemployment rates for 1996 by gender one year after leaving education by level of educational attainment. Unemployment rates are generally much higher for those individuals with the least education. What does stand out from this table, though, is how low the unemployment rate for the least educated is in Germany (9.7% for men and 13% for women). This contrasts dramatically with most other countries where more than one third of such individuals were unemployed one year after completing education. Table 5 uses longitudinal data and reports labor market status in surveys taken one, three and five years after completing initial education. It tells a similar story to that reported in Table 4. Germany gets young people into jobs early and they stay employed. It takes much longer for young people in the US, for example, to find work. Table 6 once again uses longitudinal data – young people report their labor market status in each of five years after they completed their education. German youth are much less likely to report any unemployment experience than is found in either Australia or the US. Table 7 uses recall data to generate work histories over the five year period after completion of initial education. Labor market status is reported in each month over the period; the table reports the proportion of the sample who have spent ANY time unemployed. Approximately 28% of German youth experienced some unemployment compared with 56% in the US. There was no significant difference between men and women in the proportion that had experienced unemployment in either Germany or the USA[3]. What is noticeable is the much higher proportion of young people in Germany than in the US that had never been unemployed (82% and 44% respectively). Also, the experience of unemployment declines dramatically by level of educational attainment, with the rise in unemployment experience being much greater in the US than in Germany. Unemployment duration in France for the least educated was especially long – over 58% of the least educated had experienced at least 12 months unemployment compared with just under 10% in Germany and around 23% in the USA. What is perhaps surprising is the similarity in the degree of concentration of unemployment in Germany and the US. Among all Germans 1.6% of the

population who experienced at least two years of unemployment accounted for 25% of all weeks of unemployment over the five year period examined. Analogously, in the US 1.8% of the population with at least two years of unemployment accounted for around 20% of total unemployment. This evidence is inconsistent with the view that the transition from school to work is dominated by short spells. Germany seems particularly successful in getting the vast majority of its young people into work. Just like the US and France, the Germans appear to have difficulties finding jobs for a small group of less educated individuals. Of particular concern is the fact that an increasing proportion of the unemployed in Germany reside in households where no other person is employed, and especially so for unemployed teenagers. Indeed, as Table 8 shows the proportion has more than doubled since 1985 with re-unification. In 1997 a higher proportion of unemployed teenagers in Germany resided in households where nobody else was working than in any other country except Ireland (36.3% in Germany in 1997 compared with an OECD average of 22.2%).

Is the extension of the period of schooling and delay of working the result of the state of the macro-economy or is it the result of some other factors? To what extent is the schooling-employment status of youths sensitive to aggregate economic forces?

To answer these questions, we developed a data file that gives the number of young people who are working and/or in school by single year of age for the age groups 16-35, separately by gender. Data are available for fifteen countries (UK, Belgium, Denmark, France, West Germany, Greece, Holland, Italy, Luxembourg, Portugal, Australia and Spain) for the period 1983-1994. In addition data are available for the US from 1970-1993 and for Canada for 1976-1994 making an overall total of 8000 observations. The activities of the youth fall into four disjoint states. The first state is the starting point for the transition: youths in school but not working (SN). The second state is being in school and employed (SE). The third state is being out of school and not working (ON). The fourth state is being are out of school and in employment (OE). SN and OE are the end points of the school to work transition process; while SE and ON are more transitional states.

We estimate the effect of aggregate demand on the distribution of youths among these four states by regressing the proportions of each age-gender group in the particular category on the rate of national unemployment in each year; a gender dummy; an age dummy; and a time trend [4]. We estimate a linear probability model for each country separately, and then pool the regressions to cover all countries, with country dummies to allow for different levels of outcomes. Table 9 summarizes the results in terms of the coefficients on the rate of aggregate unemployment on the four categories and on two composite categories: the proportion in school; and the proportion employed. The effect on unemployment on schooling (column 3) reveals a disparate pattern across countries. In some cases schooling is strongly positively related to unemployment (Germany, Holland, Portugal, and Denmark); in other cases it is negatively related to aggregate unemployment (Italy, Luxembourg, UK, Belgium); while in yet others, schooling and aggregate unemployment have little relation (US, Canada, Spain, Eire, Greece). Pooling all of the countries together, schooling is positively related to unemployment, but the diverse country results gainsay any broad generalization.

By contrast, there is no ambiguity in the effect of aggregate economic conditions on the proportion of a cohort that is neither in school nor working (column 4) or that is employed (column 6). The proportion neither in school nor working – sometimes called "idle" -- falls with unemployment in nearly all countries. In the pooled OECD sample, an increase in aggregate unemployment raised the proportion idle by .73 percentage points. Contrarily, unemployment reduces the employment rate of youths by 1.13 percentage points.

Employment during school and employment for out-of-school youths generally play different roles in the lives of youths. In most cases, employment during school is a secondary activity (though for some, it may be the only way to fund their education) whereas for out-of-school youth, employment is potentially the dominant allocation of time. The coefficients on unemployment in columns 2 and 5 show that the employment of youths in school is less sensitive to aggregate economic conditions than the employment of youths out of school.

The sensitivity of schooling and employment proportions to aggregate economic conditions varies considerably by age, declining as youths approach the end of the transition period. Table 10 documents this pattern using a pooled data set that includes all of the countries in the sample. The table records coefficients and standard errors on aggregate unemployment from regressions of the proportion of youths in school, employed, and unemployed by single year of age, with a dummy variable for gender, a time trend, and individual country dummies. The size of the coefficients on aggregate unemployment fall with age for all three outcome measures, but at very different rates. The percentage of persons enrolled in school is less just as sensitive to unemployment among those in their mid 20s as for younger persons, and the employment rate is only modestly less sensitive for those in their mid to late 20s as for teenagers. Only unemployment shows a steady drop in sensitivity to aggregate unemployment. One interpretation of the similarity in coefficients on the percent in school and percent employed variables through the mid to late 20s is that responses are similar even as persons are aging 10-12years because the transition period has become elongated.

Table 11 differentiates youth employment patterns by gender as well as by enrollment status. It records the results of linear probability estimates of the coefficients of aggregate unemployment and of the time trend on the employment of men and women separately, conditional on their schooling status. The coefficients on unemployment show that the employment of youths in school is less sensitive to aggregate economic conditions than the employment of youths out of school. This is true for all countries taken together for men (a coefficient on unemployment for the in-school group of -0.83 vs -1.40 for the out of school group) and for women (a coefficient on unemployment for the in-school group of -0.90 vs -1.03 for the out of school group) and holds in 23 of 30 country gender comparisons. Among the out-of-school, moreover, the employment of men is more sensitive to aggregate conditions than is the employment of women. The major difference by gender in the calculations, however, is on the trend term. The coefficients on the trend show a rise in employment of women in virtually every country compared to trend decline in employment for men. Because unemployment rates have risen in most countries since the 1980s,

this does not mean that the proportion of young out of school women has risen, but that it has risen relative to the rising rate of unemployment. The gap between the proportion of young women employed and the proportion of young men employed is declining over time.

Numbers of jobs in transition

The school-to-work transition can be a smooth process in which youths enter the job market and obtain relatively long term jobs, or it can be more of job matching and shopping process, in which youths enter and engage in a lengthy period of search before settling down. Germany and Japan exemplify labor markets in which young persons enter the market and obtain relatively permanent jobs quickly. The U.S. and Canada are examples of labor markets in which youths enter the market and change jobs readily before settling down. There are benefits and costs to both mechanisms. Youths who move from school to permanent work directly are likely to make greater firm or sector specific investments inhuman capital. Youths who go from school to many short jobs are likely to be more mobile across sectors and to pick up a more diverse set of employment experiences.

Table 12 shows that the difference between these modes of entry into employment produce huge differences in the number of jobs youths hold as they make the transition from school to work in various countries. It records the mean number of jobs youths held from age 16 to 25 (or from school leaving to age 30 for Japan; and to 25 for Norway), as given in longitudinal surveys (U.S., U.K.) or in surveys that ask about jobs retrospectively (Germany, Japan, Norway). The mean number of jobs held from age 16 to 25 by American youths is an order of magnitude greater than that in the U.K., Germany, or Japan, and is considerably above that for Norwegian youths as well. This reflects the high degree of mobility in the U.S. job market that the OECD has found in other statistics as well. Many American youths work during school and in summer vacations, but this is not the reason for the sizable number of jobs. Young persons who have completed schooling also shift frequently among jobs during the school to work transition. By the age of 26 NLSY data shows that almost no American youths had held just one job and 90% of women and men had changed jobs more than three times. By contrast, just 4% of Japanese men and 1% of

Japanese women had changed jobs more than three times[5]; 10% of German men under the age of 30 and 4% of German women under the age of 30[6]; 10% of young Norwegian men and 13% of young Norwegian women had changed jobs more than three times[7]; and only 30% of British men and 35% of British women (at age 23) had made that many job changes[89].

In sum, the transition from school to work is sensitive to aggregate economic conditions, with the employment and unemployment of youths highly dependent on the rate of unemployment, particularly for younger youths and those out of school. The rising trend of employment for women has in part offset the adverse effects of aggregate unemployment on young women and shows that aggregate unemployment is not the "whole story" of what happened to youths in the job market. In addition, the institutions of the labor market produce very different job experiences during the transition period.

An extreme social outcome: suicide

The 1980s-1990s worsening of the youth job market was accompanied by changes in several social outcomes for youths, including crime, living arrangements, reported happiness, and suicide. Some of these changes may be responses to the changes in the job market and schooling of young people. Others may be simply correlates of those changes. Whichever, it is insightful to go beyond the job market indicators of how youths have fared in the 1980s-1990s to examine other social outcomes. Other chapters in this volume examine the criminal behavior of young men and the resultant outcome of incarceration (Freeman), the living arrangements of young men and women (Card and Lemieux), and reported life satisfaction and happiness ((Blanchflower and Oswald). Here we focus on an extreme indicator of the well-being of youths, their death rate due to suicides.

Table 13 gives death rates per 100,000 by suicide and self-inflicted injury for young and older persons for 22 countries, for 1970, 1980, and 1992, separately by sex. Suicide is a reasonably well measured and powerful indicator of how people feel about themselves and their relation to society. The suicide rates are in all cases higher for men than for women. Across the countries, there is a wide variation in both the adult and youth rates and considerable variation in

the pattern of change. [10] In English-speaking countries -- the U.S., Canada, U.K., Australia, New Zealand, and Ireland -- rates of suicide rose sharply, which could potentially reflect rising problems for youths in the job market in those countries, in particular the increase in inequality that marked the 1980s. But rates of suicide also rose among young men in Norway, where earnings inequality is small and the social safety net high. That youths in these countries report themselves as being happier or more satisfied with their lives (Blanchflower and Oswald, in this volume) further complicates any simple interpretation of these patterns and their link with the increasingly elongated transition from school to work.

Demography and Industrial Composition in the Youth Job Market

The supply of youths to the job market depends on the demographics of the youth population and the activity rate of youths with differing characteristics.

The demand for youths in the job market depends in part on the composition of employment by sector and the ability of firms to substitute between youths and other inputs.

Demographic factors

Because of fluctuations in fertility, the size of youth cohorts varies considerably over time. In the 1970s the so-called baby boom generation reached the labor market, with significant consequences for youth unemployment and wages. The large influx of young workers depressed the opportunities for a typical entering worker. In the U.S. and some other countries, the result was a sharp twist in the age-earnings profile against the young. In other countries, the result was a twist in employment-to-population rates against the young. In the 1980s-1990s the youth share of the population fell in most OECD countries, as the baby boomers aged and were replaced by smaller cohorts. The decline in the relative number of young persons is depicted in Table 14, which shows the ratio of the population aged 15-24 relative to the population aged 25-54 in OECD countries in 1980,1990, and 1994. The marked drop in the youth population relative to the 25-54 year olds is substantial in all countries except Japan where it *grew* from 30.8% in 1980 to 35.5% in 1994. Taking all the countries together, the ratio of 15-24 year olds to the older group in 1980 averaged (unweighted) 44.2%; in 1990, it averaged 38.6%; in 1994, it averaged 35.4%. The drops

in the relative number of youths were particularly marked in Canada, the U.S. and Germany. *All else the same, large declines in cohort size could be expected to raise the employment prospects and reduce the unemployment rate of youths relative to adults, and to raise their wages relative to adults.* In many countries, indeed, youth labor market problems were expected to disappear as the youth cohort declined in size. But, as we have seen in preceding sections, no such improvement in fact occurred.

Sectoral employment

In most countries youths work in different economic sectors than adults. They are more likely to be found in retail trade industries and hotels and restaurants than in utilities, education, or public administration. Among men, a disproportionate number of the young are employed in construction. Among women, a disproportionate number of the young are employed in the health sector. Differences in the industrial distribution of employment for younger and older workers suggests a separation between the youth and adult labour markets. If the overall distribution of employment by industry is relatively stable or if youths are concentrated in declining sectors, they must switch industries to move into relatively permanent work

One way to see which industries use youths disproportionately is to calculate the ratio of young workers to older workers in an industry (here, those aged 16-24 to workers aged 25+); and to divide these coefficients by the economy-wide ratio of 16-24 year olds to 25+ year old employees. When the ratio exceeds one, an industry employs disproportionately more 15-24 year old workers than it does older workers; making it a "youth-intensive" industry. When the ratio of the shares is below one, the industry employs relatively few younger workers. Table 15 records relative input coefficients for young workers in European OECD countries in the one-digit NACE industries where youths are highly concentrated in 1994. In every country, youths are disproportionately represented in hotels and restaurants and wholesale, retail trade, and repair. These sectors are huge employers of youths. In Germany and France, for instance, the two sectors employed 39% of all young workers in 1994. When the youth workforce is disaggregated by sex, two other industries are highly youth intensive: construction, for men; and health, for women. The

uniformity of these patterns across countries is striking and suggests that, differences in school to work transition patterns notwithstanding, what happens to the youth labor market depends critically on developments in a limited set of sectors in all countries.[11] If, for example, the share of employment in hotels and restaurants and wholesale and retail trade, was falling, this would adversely affect the movement of youths into job markets, and thus help us explain why the youth job market worsened. But the opposite occurred: in nearly all of the countries employment in these sectors *grew* relative to total employment

Table 16 shows this result for 20-24 year olds for the period 1985-1994 in selected OECD European countries. It use 2 digit NACE industries to analyze the effect of changes in the composition of employment by industry on the employment of young workers. Column 1 of the table records the 20-24 year old share of total employment in 1985. Given the general decline in the 20-24 year old share of the population, the 20-24 year old share of employment should have fallen through 1994, and column 2 gives the 1994 demographically-adjusted predicted share. It is obtained by multiplying the column 1 figures by the ratio of the 20-24 share of the population in 1994 to the share in 1984. Column 3 of the table shows the actual 1994 share of employment accounted for by the 20-24 year olds. Column 4 gives the difference between the actual share and the share that would have resulted simply from the drop in the youth share of the population: column (3) minus column (2). The final column gives the predicted effect of the change in industry mix. It is the sum of the change in the share of total employment in each industry multiplied by the 20-24 year old share of employment in those industries scaled for the change in the groups' share of population[12]. In all of the countries save Belgium, the change in industry share effect is positive, implying that the youth proportion of employment should have risen, not fallen, as a result of the changing mix of employment by sector.

