LABOUR MARKET POLICIES: NEW CHALLENGES

LIFELONG LEARNING TO MAINTAIN EMPLOYABILITY

Meeting of the Employment, Labour and Social Affairs Committee at Ministerial Level held at the Château de la Muette, Paris, on Tuesday 14 and Wednesday 15 October 1997

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Executive Summary

The attached paper provides background for theme 3 of the *Analytical Report* to be discussed at the meeting of Labour Ministers, 14-15 October, 1997.

The paper discusses (i) evidence on the importance of human capital and lifelong learning for labour market outcomes; (ii) the barriers to lifelong learning that can arise in the transition from initial education to work; (iii) major features of the situation of poorly qualified adults and the barriers to lifelong learning that they face; and (iv) the role that Labour Ministers and labour market policies can play in facilitating lifelong learning.

TABLE OF CONTENTS

1. INTRODUCTION

"Human capital" -- the knowledge and know-how embodied in people -- is a powerful determinant of national economic performance, enterprise productivity, and individual labour market outcomes. Policies for education and training have important implications for the level and distribution of knowledge and know-how (OECD, 1994a). Traditionally, the focus of education and training policies has been on the preparation of young people for adulthood and working life. However, it is increasingly recognised that this is not enough to ensure lifelong employability.

On-going structural changes affecting all OECD economies and societies have increased the importance of up-to-date skills and competences. The growing share of economic output in services is knowledge- and information-intensive, as is an increasing proportion of manufacturing and primary production. This places a premium on the continual upgrading of the skills and competences of work forces in Member Countries, that is, developing coherent strategies for lifelong learning (OECD, 1996a).

OECD Education Ministers, at their meeting in January 1996, identified the goal of lifelong learning for all as a means for anticipating and responding to on-going changes, promoting economic efficiency, and enhancing social cohesion. In discussing strategies for achieving this goal, the Ministers recognised that the task extends beyond restructuring formal education systems. They stressed the need to "deepen co-operation with their colleagues in the areas of social, labour market, economic and communications policies, in order to make sure that policies which affect education are coherent and cost-effective" (OECD, 1996b).

Lifelong learning is far broader than the provision of second-chance education and training for adults. It is based on the view that everyone should be able, motivated, and actively encouraged to learn throughout life. This view of learning embraces individual and social development of all kinds and in all settings: formally, in schools, vocational, tertiary and adult education institutions; and non-formally, at home, at work and in the community.

The debate about lifelong learning is of direct relevance to Labour Ministers in three respects. First, the absence of effective lifelong learning opportunities, or lack of access to them, contributes to unemployment and low earnings. Second, the lifelong learning perspective adds a longer-term, preventive dimension to labour market programmes. Third, labour market policies have an important role to play as part of cost-effective lifelong learning strategies.

The discussion is organised around four main issues:

- *The role of lifelong learning in ensuring lifelong employability*: What is the evidence on the role that education and training plays in labour market outcomes?

- *How can young people's transition from education to work facilitate lifelong learning*: Do problems with the transition from initial education to work have long-term repercussions on participation in lifelong learning and, if so, how can they be overcome?

- *Who and how many poorly qualified adults are there:* Which groups are most at risk of unemployment and low earnings because of their lack of access to lifelong learning opportunities?

- *What role can Labour Ministers play in strengthening opportunities for lifelong learning:* How can labour market policies contribute to achieving the goal of lifelong learning for all?

2. THE ROLE OF LIFELONG LEARNING IN ENSURING EMPLOYABILITY

This section examines the importance of lifelong learning for success in the labour market. It reviews evidence on the strong relationship between initial formal qualifications and labour market outcomes. It then presents evidence on factors associated with participation in lifelong learning, and, finally, on the importance of lifelong learning for employability. The discussion relies principally on educational attainment, the most commonly used indicator of individuals' human capital. As this proxy measure captures only the skills and knowledge acquired in formal education, one of the challenges posed by the lifelong learning perspective is to find ways of recognising learning that occurs outside of educational institutions (see section 5).