The Youth Wage Discount

Youths invariably earn less than workers with more job market experience and/or age. To assess the "youth discount" we turn to data from the International Social Survey Programme (ISSP), which provides a single source, based on nominally similar definitions, for youth and adult

earnings over time. Using the ISSP files for 1993, we regressed the log earnings of respondents on dummy variables for gender and age group across countries. For analysis of these wage data for earlier years see Blanchflower (1996) and Blanchflower and Freeman (1992). The coefficients in this regression for persons aged 18-24 relative to those of workers aged 35-44 provide an estimate of the youth discount for a similarly defined group. The results, summarized in Table 17, show a wide range of youth "discounts" among countries, that roughly reflects the distribution of earnings and wage-setting institutions in the countries. The differentials are largest for countries with high levels of inequality and decentralized wage setting. The biggest adult/young wage differential is for the U.S., followed by Canada, and New Zealand. The United Kingdom and Japan also show sizable differentials, as does -- surprisingly -- Norway. Differentials are smaller in countries where wages are largely determined by collective bargaining: Germany, the Netherlands, Spain, and Italy, though Ireland also has a relatively small youth discount.

The trend in youth pay differentials

From the 1970s through the early 1980s the earnings of youths fell relative to the earnings of adults in several countries (OECD, 1986). One important reason was the entry of the baby boom generation to the job market. Given this pattern, many analysts and governments expected youth labor market problems to lessen as the relative size of youth cohorts declined in the late 1980s-1990s. As Tables 1 and 2 showed, this did not produce favorable employment patterns. Did it show up in the relative wages of youths, particularly in countries like the U.S. or Canada, where wages are presumably highly responsive to shifts in supply or demand?

Figure 3 provides a clear answer to this question. It records the ratios of the earnings of 16-19 and 20-24 year old workers, by sex, to the earnings of older workers in 11 OECD countries for which earnings by age are available. The precise age group for older workers in the comparisons differs depending on the country. For most countries, the older group are 35-44 year olds or 40-49 year olds, but the Swedish figures relate to 25-64 year olds and the Japanese to 45-49 year olds. There are other differences in the nature of the data across countries that makes the comparisons of the ratios across countries imprecise (see Appendix A2)), but which do not affect

changes over time. The figure shows that in virtually all OECD countries workers aged 16-19 or 20-24 experienced declines in earnings relative to older workers through the 1990s. To be sure, there are some country differences in the magnitude and timing of the fall in relative youth earnings. The U.S. and Canada had steep drops from the mid-1970s; the U.K.'s decline was larger from the mid-1980s to the mid 1990s than in the earlier period; Italian youth wages do not begin to fall sharply until the 1990s; and Swedish relative wages were roughly constant through 1991. But, Sweden aside, despite the sharp fall in the relative size of youth cohorts, and despite differences in the institutions of wage-setting the relative pay of youths dropped throughout the OECD. This implies that the presumably beneficial effect of the declining size of youth cohorts on youth wages was overwhelmed by other market forces. Wage-setting institutions may affect the magnitude of the youth/adult pay differential and possibly the magnitude of the response of that differential to market conditions, but they do not rule out qualitatively similar adjustments across countries.

Conclusion

Many analysts expected that the problems faced by young workers in the job market would disappear as the baby boom generation aged and was replaced with a smaller number of young persons. This paper has shown that this did not occur. Despite declines in the relative number of youths, and shifts among industries toward youth-intensive sectors, the employment and earnings position of youths deteriorated in almost all OECD countries. Differences in school-to-work transition affect the outcomes along some dimensions -- for instance in numbers of jobs that youths hold during the transition, but are generally dominated by whatever forces have caused an overall deterioration in the economic position of low paid and less skilled workers.

Many analysts would expect that the relative employment of youths to vary inversely over time with their relative wages. Perhaps greater youth discounts and greater declines in youth wages generated more jobs for them in some countries, but the declines that did occur, including the large drops in youth wages in the U.S., did not suffice to stabilize, much less, raise youth employment to population rates. One interpretation is that the wage and employment numbers lie

along labor supply curves, due to massively declining labor demand for young workers. Another interpretation is that the concordance of joblessness and falling pay reflects disequilibrium in the labor market, also the result of declining demand for young workers. Whichever, we have identified one basic pattern in the worsened job market for young workers: the disproportionately large response of youth employment or unemployment to changes in overall unemployment. The sensitivity of youth employment and unemployment to the overall rate of unemployment dominated sizable demographic and structural changes favorable to youth in determining how youths fare in the job market. Unless overall rates of unemployment are reduced, there is little prospect for improvements in youth outcomes, even if youth shares of the population continue to fall or remain relatively small or if the composition of employment shifts modestly toward service sectors that hire relatively many youths.

Endnotes

[1] . The extent of the understatement can be estimated for 16-24 year olds who, from the early 1980s to the early 1990s were also directly asked if they were enrolled in school. The rates of enrollment so reported are approximately 10 percentage points higher than the proportion who report school as their major activity. In 1993, 21% of 16-24 year olds who reported work as their major activity also said they were enrolled in school, largely in college, and over 2/3rds were full-time students. Cross country comparisons of school enrollment based on administrative data, as in OECD Education at a Glance, 1995 are also subject to problems, due to differences in the level of schooling and full-time/part-time status, and so on.

[2]. This is not an algebraic necessity since non-students could have increased their employment while that of students fell. In fact, the opposite occurred. Increased employment of in-school youths helped raise the student share of the work force.

[3] 27.1% of men and 28.6% of women in Germany had experienced unemployment compared with 56.4% for men and 58.0% for women in the USA.

[4]. For details of the data files and the means of the aggregate unemployment rates see Appendix C in Blanchflower and Freeman, 1996.

[5]. These numbers for Japan relate to individuals from the time of leaving school to age 30, in 1985.

[6]. The German numbers are taken from the first sweep of the German Socio-Economic Panel of 1984. Respondents were asked how many jobs they had held over the preceding ten years. The numbers reported here relate to individuals aged 16 and over.

[7]. The Norwegian numbers relate to young people under age 25 who left education in 1989. The number of jobs is then counted over the period 1989-1992.

[8]. These data relate to the number of jobs held between 1974 and 1981 by respondents to the National Child Development Study, all of whom were born in March 1958.

[9]. For further details of all these data sources see Appendix A3 in Blanchflower and Freeman, 1996.

[10]. Suicide rates for young men declined between the 70's and the 90's in Japan, Austria, Sweden and West Germany and fell for young women in three of these countries, Japan, Sweden and West Germany. These are the countries where unemployment rates over the period 1970-1990 were very low until the 1990s.

[11]. The magnitude of the difference between the distribution of youths and adults across industries does, however, differ among countries. This is reflected in an index of structural dissimilarity between the two distributions: the sum of the absolute value of the difference between the percentage of 15-24 year olds employed in an industry and the percentage of 25+ year olds employed in that industry. Blanchflower and Freeman (1996) shows that Germany has the lowest index of industrial dissimilarity, especially for men. In part at least this may reflect German reliance on apprenticeships in the school to work transition, which places youths in the sector where they are likely to be permanently employed.

[12]. Specifically, let a_{ij} be the 20-24 year old share of employment in industry i in 1985: b_j be the share of industry j in total employment; and r be the ratio of 20-24 year old share of the population in 1994 to its share in 1995. The industry shift measure is then the sum ra_{ij} change b_j where the change is from 1985 to 1994.

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Blanchflower, D. G. and Freeman, R.B. (1992). 'Going different ways: unionism in the US and other OECD countries', Industrial Relations, Winter 1992, pp. 56-79 reprinted in Labor Market Institutions and the Future Role Of Unions edited by M. Bognanno and M. Kleiner, Blackwell.

Blanchflower, D. G. and Freeman, R.B. (1996). 'Growing into work', Centre for Economic Performance Discussion Paper No. 296, London School of Economics.

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Figure 1a. France Males

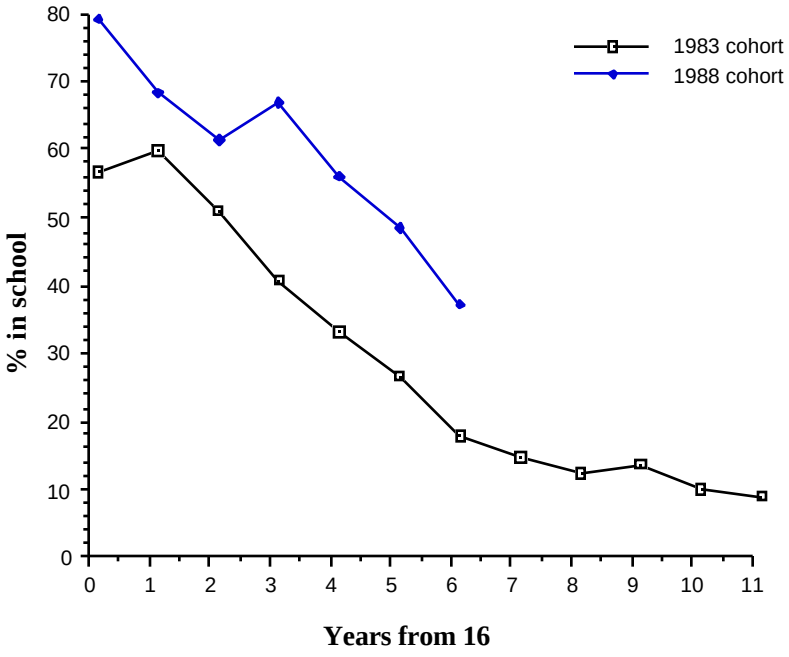

Figure 1b. France Females

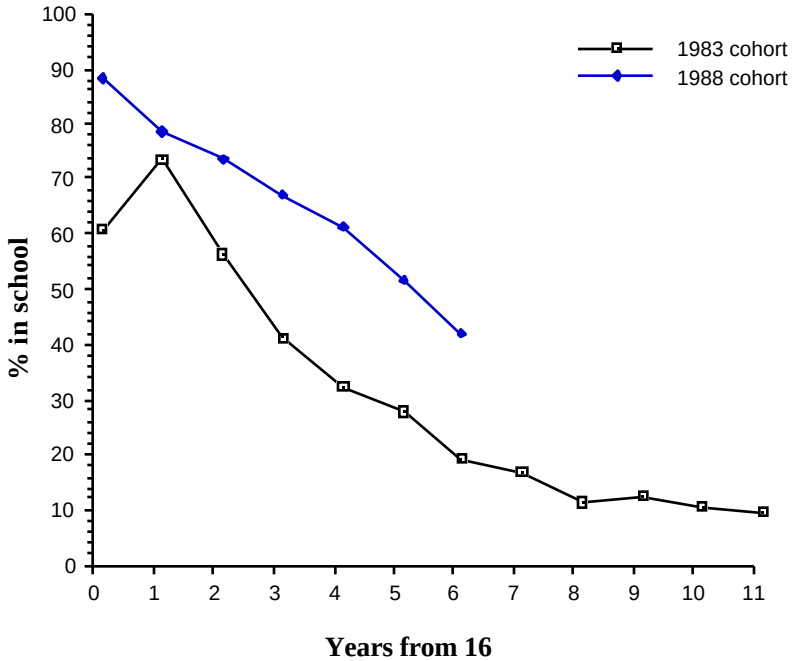

Figure 1c. German males

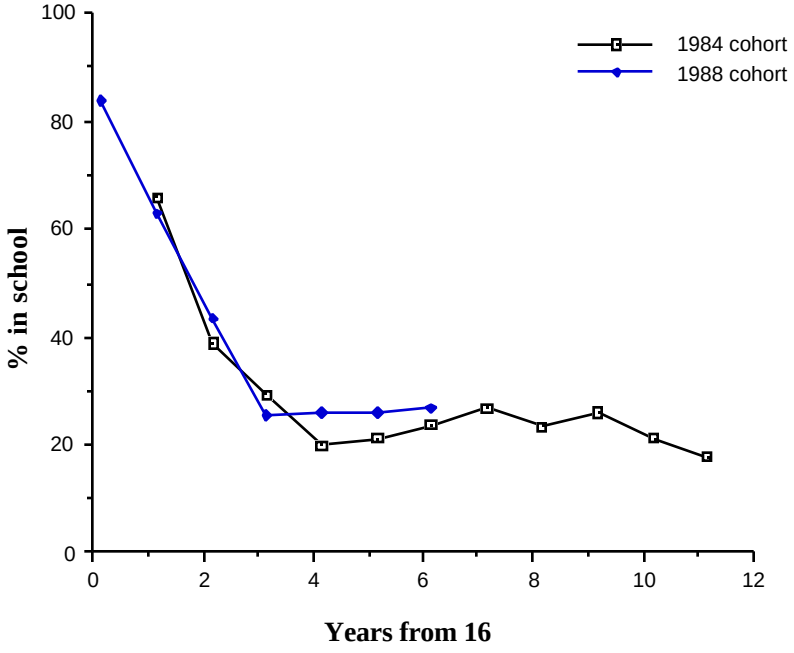

Figure 1d. Germany Females

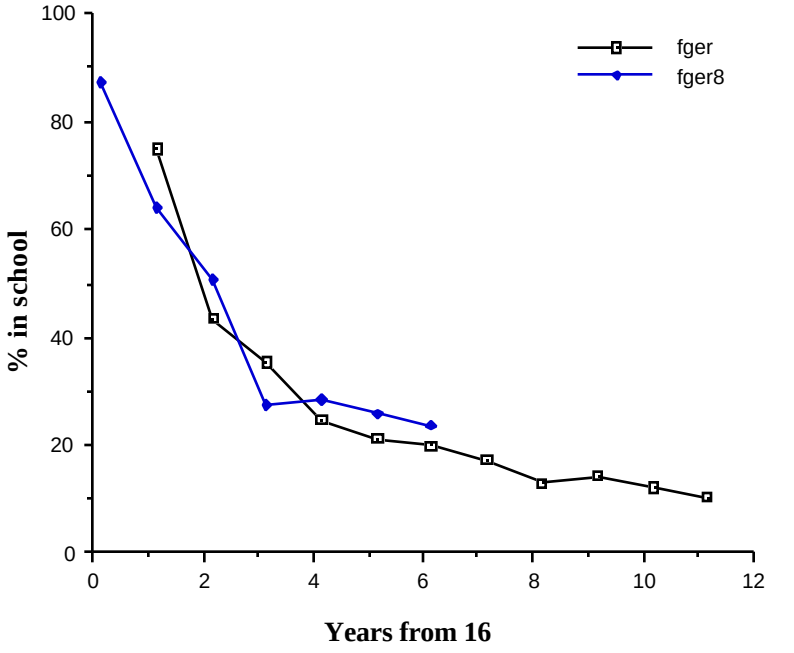

Figure 1e. Italy Males

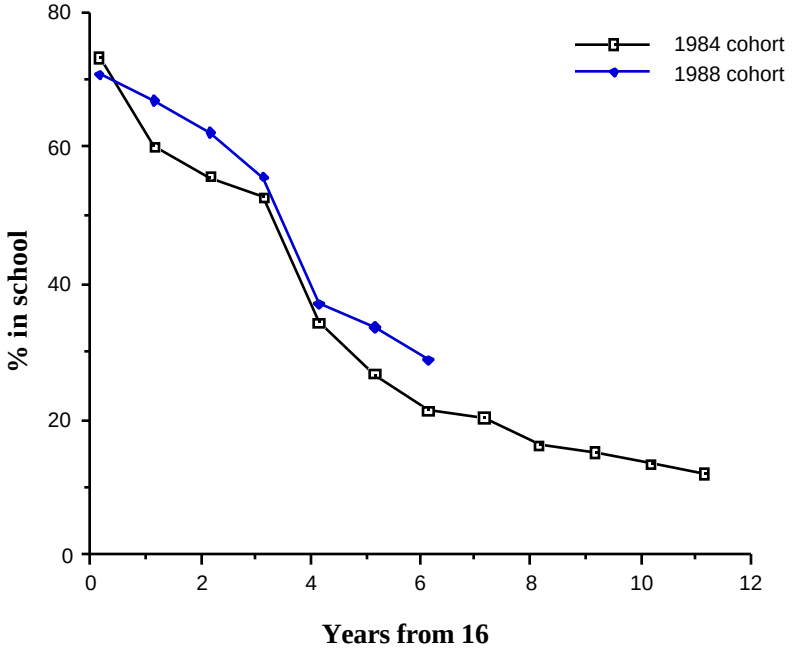

Figure 1f. Italy Females

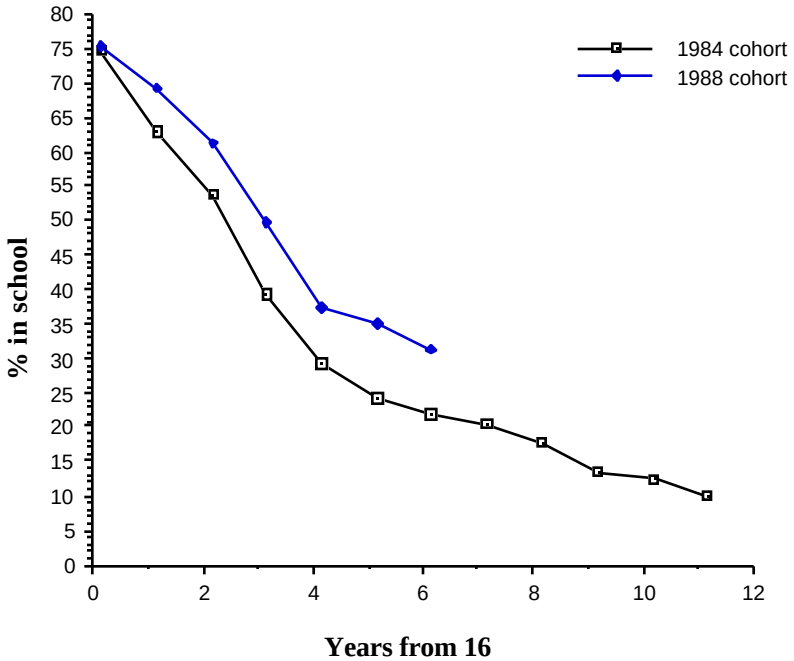

Figure 1g. UK Males

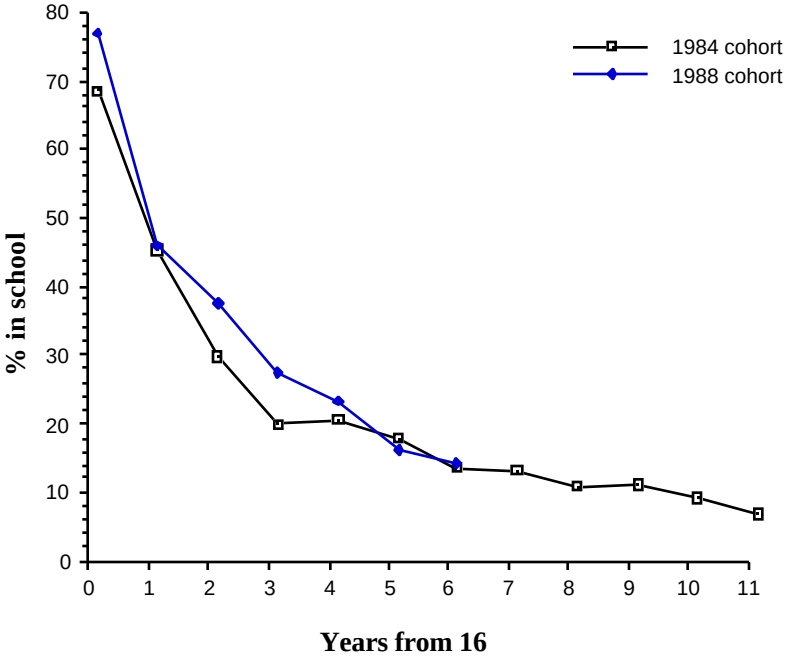

Figure 1h. UK Females

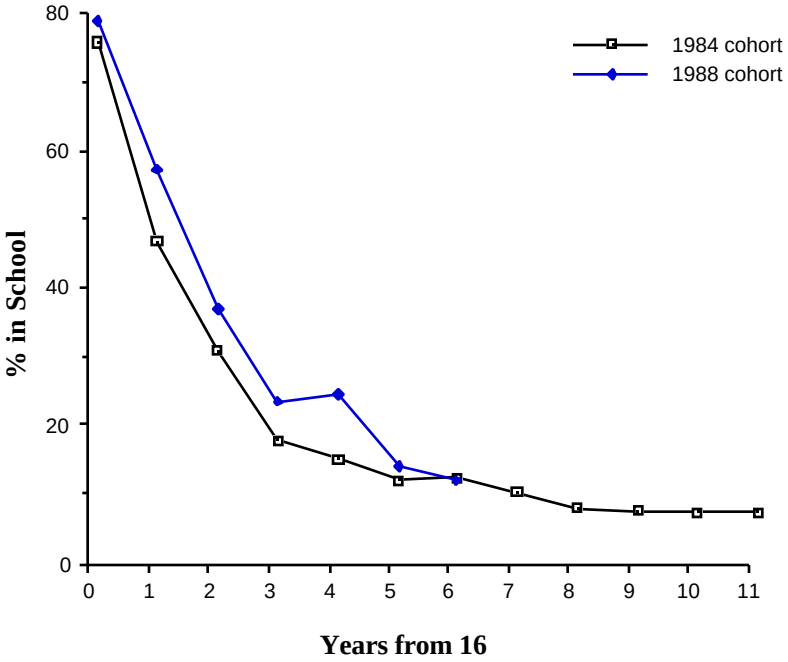

Figure 1i. US Males