A. Worker qualifications and labour market outcomes

It is a long-standing fact in most countries that better-educated individuals have, on average, higher rates of labour force participation, lower unemployment and higher earnings than those with lower qualifications. Recent data for six countries on the relationship between labour market outcomes and another proxy measure of human capital -- literacy levels -- confirm this general pattern (OECD and Statistics Canada, 1995). The stylised facts are as follows:

- *Labour force participation.* Labour force activity rises with educational attainment (Table 1). The relationship is especially strong in the case of women, with those who have not completed upper secondary education being only three-fifths as likely to be in the labour force as those with university-level education. The relationship is slightly weaker for men because their participation rates approach universal levels. However, even in the case of men, those with less than an upper secondary education have markedly lower participation rates than any other group.

- *Earnings.* The relationship between educational attainment and earnings is even stronger than for labour force participation (see Table 2). Earnings of university-educated persons are typically 50 percent higher than for those who have completed only upper secondary education; those with less than a secondary education usually earn 10 to 20 percent less than those who have finished secondary school. Women tend to enjoy larger relative earnings gains from higher levels of education than do men. In all but three countries, the differences in earnings between persons who complete upper secondary education, and those who do not, is larger between women than between men (although the absolute gains for women are not necessarily larger than those for men).

- *Unemployment.* There is a strong negative relationship between educational attainment levels and unemployment. In all countries, the least qualified experience higher unemployment than anyone else, usually by a wide margin (Table 3). Those with less than an upper secondary education typically have unemployment rates that are two to four times higher than those of persons with university-level qualifications. The differences in unemployment are less marked among those with higher levels of qualifications. One of the main reasons for the labour market success of people with high levels of educational qualifications is that they are more likely to have the skills and motivation to continue learning throughout their lives.

The preceding discussion underlines the importance of educational attainment and literacy as factors in labour market outcomes. There is considerable debate, however, as to the extent to which education actually causes the higher productivity that is associated with improved labour market outcomes, or whether educational attainment merely acts as a screening device that allocates individuals to high-productivity jobs. If the latter is the case, there is a risk that further expansion of learning opportunities under a lifelong learning framework would increase pressures towards credentialism and

produce only limited social returns. However, the available evidence supports the view that education and training lifts individuals' productivity, and improves economic performance at the enterprise and national levels (see Box 1).

B. Lifelong learning and the updating of skills and competences

Much of the support for lifelong learning is based on the argument that preparation for work can no longer be thought of as a once-and-for-all process, and that further learning is required during working life in order to ensure that individuals remain productive and employable. The discussion below reviews the evidence on the contribution of continuing learning to enterprise performance and individual labour market outcomes.

Studies of enterprise flexibility provide evidence of the relationship between various forms of lifelong learning in the firm and complementary factors, on the one hand, and performance-related outcomes on the other (see Table 4). Three overall conclusions can be drawn from this literature.

- Training (off-the-job and on-the-job) has the greatest impact on enterprise performance when undertaken in connection with changes in work organisation, job structure, and, in some instances, technological innovation.

- Training is more effective when it is widely accessible to workers. Innovations in work organisation and technology are more likely to generate improvements in performance when they are adopted on a systemic basis, rather than as isolated changes. Successful innovation requires that all relevant personnel understand the reasons for change and how they will need to adapt accordingly. This further implies that learning should be available through alternative forms of off-the-job and on-the-job training, because participation in formal, structured training programmes tends to be skewed in favour of more highly qualified workers, while participation in less-structured, on-the-job training is more evenly distributed.

- There are potentially strong financial incentives for enterprises as well as individuals to invest in training when it is undertaken in the context of organisational change and the introduction of technological innovation.

At the individual worker level, the evidence on the relationship between lifelong learning and labour market outcomes is more circumstantial in nature. Table 5.A presents data on the likelihood of employed and unemployed persons having participated in job-related continuing education and training some time in the preceding 12 months, disaggregated by educational attainment; Table 5.B presents similar data for three additional countries, disaggregated by literacy level, an alternative proxy for human capital. The tables show that participation in job-related continuing education and training is positively related to being employed, which in turn is positively related to educational attainment and literacy level. But the data do not allow one to infer a strong direct relationship between participation in further training and employment status.