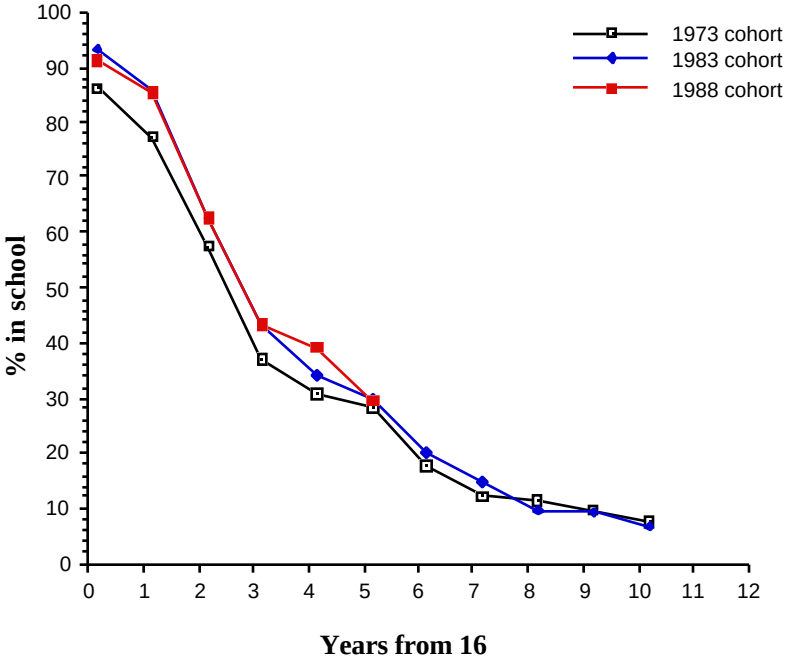

Figure 1j. US Females

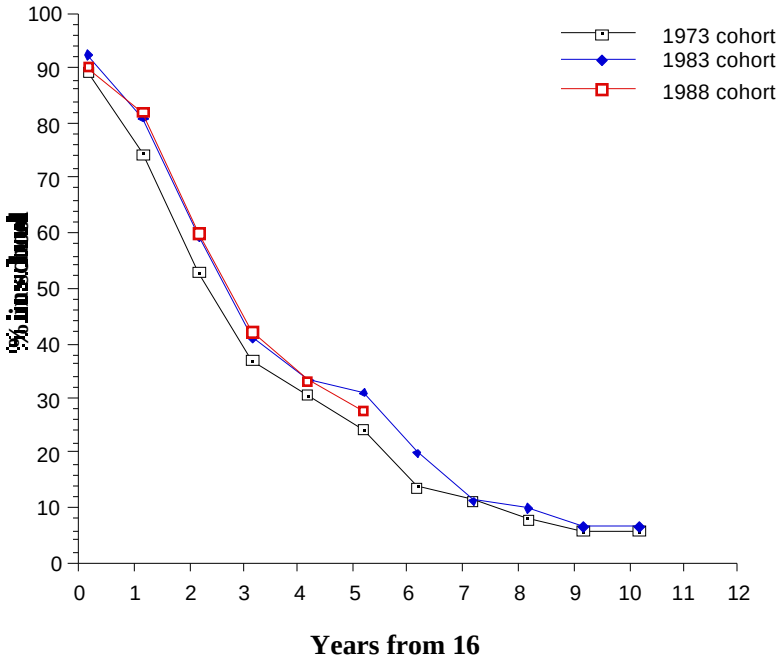

Figure 2a. France males

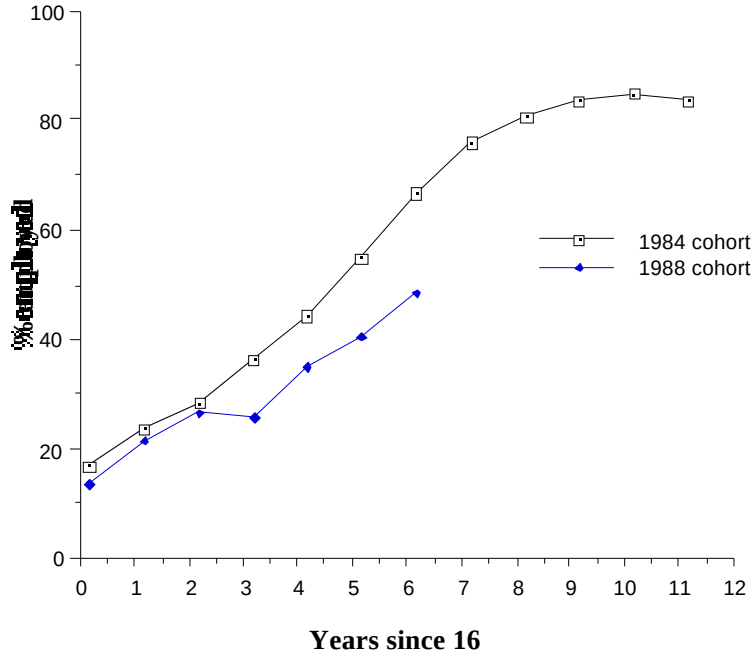

Figure 2b. France Females

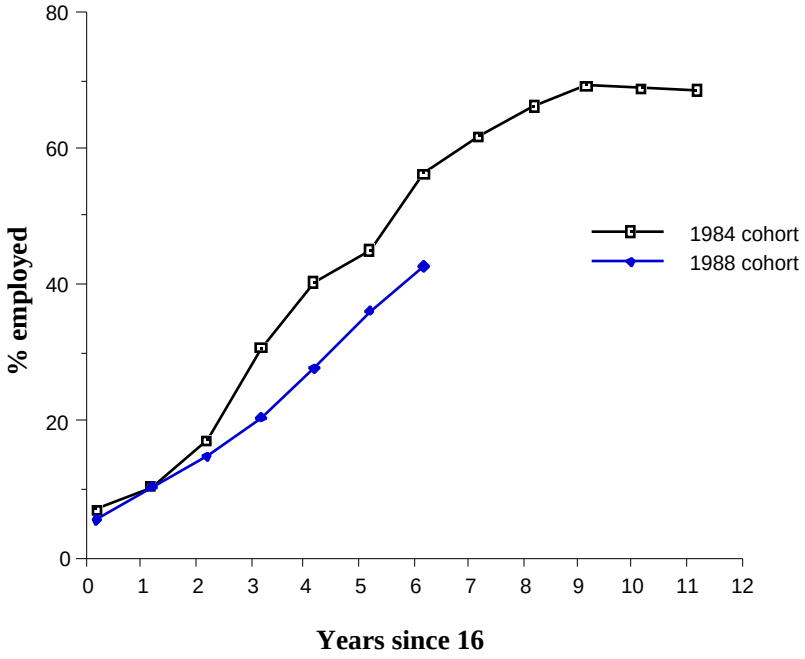

Figure 2c. Germany Males

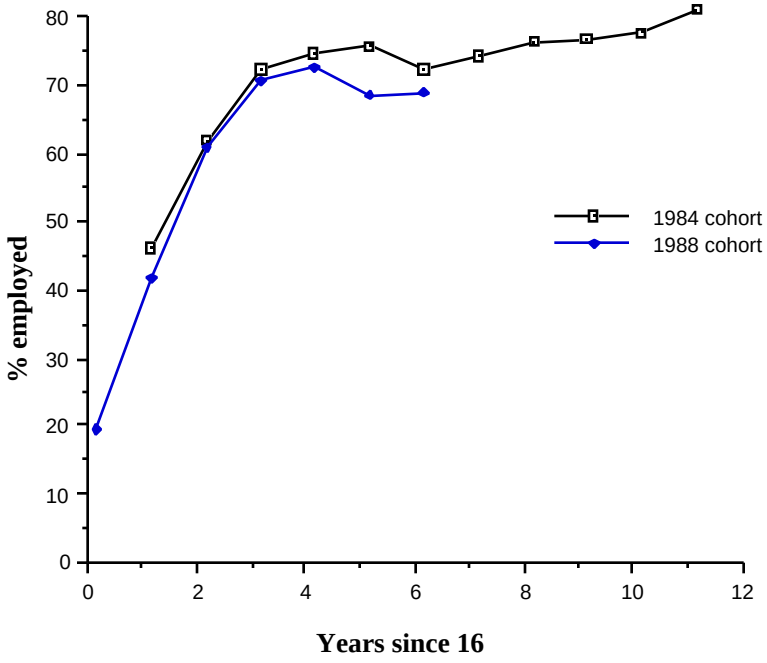

Figure 2d. Germany Females

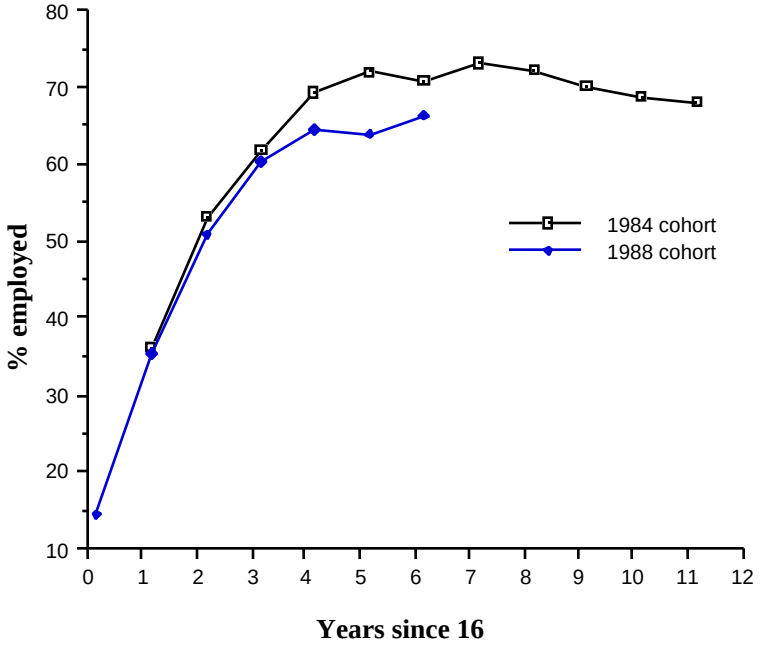

Figure 2e. Italy Males

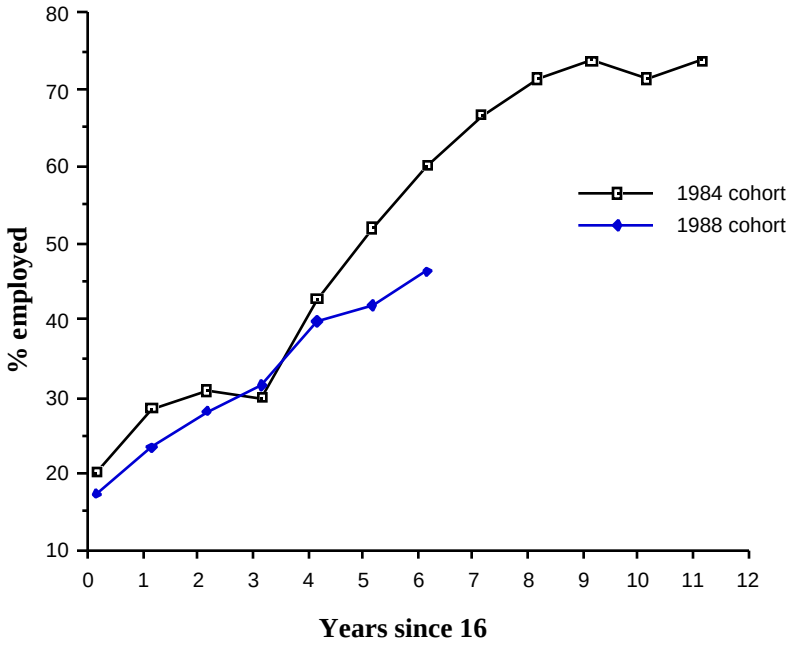

Figure 2f. Italy Females

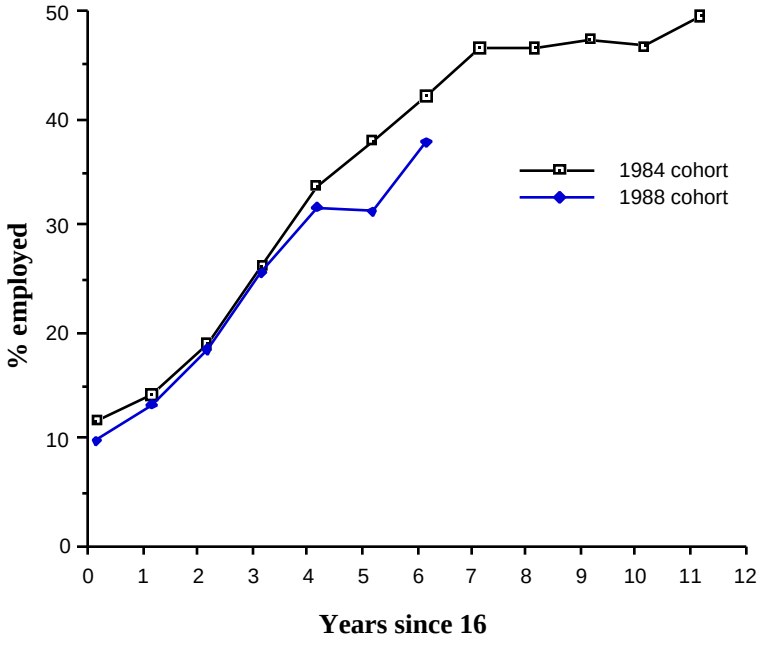

Figure 2g. UK Males

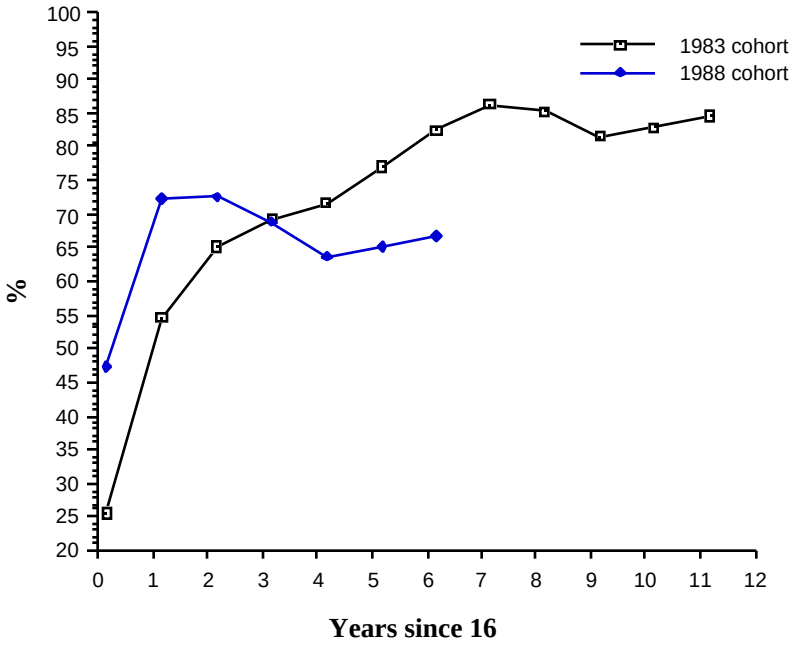

Figure 2h. UK Females

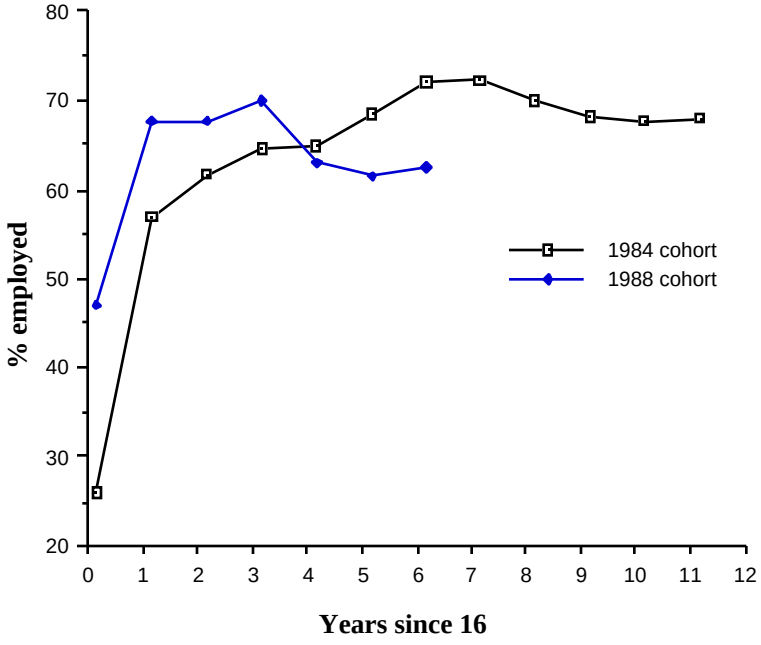

Figure 2i. US Males

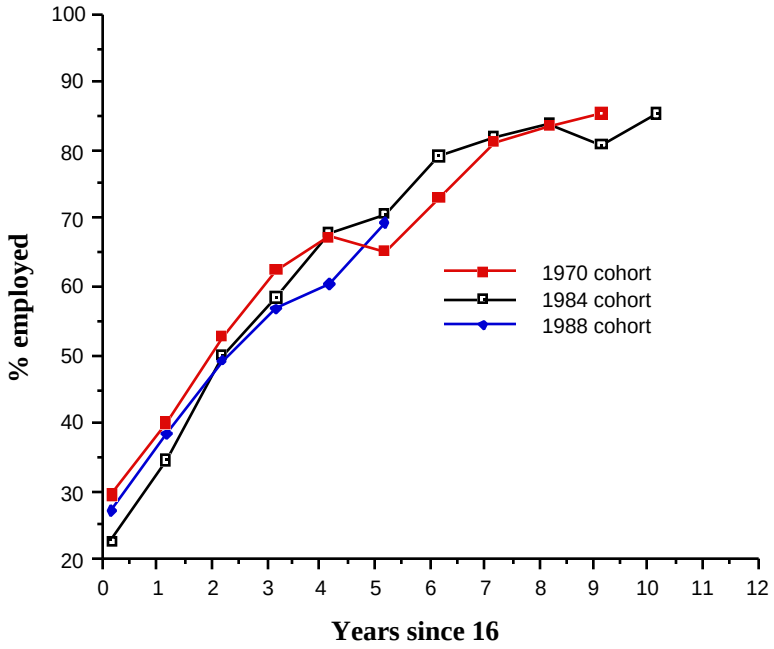

Figure 2j. USA Females

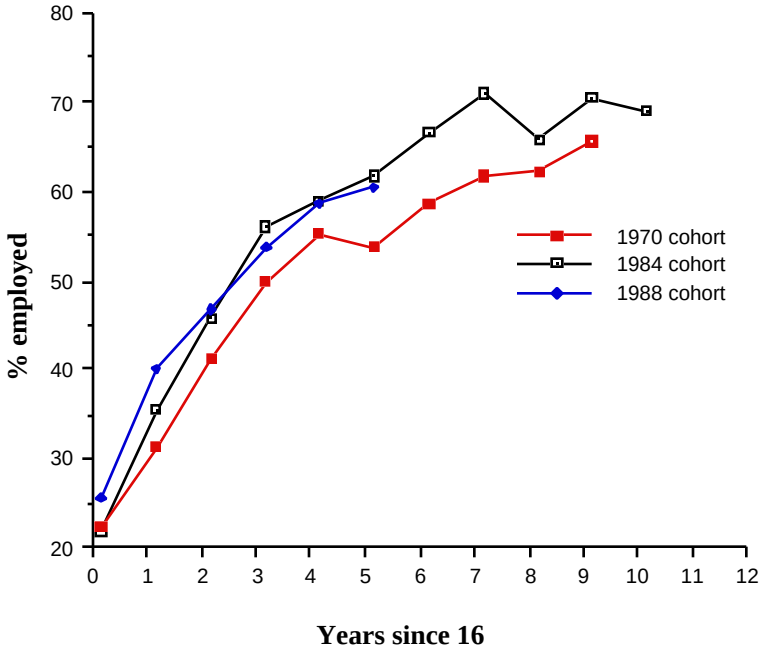

Figure 3a. Relative Earnings: Australia 1975-1994

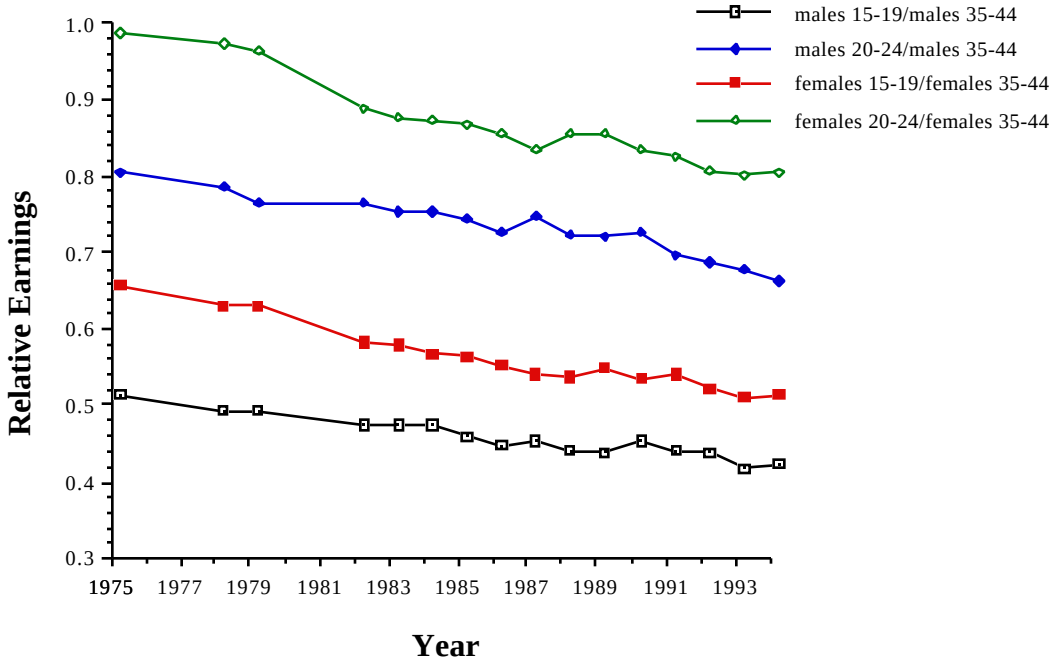

Figure 3b. Relative Earnings: Canada 1977-1993

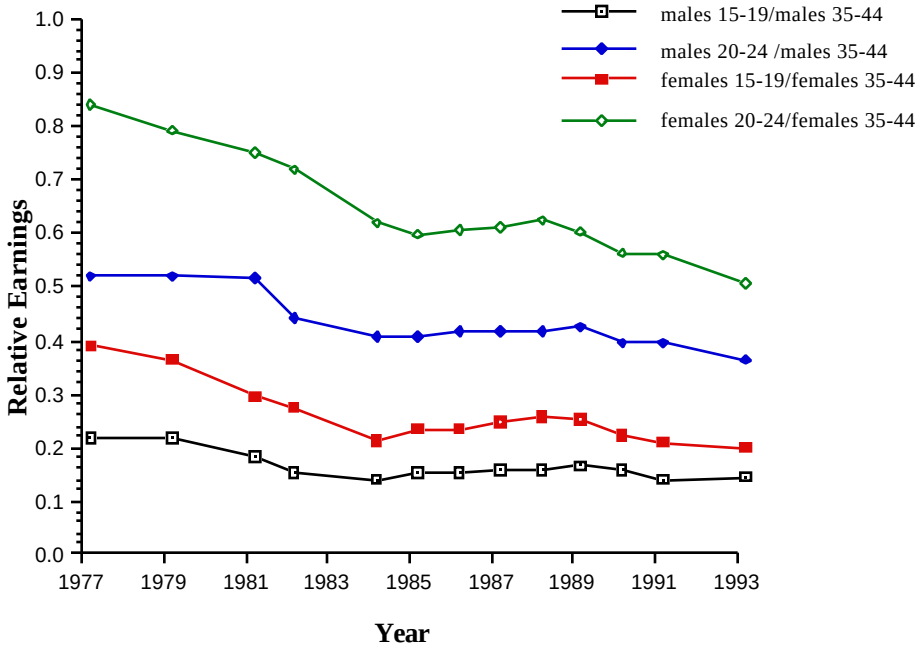

Figure 3c. Relative Earnings: Denmark 1980-1989

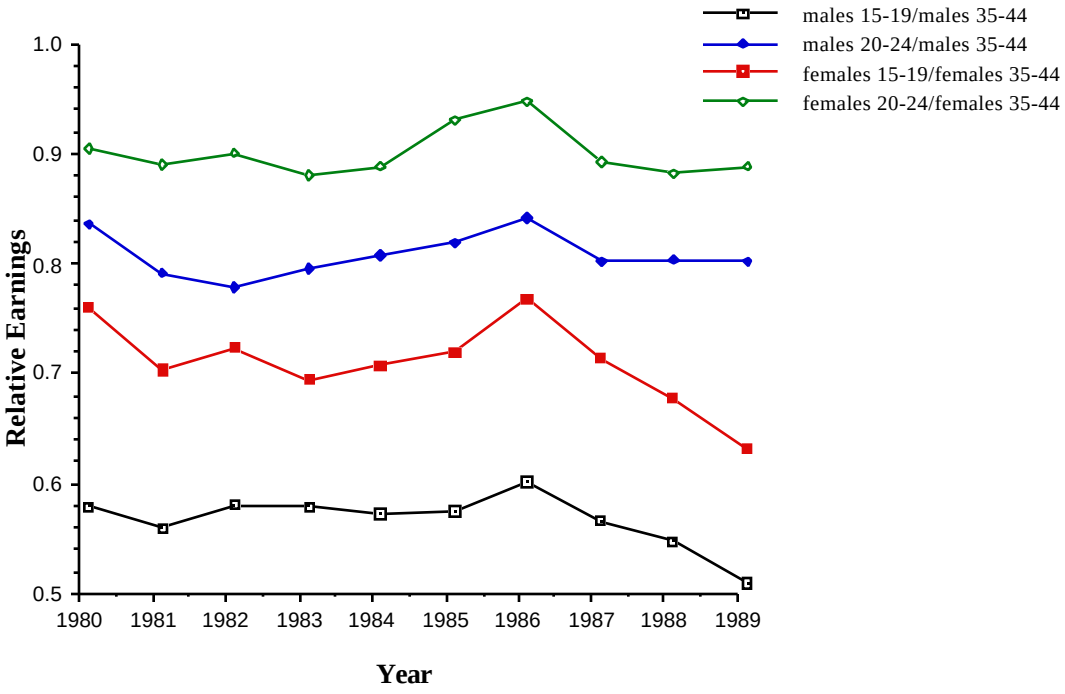

Figure 3d. Relative Earnings: France 1973-1994

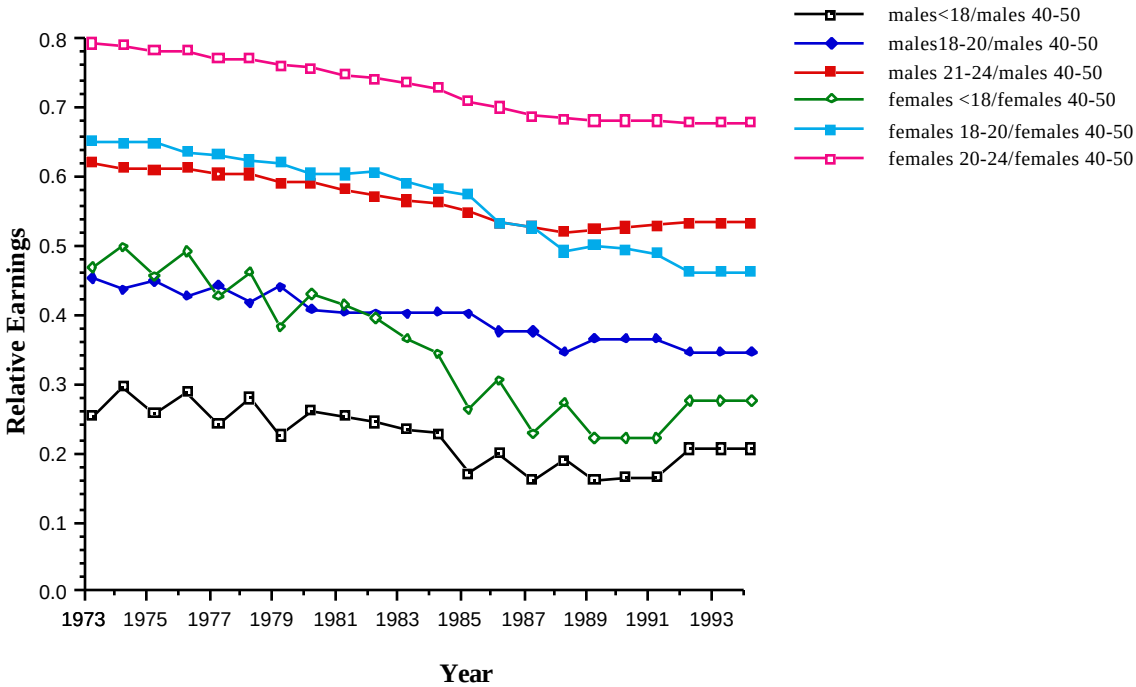

Figure 3e. Relative Earnings: Germany 1978-1990 (Both sexes together)

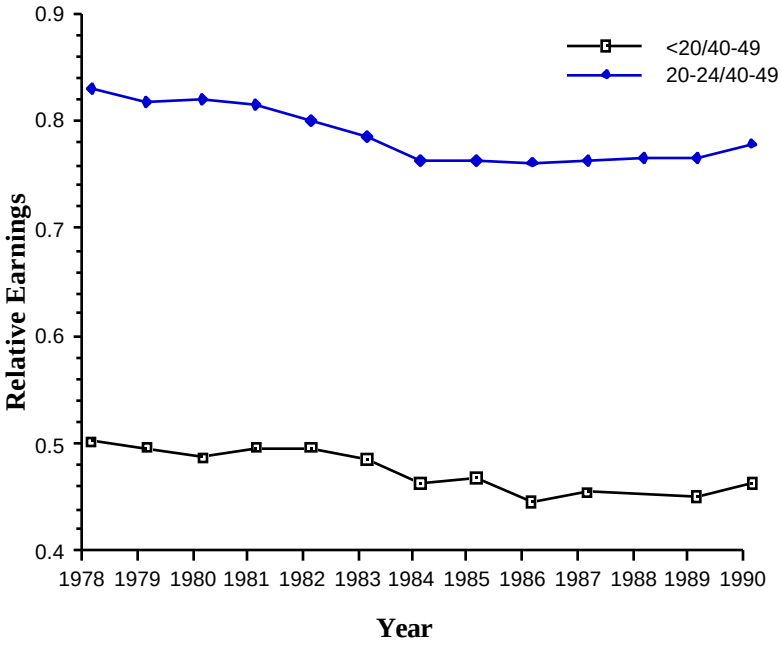

Figure 3f. Relative Earnings: Italy 1984-1993

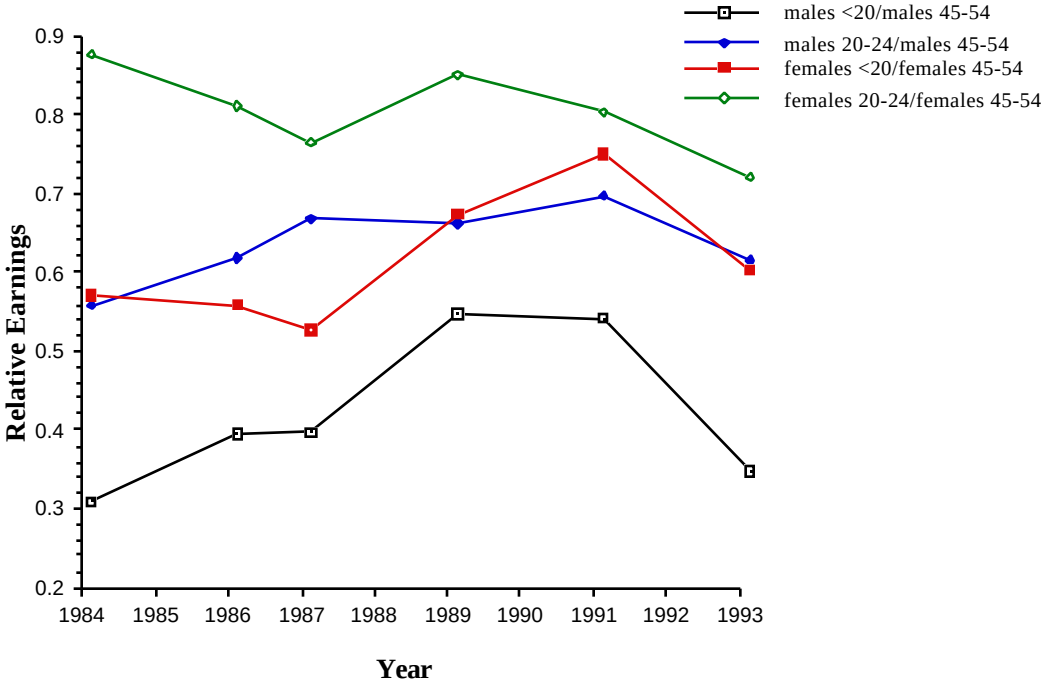

Figure 3g. Relative Earnings: Japan 1973-1992

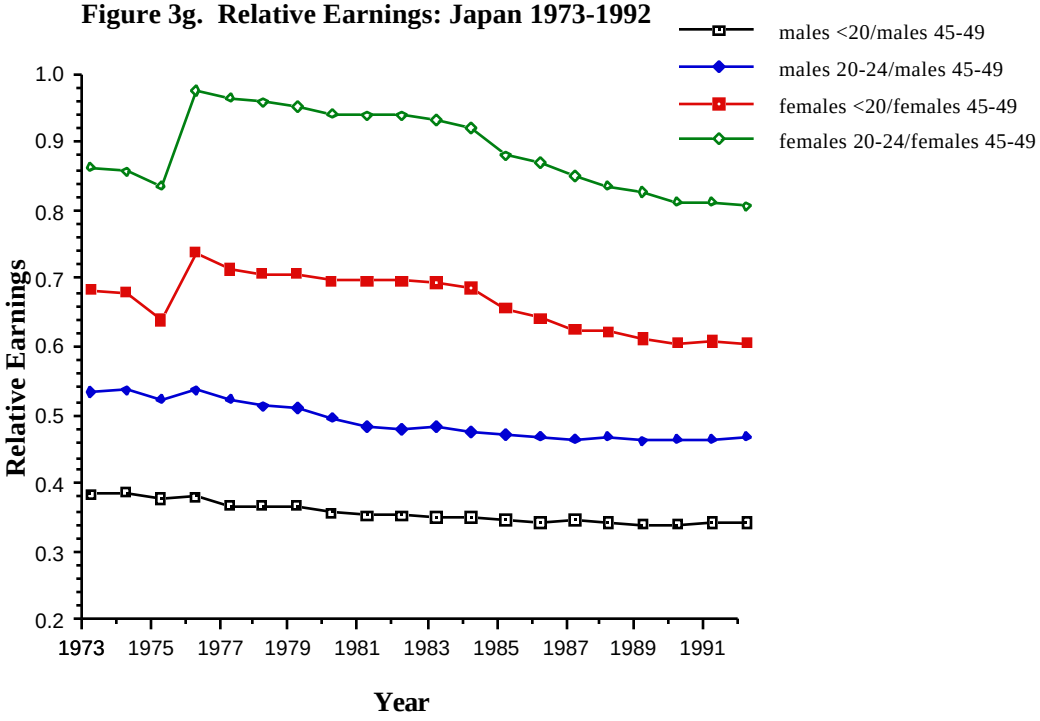

Figure 3h. Relative Earnings: Norway 1980-1991

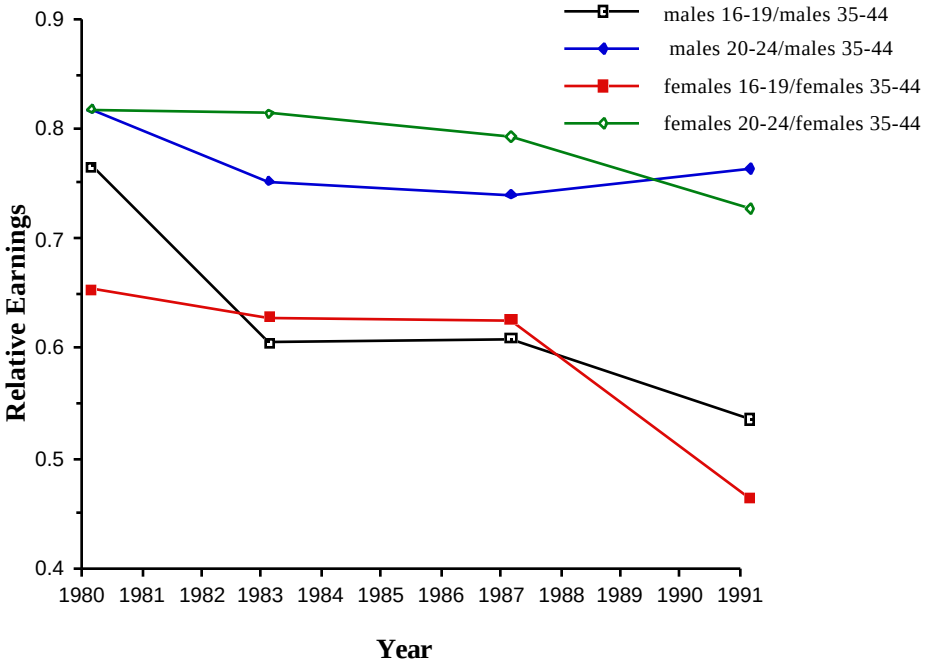

Figure 3i. Relative Earnings: Sweden 1981-1994

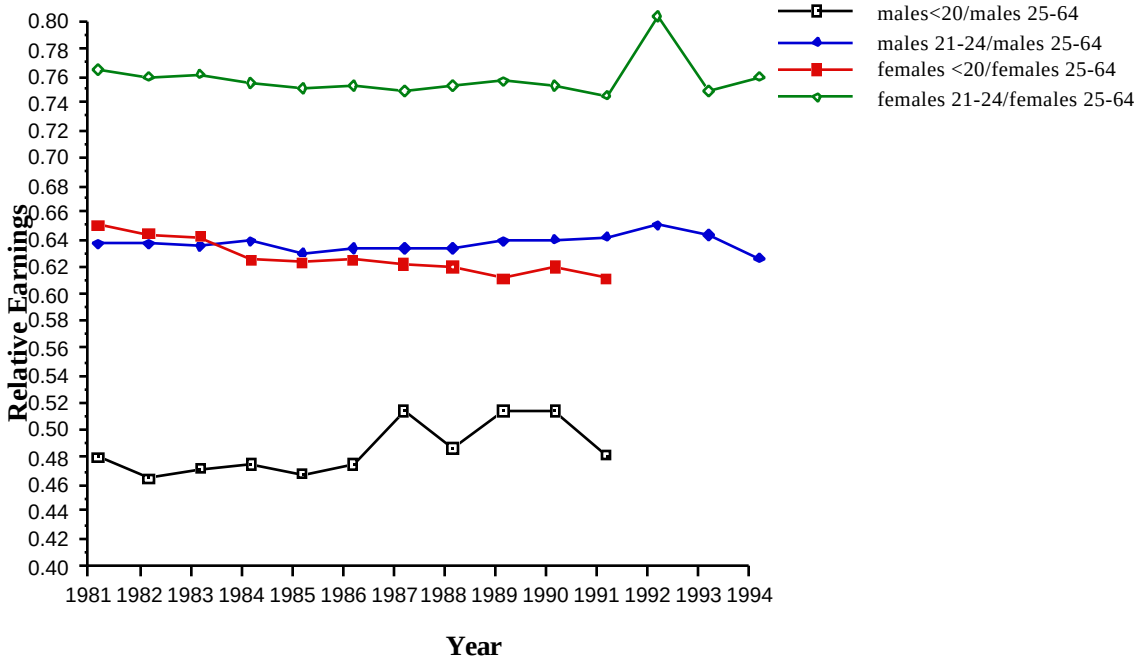

Figure 3j. Relative Earnings: UK 1970-1995

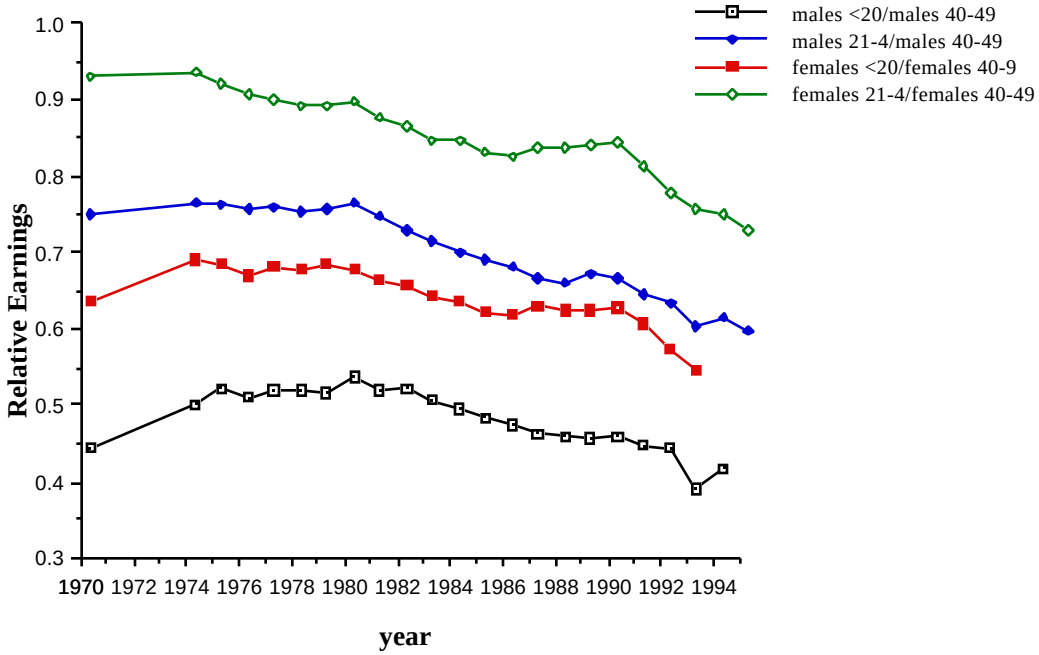

Figure 3k. Relative Earnings - USA 1973-1994

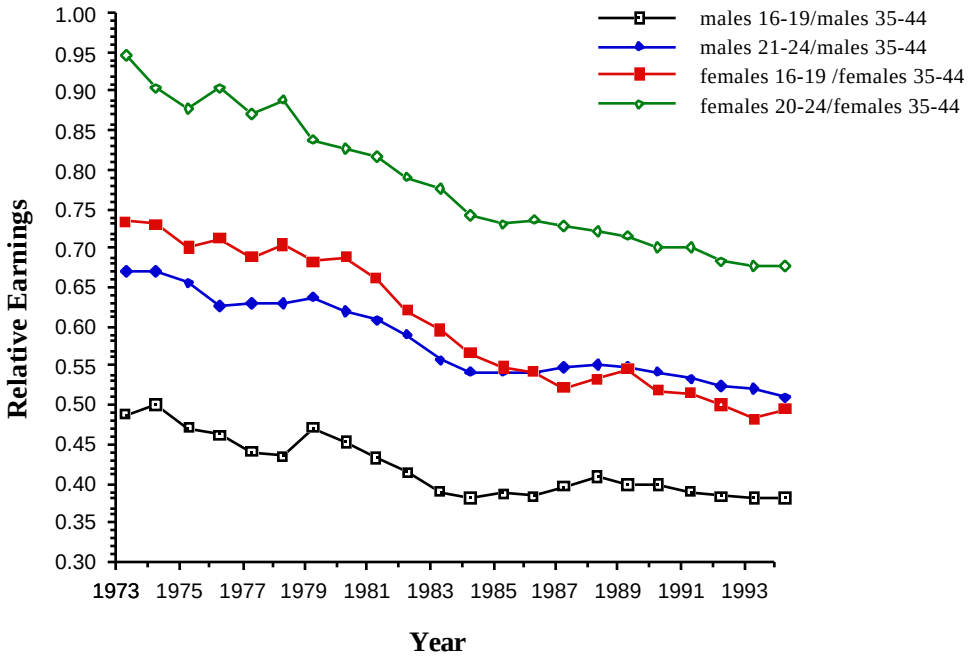

Table 1. Changes in Labor Market Status, 18 and 22 years of age: 1984-1997

	% attending school		% in some apprenticeship		% not in school & not in labor force		Employment/ population ratio		Unemployment / population ratio	
	1984	1997	1984	1997	1984	1997	1984	1997	1984	1997
a) Males 18 years										
Australia[a]	26.4	41.6	18.1	11.9	2.1	3.8	66.0	53.7	17.2	16.3
Belgium	72.6	82.5	2.1	2.1	4.2	7.9	18.1	5.1	8.1	4.3
Canada[b]	58.8	72.5	n/a	n/a	6.1	5.6	43.8	43.2	15.3	12.3
Denmark[b]	41.5	51.7	30.6	29.1	1.7	2.3	66.3	70.3	8.0	9.3
France	54.8	80.7	8.1	8.3	3.2	2.6	27.2	15.0	15.3	5.2
Germany[b]	37.1	41.1	41.1	45.8	1.0	3.4	61.8	53.0	5.0	2.8
Greece[b]	56.8	69.1	0.6	0.5	5.5	6.0	33.4	18.1	7.1	8.3
Ireland[b]	41.8	63.5	6.1	2.4	1.3	3.4	43.5	27.1	18.3	8.6
Italy	56.4	68.7	0.4	0.0	2.9	6.4	30.8	18.9	12.2	8.1
Netherlands[c]	68.1	73.0	3.3	7.1	4.5	6.3	26.3	56.8	10.6	5.5
Portugal[d]	34.9	64.7	-	-	3.8	2.7	57.9	30.2	11.9	6.0
Spain[d]	49.3	69.7	-	-	1.6	5.0	25.8	18.0	23.8	13.9
UK	29.2	34.6	15.1	12.4	2.4	11.4	59.0	61.8	21.0	12.4
United States[d]	60.9	67.4	n/a	n/a	1.1	6.8	46.3	43.3	17.9	12.7
OECD avge	48.8	63.6	11.3	11.5	3.0	4.7	43.8	35.4	13.0	9.1
b) Males 22 years										
Australia[a]	10.2	17.2	7.8	4.3	1.9	4.3	81.3	73.1	12.2	16.7
Belgium	36.9	38.0	1.7	0.9	2.4	6.0	51.8	46.7	14.7	11.9
Canada[b]	23.3	37.4	n/a	n/a	6.4	5.6	62.4	62.6	17.3	11.5
Denmark[b]	20.0	33.2	7.8	10.9	3.7	6.7	75.3	66.9	8.4	8.1
France	15.0	43.1	0.4	2.0	2.6	3.3	72.6	42.1	14.3	15.6
Germany[b]	23.8	26.1	5.1	9.0	1.4	4.2	68.3	66.4	8.3	8.4
Greece[b]	21.9	29.8	0.1	0.2	3.4	3.7	64.3	54.9	13.1	13.8
Ireland[b]	11.9	22.4	1.8	3.1	2.4	4.0	69.4	60.7	20.1	14.4
Italy	24.5	29.5	0.2	0.2	3.4	9.1	58.7	46.0	17.3	18.1
Netherlands[c]	39.6	48.5	2.4	3.9	2.8	4.9	58.2	72.7	16.0	3.6
Portugal[d]	19.6	36.4	-	-	4.9	2.9	70.9	62.4	11.9	9.6
Spain[d]	18.5	38.3	-	-	2.3	2.8	46.8	49.3	32.6	17.8
UK	14.6	18.2	1.3	3.5	2.3	8.4	76.0	72.8	15.1	11.5
United States[d]	25.5	29.6	n/a	n/a	0.9	5.6	76.1	78.2	12.4	5.0
OECD avge	21.5	32.7	2.3	2.9	2.8	4.6	67.6	60.6	14.1	12.1

	% attending school		% in some apprenticeship		% not in school & not in labor force		Employment/ population ratio		Unemployment / population ratio	
	1984	1997	1984	1997	1984	1997	1984	1997	1984	1997
c) Females 18 years										
Australia[a]	28.6	51.4	6.5	7.5	6.9	5.5	59.3	50.9	14.6	17.5
Belgium	74.3	88.1	0.7	1.0	5.9	6.0	12.8	2.8	9.6	3.4
Canada[b]	59.5	73.6	n/a	n/a	7.9	5.6	43.6	44.8	11.8	10.3
Denmark[b]	50.2	78.3	21.3	6.1	3.3	1.7	57.3	54.4	7.1	12.1
France	61.0	86.5	2.3	3.8	4.4	2.7	16.3	6.3	20.5	5.7
Germany[b]	43.3	49.4	29.6	35.6	2.5	5.5	53.1	39.6	6.6	4.1
Greece[b]	49.5	69.8	0.2	0.1	22.4	8.8	18.3	10.1	14.4	14.6
Ireland[b]	50.6	77.0	1.4	1.0	2.2	3.8	37.1	16.4	18.6	7.9
Italy	54.3	75.3	0.4	0.2	11.9	9.0	20.5	10.3	16.6	7.2
Netherlands[c]	65.9	78.0	0.8	5.3	4.8	4.9	27.4	54.0	12.8	7.8
Portugal[d]	39.5	72.9	0.1	-	11.8	6.4	38.9	18.6	14.5	6.3
Spain[d]	48.9	76.5	-	-	15.2	4.3	15.6	10.1	20.3	15.2
UK	31.5	41.9	4.4	6.1	10.8	16.2	56.4	59.5	14.9	7.2
United States[d]	56.2	65.7	n/a	n/a	8.6	11.6	42.5	47.1	17.7	8.0
OECD avge	50.6	70.6	5.8	6.5	8.1	5.8	36.6	29.9	13.5	9.4
d) Females 22 years										
Australia[a]	10.8	20.3	3.4	4.0	20.5	13.5	67.2	67.9	7.7	11.8
Belgium	26.1	35.3	0.9	n/a	9.2	11.7	50.1	43.9	19.1	12.2
Canada[b]	18.4	38.8	n/a	n/a	16.6	13.0	64.1	60.4	10.8	8.6
Denmark[b]	17.4	38.8	15.3	14.0	7.5	6.5	73.4	62.7	11.1	11.6
France	16.7	44.3	0.2	1.5	14.4	7.8	59.1	38.5	16.1	17.8
Germany[b]	19.7	23.7	3.4	9.2	12.7	15.2	63.3	59.5	7.2	7.4
Greece[b]	14.3	30.5	0.2	0.2	41.8	18.6	35.3	34.7	12.1	19.9
Ireland[b]	7.1	22.0	0.7	2.4	16.0	7.6	69.0	62.5	10.4	8.9
Italy	19.5	39.9	0.2	0.3	22.7	16.5	41.3	30.2	20.0	18.2
Netherlands[c]	24.0	48.2	1.1	1.2	14.0	8.6	64.3	72.6	9.3	4.8
Portugal[d]	24.2	45.4	-	-	21.3	5.0	45.5	51.3	14.3	6.7
Spain[d]	24.9	50.5	-	0.1	21.3	5.3	28.3	33.2	25.8	22.1
UK	30.3	38.2	9.8	9.4	6.6	13.7	57.8	60.7	17.9	9.9
United States[d]	58.6	66.6	n/a	n/a	4.7	9.2	44.4	45.2	17.8	10.2
OECD avge	17.4	35.1	2.1	2.9	18.2	11.2	57.6	53.6	12.4	11.6

Notes a=1994, b=1996, c=1983, d=1986, e=1995. N/a= data not available Average is unweighted. Source: OECD 1999.

Table 2. Employment/population ratios by age and gender, selected years

		1979			1989			1997		
		Age 15-19	Age 20-24	Age 25-54	Age 15-19	Age 20-24	Age 25-54	Age 15-19	Age 20-24	Age 25-54
Australia	Men	52.5	82.6	91.7	51.9	82.1	89.0	42.2	71.3	84.6
	Women	43.8	63.6	48.8	48.8	71.4	62.3	43.7	66.2	64.1
Canada	Men	48.0	77.0	90.4	51.8	75.7	88.0	36.8	67.8	83.9
	Women	43.0	64.9	54.2	50.2	70.6	69.1	36.4	62.8	70.5
France	Men	22.8	73.8	93.3	12.9	59.0	89.8	7.5	40.5	85.6
	Women	13.5	59.0	59.5	7.0	45.5	64.0	2.7	30.4	67.3
Germany	Men	46.9	76.8	93.0	39.7	73.3	87.1	31.7	68.0	85.1
	Women	42.2	67.7	53.3	34.3	68.3	57.7	24.4	60.8	66.0
Ireland	Men	43.8	83.6	88.8	22.4	65.1	78.8	20.6	63.9	81.7
	Women	36.8	65.2	26.3	18.2	63.5	36.6	15.0	59.0	53.0
Italy	Men	24.3	58.9	91.5	17.4	53.6	86.4	14.8	41.1	79.1
	Women	17.2	41.9	36.2	11.6	40.3	42.3	9.4	29.7	44.2
Japan	Men	17.0	67.9	95.7	15.6	68.5	95.5	16.9	70.3	95.1
	Women	18.1	67.6	55.2	16.3	71.5	61.9	15.6	68.9	64.6
Norway	Men	39.4	59.5	92.1	38.6	72.4	89.7	40.4	72.3	89.7
	Women	35.8	58.4	64.9	39.7	63.6	76.2	36.5	62.5	80.4
Portugal	Men	58.8	82.9	92.1	48.2	76.2	92.0	23.0	58.8	87.7
	Women	38.4	54.1	49.6	33.6	59.3	63.6	15.2	47.3	71.1
Spain	Men	44.2	71.9	90.1	33.7	58.9	84.5	19.3	47.2	80.1
	Women	31.5	45.7	28.9	17.8	36.6	35.3	8.7	32.3	43.4
UK	Men	-	-	-	65.8	81.6	89.2	52.1	71.6	85.4
	Women	-	-	-	64.3	69.2	67.3	52.4	63.9	71.3
USA	Men	51.7	78.9	91.2	48.7	77.8	89.9	43.4	75.2	88.4
	Women	45.3	62.4	59.0	46.4	66.4	70.4	43.3	66.8	73.5
OECD	Men	41.6	74.6	91.6	36.4	70.3	89.3	29.1	63.8	86.8
	Women	34.5	60.9	53.3	31.7	59.9	59.6	24.1	53.2	63.9

OECD average is unweighted using a fuller set of countries
Source: OECD, 1999.

Table 3. % of the employed who are in school

a) Males

	Age 18		Age 22		Age 26	
	1984	1994	1984	1994	1984	1994
Australia	41.7	43.9	14.9	18.0	12.6	12.8
Belgium	7.1	11.5	4.9	3.8	6.9	3.0
Canada	46.1	68.1	14.0	22.8	7.0	12.2
Denmark	23.9	50.8	6.4	15.9	5.1	7.0
France	1.9	15.6	1.9	9.4	1.7	6.9
Germany	5.8	12.0	2.0	5.8	2.0	6.7
Greece	5.8	5.1	2.0	2.7	1.1	1.7
Ireland	5.9	10.8	3.5	3.7	1.9	1.9
Italy	2.1	2.6	2.4	3.0	2.2	1.7
Luxembourg	0.9	5.6	1.6	1.4	1.0	0.9
Netherlands[b]	23.7	55.1	13.7	25.6	12.5	7.4
Portugal[c]	10.2	16.6	7.9	10.2	2.1	8.7
Spain[c]	2.0	11.3	0.6	6.6	0.2	6.5
UK	14.6	21.9	6.6	7.9	3.9	5.1
USA[a]	43.8	46.3	9.2	12.0	2.1	2.1
OECD average	15.7	25.1	6.1	9.9	4.2	5.6
b) Females						
Australia	21.8	51.8	12.8	22.1	10.4	12.9
Belgium	3.2	6.7	2.5	2.7	5.6	2.8
Canada	47.1	72.1	14.6	27.9	10.2	6.0
Denmark	32.5	63.5	9.6	15.6	5.1	13.8
France	5.7	27.6	3.8	16.2	1.6	8.1
Germany	7.3	15.4	2.3	5.9	1.2	4.0
Greece	2.1	8.5	4.4	3.6	1.5	1.6
Ireland	6.9	23.3	2.3	3.7	3.1	1.7
Italy	2.5	2.3	2.1	3.5	2.5	3.4
Luxembourg	3.1	4.2	0	3.2	0.7	2.5
Netherlands[b]	18.8	65.7	10.3	16.5	9.3	5.1
Portugal[c]	4.0	15.8	8.0	16.4	6.2	9.0
Spain[c]	0.5	17.8	0.9	12.3	0.2	8.1
UK	18.1	33.0	3.2	7.8	2.6	5.8
USA[a]	42.9	45.6	7.3	13.2	1.8	1.5
OECD average	14.4	30.2	5.6	11.4	4.1	5.8

Source: OECD School Cohort Dataset . Note: average is unweighted. a) Data refer to 1983 and 1993 b) Data refer to 1993 and 1994 c) Data refer to 1986 and 1994

Table 4. Unemployment rates of new school leavers one year after leaving education, 1996

	MALES			FEMALES		
	Less than upper secondary	Upper secondary	University/ tertiary	Less than upper secondary	Upper secondary	University/ tertiary
Belgium	68.0	37.5	16.1	71.9	51.2	25.8
Denmark	41.6	11.8	3.2	24.6	10.7	29.1
Finland	31.0	48.8	22.6	58.4	58.3	28.2
France	38.7	30.8	27.4	38.3	37.6	31.3
Germany[a]	9.7	8.9	15.2	13.0	7.6	15.1
Greece	32.1	46.7	41.3	74.3	65.5	55.5
Ireland	33.7	17.5	15.8	12.9	16.4	9.9
Italy	43.0	53.2	63.4	64.5	72.6	61.8
Netherlands	30.6	16.9	23.7	42.5	24.2	30.6
Portugal	35.6	48.5	42.9	57.8	52.6	43.3
Spain	45.3	51.4	50.7	58.3	59.8	61.8
UK	25.6	22.6	25.9	19.3	19.6	12.7
USA[a]	25.6	12.0	11.5	61.6	15.0	9.3
OECD average	33.8	30.2	27.7	43.6	34.4	30.5

OECD unweighted average also includes Austria and Luxembourg. a=1995.
Source: OECD, 1999.

Table 5. Employment rates over the first three to five years after leaving initial education

	MEN			WOMEN		
	First year	Third year	Fifth year	First year	Third year	Fifth year
Less than upper school						
Australia	65.1	65.9	75.9	55.4	45.5	39.2
France	77.5	81.3	78.1	68.3	73.0	69.0
Germany	87.5	91.9	88.5	73.7	79.2	72.6
Ireland	75.9	81.0	78.4	62.7	64.9	61.2
United States	49.5	64.8	79.8	31.6	31.9	39.3
Upper secondary						
Australia	74.9	74.9	82.5	78.2	75.4	74.2
France	n/a		n/a	n/a	n/a	n/a
Germany	88.2	96.3	95.0	83.6	89.9	86.0
Ireland	68.1	90.3	87.1	62.0	87.6	88.5
United States	71.6	77.7	85.9	61.1	68.0	71.1
University/tertiary						
Australia	78.2	84.0	87.0	79.0	77.6	77.6
France[b]	80.4	94.4	95.5	77.6	91.2	91.2
Germany	85.9	87.7	99.7	75.4	82.7	86.9
Ireland	73.7	83.6	n/a	78.6	94.0	n/a
United States	87.1	94.7	95.4	81.0	86.9	81.8

Notes: employment rate is expressed as the percentage of the sample with a job. b=data refer to first, third and fourth year after completion of education.
Source: OECD, 1998

Table 6. Whether unemployed or employed during the first five years since leaving education -- Germany and the United States

	MEN		WOMEN	
	Never employed	Never unemployed	Never employed	Never unemployed
Less than upper school				
Australia	8.3	39.8	37.3	65.7
Germany	1.5	71.8	7.9	72.9
United States	7.8	38.0	29.1	43.6
Upper secondary				
Australia	4.4	58.1	6.4	68.2
Germany	0	85.1	0.7	79.4
United States	2.9	58.3	8.4	62.0
University/tertiary				
Australia	5.2	68.8	2.0	62.9
Germany	0	79.5	5.2	81.6
United States	0.5	82.2	3.1	80.3

Source: OECD 1998. Data are as follows -- Australia -- Australian Youth Survey; Germany – German Socio-economic Panel; Ireland – 1992 Irish survey of school leavers; USA – NLSY Panel; France data provided by Patrick Werquin of CEREQ (for details of data see OECD 1998 Annex 3B).

Table 7. Concentration of youth unemployment over the five year period since initial education in France, Germany and the United States.

	France		Germany			USA			
	Less than secondary	All	Less than secondary	Upper secondary	University/ tertiary	All	Less than secondary	Upper secondary	University/ tertiary
Unemployed as a % population									
None	17.9	82.2	61.8	74.9	77.6	43.8	15.9	30.4	53.0
1-3 months	5.6	6.7	9.3	4.2	9.0	28.1	27.9	28.5	27.9
3-6 months	5.9	9.5	9.1	9.8	9.4	10.8	16.3	12.3	9.4
6-9 months	6.6	3.4	5.6	3.4	1.0	6.5	7.7	9.6	4.5
9-12 months	5.6	3.1	4.5	3.5	0	3.5	9.0	5.8	1.6
12-24 months	25.6	3.7	6.8	2.6	3.1	6.5	16.1	10.9	2.8
24-36 months	16.8	0.8	1.4	0.8	0.0	1.5	5.1	2.2	0.8
>=36 months	15.9	0.8	1.4	0.8	0.0	0.3	2.1	0.3	0.1
Unemployed as % all weeks unemployment									
1-3 months	1.1	4.8	3.8	3.2	16.0	9.7	4.6	7.1	16.7
3-6 months	2.7	17.3	9.7	19.1	37.1	13.4	8.7	10.8	20.0
6-9 months	4.2	11.1	10.8	12.4	5.7	13.7	7.0	14.0	16.4
9-12 months	4.4	14.2	13.4	17.5	0	10.9	10.8	11.7	9.5
12-24 months	24.9	27.6	31.4	22.4	41.3	33.1	34.5	37.8	24.4
24-36 months	25.2	10.2	11.9	10.9	0	15.2	22.4	15.8	10.6
>=36 months	37.5	14.8	19.0	14.5	0	4.1	11.9	2.9	2.3

Source: OECD 1999

Table 8. Proportion of unemployed youths in households where no other person is employed, 1985 & 1996 (%)

	15-19		20-24	
	1985	1996	1985	1996
Australia[a]	26.4	22.8	37.1	36.3
Austria	..	18.4	..	21.6
Belgium	20.2	33.9	28.3	38.8
Canada	21.7	24.1	39.7	40.9
Finland	..	23.5	..	64.6
France	19.2	25.8	27.9	29.8
Germany[b]	17.5	36.3	36.6	45.5
Greece	18.6	16.1	25.7	23.6
Ireland	27.9	40.5	35.0	43.5
Italy	12.4	21.5	21.1	27.2
Mexico	..	8.5	..	8.5
Netherlands[c]	22.3	17.8	48.6	44.5
Portugal	8.9	9.5	15.1	18.6
Spain	20.0	22.6	24.1	26.2
Switzerland	..	4.8	..	22.5
UK	26.6	32.4	44.1	48.7
USA[a]	20.6	18.8	39.6	40.1
European Union	19.4	24.9[d]	30.6	36.0[d]
OECD	20.2	22.2[e]	32.5	34.2[e]

Notes: .. data not available
a) 1986 instead of 1985
b) data for Germany relate to West Germany in 1985 and the whole of Germany in 1996
c) 1988 instead of 1985
d) The averages are respectively 25.6 and 34.6 for the 15-19 group and 20-24 group when Austria and Finland are not included.
e) The averages are respectively 24.3 and 36.7 for the 15-19 group and 20-24 group when Austria, Finland, Mexico and Switzerland are not included

Table 9. Estimated Effects of Aggregate Unemployment on the Proportion of Youth Across Labor Market States by Country

	% in school - not working SN	% school - working SE	% in school	% not in school & not working ON	% not in school & working OE	% employed
All	.4298 (7.58)	-.0136 (0.39)	.3890 (7.50)	.7336 (11.53)	-1.1538 (16.03)	-1.1267 (14.5)
Australia	.3954 (5.04)	-.2311 (3.26)	.0453 (0.77)	1.1694 (5.57)	-1.3337 (5.46)	-1.0520 (6.97)
Belgium	-.4004 (3.53)	.0852 (3.25)	-.3293 (2.80)	1.0309 (4.23)	-.7601 (2.95)	-.6059 (2.37)
Canada	.3513 (5.73)	-.2543 (3.61)	-.3442 (4.70)	.9958 (6.02)	-1.0928 (5.88)	-1.8338 (8.35)
Denmark	.3532 (2.66)	-.0788 (0.53)	.0970 (1.01)	1.0173 (7.98)	-1.3010 (7.06)	-1.3471 (7.48)
France	.2010 (0.76)	.2503 (5.98)	-.3205 (0.99)	.6898 (2.35)	-1.1682 (4.48)	-.8461 (2.29)
Germany	1.0375 (4.09)	.3212 (3.34)	.4588 (1.69)	.7121 (1.14)	-2.0347 (3.52)	-.9025 (3.48)
Greece	-.2010 (0.74)	.0166 (0.53)	1.3584 (4.51)	1.0537 (2.00)	-.8396 (1.39)	-1.7491 (3.03)
Holland	2.3066 (5.63)	-.4067 (1.37)	-.2016 (0.76)	-.6770 (1.16)	-1.2228 (2.09)	-.8348 (1.43)
Ireland	-.3879 (1.29)	.0696 (0.91)	.2872 (1.38)	1.2333 (2.72)	-.8796 (2.39)	-1.3720 (8.98)
Italy	-.9559 (7.12)	-.0909 (5.82)	1.8998 (3.38)	.6545 (1.61)	.3922 (0.95)	-1.6295 (3.01)
Luxembourg	-.5497 (1.37)	.0338 (0.46)	-1.0467 (7.79)	1.3796 (1.97)	-1.7295 (1.97)	.3013 (0.86)
Portugal	.7432 (4.07)	-.0989 (1.69)	-.9221 (2.68)	1.1955 (6.00)	-1.8397 (8.88)	-.3289 (0.41)
Spain	.0884 (1.53)	-.0836 (6.24)	-.0370 (0.72)	.9183 (5.34)	-.9215 (6.14)	-.6547 (3.58)
UK	.1733 (3.51)	-.5175 (7.25)	.1642 (1.46)	1.6606 (8.00)	-1.3164 (6.66)	-1.5841 (6.77)
USA	.1078 (2.37)	-.1413 (4.29)	.6442 (3.63)	.5499 (3.13)	-.5639 (3.13)	-1.9387 (9.13)

T-statistics in parentheses. Controls include 19 age dummies, a time trend, a gender dummy plus 14 country dummies in the overall equation.

Source: OECD School Cohort Dataset

Table 10. Estimated Effects of Aggregate Unemployment on the Proportion of Youth Across Labor Market States by i) Age and ii) Gender

	% in school	**% employed**	**% unemployed**
All	.3890 (7.50)	-1.1267 (14.45)	1.3492 (33.71)
16	.4429 (1.66)	-1.2778 (7.24)	2.2670 (9.61)
17	.5273 (1.87)	-1.3276 (7.42)	2.2113 (11.69)
18	.4552 (1.68)	-1.2436 (7.37)	1.8698 (9.48)
19	.3542 (1.31)	-1.2073 (7.18)	1.8333 (10.85)
20	.4201 (1.79)	-1.2706 (7.93)	1.8478 (13.09)
21	.4441 (2.28)	-1.2756 (7.65)	1.7088 (12.67)
22	.4976 (3.10)	-1.2777 (7.28)	1.5694 (11.97)
23	.4954 (3.70)	-1.2808 (7.55)	1.4347 (11.34)
24	.4507 (4.10)	-1.2607 (7.55)	1.3236 (11.19)
25	.3955 (3.96)	-1.1911 (7.22)	1.2284 (11.55)
26	.4663 (5.28)	-1.1567 (6.86)	1.1263 (11.56)
27	.4291 (5.45)	-1.1159 (6.40)	1.0727 (11.45)
28	.3906 (5.27)	-1.2054 (6.53)	1.0876 (12.12)
29	.3547 (4.62)	-.9872 (5.20)	.9925 (11.67)
30	.2928 (4.36)	-.9702 (4.81)	1.0219 (12.21)
31	.2968 (4.01)	-.9772 (4.68)	.9466 (11.78)
32	.2885 (4.13)	-.9060 (4.18)	.9438 (11.85)
33	.2551 (3.36)	-.8848 (3.97)	.9048 (11.65)
34	.2817 (3.54)	-.8446 (3.79)	.8679 (11.63)
35	.2605 (3.30)	-.8101 (3.52)	.8048 (11.17)
Female	.3793 (5.34)	-.9654 (10.73)	1.2491 (22.26)
Male	.3996 (5.46)	-1.2868 (16.19)	1.4554 (34.05)

T-statistics in parentheses. Controls include 14 country dummies, a time trend, a gender dummy plus 19 age dummies in the overall equation.

Source: OECD School Cohort Dataset

Table 11. Estimated Effects of Aggregate Unemployment on the Proportion of Youths Employed by Schooling Status and Gender

	Males				Females			
	In school		Out of school		In School		Out of School	
Country	Unemployment Rate (%)	Trend	Unemployment Rate (%)	Trend	Unemployment Rate (%)	Trend	Unemployment Rate (%)	Trend
All	-.8273 (5.39)	-.1095 (1.93)	-1.3975 (21.98)	-.3560 (15.30)	-.8992 (5.60)	.1620 (2.71)	-1.0295 (11.36)	.7345 (22.14)
Australia	-1.1048 (4.99)	-.8774 (9.16)	-1.8932 (15.76)	-.2084 (4.01)	-1.3754 (5.41)	.4250 (3.86)	-1.4457 (5.22)	.6286 (5.25)
Belgium	1.1388 (1.74)	-.1339 (0.37)	-1.4609 (5.84)	-1.0993 (7.96)	1.1944 (1.46)	-.0659 (0.15)	-1.3627 (4.01)	-.0452 (0.24)
Canada	-1.4660 (5.12)	-.1337 (1.59)	-2.0752 (20.84)	-.3294 (11.23)	-.2700 (1.03)	.2517 (3.27)	-1.0504 (5.13)	.7591 (12.59)
Denmark	-1.4041 (1.89)	-.2123 (0.65)	-1.4528 (7.16)	.1127 (1.28)	-1.0644 (1.39)	-.7137 (2.14)	-1.2616 (3.97)	.3316 (2.40)
France	.1327 (0.24)	.3163 (1.69)	-1.6863 (8.12)	-.0908 (1.30)	-.0797 (0.11)	-.3910 (1.60)	-1.1139 (5.35)	.3643 (5.19)
Germany	-.9212 (0.98)	2.1182 (7.72)	-.3503 (0.99)	-.0486 (0.47)	-.4543 (0.48)	1.6508 (5.94)	-.5836 (1.01)	.7693 (4.53)
Greece	1.4227 (1.04)	-1.1520 (4.45)	-.9029 (3.21)	-.2869 (5.34)	.0652 (0.05)	-.8721 (3.14)	-1.6912 (5.69)	.8090 (14.28)
Holland	-4.3383 (6.01)	-3.4451 (5.79)	-.4907 (0.90)	.2297 (0.51)	-2.2364 (3.47)	-.5257 (0.99)	.6612 (1.29)	2.4205 (5.74)
Ireland	.2443 (0.36)	-1.3307 (4.53)	-1.6437 (5.81)	-.4309 (3.55)	-1.7319 (2.38)	-.7332 (2.36)	-1.2158 (3.04)	.7270 (4.25)
Italy	-2.4761 (3.86)	-.4522 (2.77)	-.4052 (1.90)	-.7384 (13.62)	-.9476 (1.47)	-.1203 (0.73)	-.1910 (0.81)	.1486 (2.47)
Luxembourg	-.5900 (0.31)	.2724 (0.78)	-2.1767 (4.03)	-.6542 (6.41)	-2.8387 (1.21)	-.6038 (1.31)	-2.1578 (2.97)	.0035 (0.03)
Portugal	-1.0876 (2.17)	-.2931 (1.21)	-1.7686 (10.06)	-.3834 (4.51)	-1.7110 (2.92)	-.1604 (0.57)	-2.0144 (9.82)	1.1501 (11.60)
Spain	-1.2379 (5.50)	1.6958 (6.58)	-1.7209 (19.65)	.5046 (5.27)	-.6303 (3.11)	.3915 (1.66)	-1.0743 (14.36)	1.4230 (17.38)
UK	-1.6567 (4.38)	.5584 (3.27)	-2.3621 (14.72)	-.6422 (8.85)	-1.6592 (3.97)	1.0701 (5.66)	-1.6975 (9.33)	.5733 (6.96)
USA	-.7469 (2.43)	.1134 (1.90)	-1.6006 (21.36)	-.2784 (19.28)	-.2764 (1.09)	.3685 (7.46)	-.0500 (0.33)	.9290 (31.45)

T-statistics in parentheses. Controls include 14 country dummies, a time trend, a gender dummy plus 19 age dummies in the overall equation.
Source: OECD School Cohort Dataset

Table 12. Numbers of Jobs Held By Young Persons from Age 16 to 25

	# Jobs held since age 16 over relevant period	# of jobs per year
USA, age 16 in 1979; age 25 in 1988		
Males	7.7	.86
Females	6.8	.76
Norway, left school in 1988-89: # of jobs by 1992 (age under 25 in 1989)		
Males	1.7	.57
Females	1.9	.63
UK, age 16 in 1974; age 23 in 1981		
Males	2.3	.26
Females	3.1	.34
Germany, age 16 to 25: 1974-1984		
Males	2.6	.29
Females	2.0	.22
Japan, from school leaving to age 30 in 1985		
Males	1.6	.17
Females	1.5	.17

Source: USA : National Longitudinal Survey of Youth.
Norway: Norwegian Labor Market Survey, 1989-1992
UK: National Child Development Study
Germany: German Socio-Economic Panel
Japan: Survey on Employment Conditions of Youth, 1985.

Table 13. Death Rates by Suicide and Self-inflicted injuries. (Death Rates per 100,000 persons)

	Males			Females		
Country	**15-19**	**20-24**	**25-54**	**15-19**	**20-24**	**25-54**
Australia						
1970	8.4	16.7	26.2	2.6	6.9	11.2
1980	9.9	25.6	22.9	2.4	6.7	8.4
1992	19.6	34.6	26.3	4.8	6.4	6.5
Austria						
1970	21.0	32.9	43.7	5.5	5.8	15.4
1980	18.5	40.4	45.6	7.3	6.0	15.1
1992	15.7	31.2	35.6	5.9	6.2	12.6
Canada						
1970	10.1	21.9	24.6	3.9	5.8	11.1
1980	19.4	30.4	28.5	3.8	7.0	9.8
1992	20.1	29.0	27.3	5.4	6.6	7.5
Denmark						
1970	3.7	17.8	39.4	1.1	9.9	20.8
1980	7.4	25.8	56.6	4.7	11.0	30.3
1992	5.5	19.2	35.0	2.3	4.4	16.1
France						
1970	6.7	12.1	25.7	4.3	4.4	8.8
1980	7.4	24.2	32.6	2.9	8.0	12.3
1992	6.7	20.7	37.5	2.5	5.9	12.3
Greece						
1970	0.6	2.7	5.5	1.4	1.7	3.6
1980	1.6	4.5	5.4	1.1	2.6	3.6
1992	1.4	4.0	5.9	1.3	2.1	3.6
Iceland						
1970	9.7	22.2	38.2	0	0	6.1
1980	8.7	9.0	24.3	0	9.6	12.7
1992	18.5	19.2	27.9	0	0	5.8
Ireland						
1970	0.7	6.6	3.6	0	1.0	0.9
1980	4.3	7.3	14.9	1.3	6.0	6.7
1991	14.9	29.2	24.8	1.3	2.9	4.4
Italy						
1970	2.6	4.5	7.9	2.3	2.3	3.7
1980	3.2	7.6	10.3	1.6	3.3	4.7
1990	3.3	8.3	10.5	1.6	2.4	3.8
Japan						
1970	8.7	18.8	19.4	6.9	16.2	12.8
1980	9.5	24.1	28.6	4.9	11.5	12.8
1992	5.3	15.3	25.9	3.2	6.3	10.1
Luxembourg						
1970	0	17.4	23.9	0	8.8	15.0
1980	7.0	13.8	24.1	0	0	14.7
1992	0	14.1	15.4	9.6	7.5	16.2
Mexico						
1970	2.2	3.6	3.3	0.8	1.2	0.7

1980	3.2	4.3	4.0	1.3	1.4	0.8
1991	3.8	8.1	6.4	0.9	1.5	1.1
Netherlands						
1970	3.3	8.1	10.7	1.5	2.6	7.9
1980	3.7	13.1	15.6	0.8	6.6	9.5
1992	4.6	12.5	17.0	2.5	4.7	9.0
New Zealand						
1970	9.0	15.6	19.0	2.4	5.4	7.6
1980	12.4	27.8	17.5	9.2	6.9	10.2
1992	27.7	52.2	28.7	3.7	8.7	7.0
Norway						
1970	1.3	9.2	17.2	1.4	2.6	8.4
1980	14.3	26.5	21.8	1.3	5.3	9.7
1992	18.0	37.2	24.3	5.6	4.9	10.3
Portugal						
1970	5.1	6.4	15.3	3.2	4.2	3.4
1980	3.2	7.4	13.1	5.1	2.9	4.5
1992	3.5	8.1	12.6	2.2	2.1	4.8
Spain						
1970	1.3	2.7	6.8	1.0	0.8	2.2
1980	2.5	6.4	7.5	0.8	1.4	2.2
1991	4.7	9.4	10.4	1.4	3.0	3.0
Sweden						
1970	10.2	25.4	41.3	4.8	10.5	20.2
1980	5.8	28.2	37.6	4.3	7.4	14.8
1992	5.4	14.4	27.5	4.5	8.7	11.1
Switzerland						
1970	12.7	32.6	32.9	4.5	5.5	12.1
1980	22.9	48.0	40.9	6.9	18.4	17.6
1992	10.6	33.7	35.3	3.0	9.0	11.1
UK						
1970	3.0	8.5	11.5	1.4	3.4	7.5
1980	4.1	9.6	14.8	1.9	4.1	7.7
1992	6.4	16.9	17.8	1.6	2.9	4.5
USA						
1970	8.9	19.0	23.1	2.9	5.6	11.0
1980	13.8	26.6	23.6	3.0	5.5	8.2
1991	18.0	25.4	24.0	3.7	4.1	6.3
West Germany						
1970	15.7	24.6	34.0	5.5	8.5	17.3
1980	11.8	27.0	33.6	4.2	7.1	14.6
1990	9.6	18.6	23.8	2.4	5.9	8.6
1992*	8.6	16.0	26.3	2.4	4.0	8.5

Notes: * 1992= Germany (East+West)
Source: World Health Organisation Statistical Database

Table 14. Population Size Age 15-24 Relative to Age 25-54.

COUNTRIES	**1980**	**1990**	**1994**
Australia	45.17	38.37	34.72
Austria	43.57	34.41	29.20
Belgium	41.03	32.96	29.97
Canada	50.25	32.89	29.67
Denmark	38.32	34.74	31.17
Finland	38.22	29.62	27.89
France	40.61	37.23	34.34
Germany	39.87	31.08	26.94
Greece	36.97	37.03	35.01
Iceland	54.32	41.58	38.18
Ireland	53.20	47.02	48.20
Italy	38.70	39.07	34.45
Japan	30.78	35.58	35.51
Luxembourg	37.25	29.59	28.18
Mexico	71.61	70.26	63.70
Netherlands	43.89	35.70	29.50
New Zealand	50.58	41.25	37.99
Norway	41.96	38.21	32.91
Portugal	48.09	43.07	39.83
Spain	43.19	43.39	40.12
Sweden	34.89	33.62	30.32
Switzerland	37.28	31.30	26.24
Turkey	64.13	59.06	53.41
United Kingdom	41.40	36.57	31.73
United States	49.56	34.77	31.59
OECD unweighted average	44.17	38.63	35.38
EEC 12 unweighted average	41.88	37.29	34.12

Source United Nations Database.

Table 16. Youth Shares of Employment and changes in shares due to demographic changes and changes in employment by industry (20-24 year olds), 1985-1994.

	(1) Share of total employment, 1985	(2) Share of employment expected in 1994 given the change in their share of the population	(3) Actual share of employment, 1994	(4) Actual minus expected share (3)-(2)	(5) Change in the share of employment due to changes in the industry mix of employment
Belgium	11.7	10.2	8.8	-1.4	-0.1
Canada	14.5	10.3	9.8	-0.5	0.1
Denmark	11.4	10.2	9.5	-0.7	0.1
France	11.0	10.3	7.9	-2.4	0.2
Germany	12.4	9.4	8.9	-0.5	3.6
Greece	7.5	7.8	7.8	0.0	0.2
Ireland	16.9	16.6	14.0	-2.6	0.5
Japan[a]	12.2	12.9	13.3	+0.4	0.7
Luxembourg	14.5	12.0	10.4	-1.6	0.5
Netherlands	14.4	12.8	11.8	-1.0	0.2
Portugal[b]	9.9	10.2	9.7	-0.5	0.2
Spain[b]	10.2	9.8	9.9	+0.1	0.4
United Kingdom	13.0	11.0	10.4	-0.6	0.1
United States[c]	13.4	10.5	10.2	-0.3	0.2

Notes: a) refers to age group 15-24. Years are 1982 and 1992.
b) years are 1986 and 1994
c) years are 1983 and 1994.

Source: Data for European countries supplied by EUROSTAT on the basis of each country's labor force survey. Data for Canada and the United States are based on each country's March labour force survey and were supplied by Statistics Canada. Data for Japan are from the 1992 Employment Status Survey, Statistics Bureau, Management and Coordination Agency. See Table 4.12, Employment Outlook, 1996.

Table 17. Relative Earnings 18-24 years compared with 35-44 years -- ISSP, 1993

	Coefficient	N
Canada	-1.2208	850
Great Britain	-.8111	868
Ireland	-.2282	365
Italy	-.4830	482
Japan	-.8500	685
Netherlands	-.2095	698
New Zealand	-1.0837	724
Norway	-.8106	772
Spain	-.5367	317
USA	-1.7148	895
West Germany	-.3820	822

Coefficient on age dummy for 18-24 years compared with the excluded category of 35-44 years. All equations included 5 age dummies and a gender dummy. Sample consists of the employed (self-employed or employees).

Source: International Social Survey Programme, 1993.