Tables 6 and 7 present data on the links between participation in job-related continuing education and training and labour market outcomes in a slightly different manner, by comparing the experiences of those who participate with those who do not. Table 6 shows that, except for the case of Canadians at literacy level 1, those who participated in continuing education and training in the 12 months preceding

Box 1 The contribution of education to economic performance

There is consistent evidence from multiple sources of a strong positive relationship between educational attainment levels and output and productivity growth, at a macro level, and labour market outcomes, at a micro level. However, there is a long-running debate about the direction of causality -- detailed discussions of the literature are provided in OECD (1989, 1996b).

Macro-level studies of the relationship between education and productivity growth support the view that human capital growth contributes positively to national economic performance. The relationship is strongest when comparing less developed and more developed countries (Lau, Jamison & Louat, 1991). The relationship is less clear when the comparison is confined to the OECD countries, underlying the importance of other complementary factors. Although a more qualified labour force contributes to higher levels of productivity, it is also true to some extent that higher standards of living lead to an increased demand for education.

Micro-level studies demonstrate an even stronger relationship between educational attainment and economic performance. Human capital theory would argue that the better labour market experience of more educated workers is attributable to the fact that education provides skills, competences, and knowledge that enhance productivity. Critics of human capital theory argue that employers prefer to hire more educated persons not because of the productivity-enhancing qualities of education, but because educational attainment serves as a screening device enabling them to select individuals who are inherently more productive or who are more likely to succeed in high-productivity jobs.

Econometric estimates of earnings functions can be used to test whether education is an investment in human capital or whether it merely acts as a screening mechanism. If earnings functions reveal that earnings correlate more highly with cognitive skills than with ability, this would lend support to the human capital view, since cognitive skills are acquired chiefly through education and training. The study by Boissiere, Knight and Sabot (1985) is one of the most comprehensive studies of this kind. Their analysis revealed direct returns (in terms of earnings) to reasoning ability to be low, those to years of schooling to be moderate, and those to literacy and numeracy to be high. These results, and others reviewed by Psacharopoulos (1994), suggest that education plays a significant role in human capital formation, over and above any function as a screening device.

Recent empirical analysis has examined how quickly employers learn about the "true" productivity of workers, and adjust their wages accordingly. This work suggests that the value of education in predicting wages does not decline over time, because the increased information about individual productivity that employers acquire by observing them on the job confirms the expected relationship between productivity and education levels. Over time, the "signalling component" of educational qualifications accounts for only a small part of the wage differential associated with education (Altonji and Pierret, 1996).

the survey had higher employment rates than non-participants. Table 7 shows that participants in education and training are consistently more likely to have high earnings than non-participants. Although these data do not allow causal inferences to be drawn, they are consistent with the other work cited in Table 4 that showed a positive relationship between continuing education and training, and productivity performance in enterprises.

There appears to be a virtuous circle whereby participation in continuing education and training raises skills and competences that enhance employment and earnings prospects, which in turn increases the demand for learning opportunities. Although learning after initial education and training is not a sufficient

condition for improved performance by enterprises and individuals, it appears to be necessary for effective functioning in modern economies. However, it is a concern that the distribution of lifelong learning opportunities is skewed. There is a positive relationship between educational attainment and participation in some form of job-related training (Table 8). Individuals with university-level education are typically two to three times as likely to participate as those who have not completed upper secondary education. Older workers tend to be less likely than others to participate in job-related education and training. Those with the fewest opportunities of all to participate in job-relevant lifelong learning are those who are unemployed or who are outside the labour market and education systems altogether. The next two sections of the paper address the particular needs of two at-risk groups: young people making the transition from initial education to work; and adults with low levels of educational qualifications.

3. CONCERNS IN THE TRANSITION FROM EDUCATION TO WORK

The initial transition to work is only one of many transitions that young people will need to make throughout their adult lives. It is of critical importance, though, since the process by which young people move from initial education to work can influence the extent to which the benefits of initial education are retained, and opportunities for new learning are opened up. Thus, this initial transition can be seen as the linchpin of a process of lifelong learning, rather than merely as a difficult stage of life which young people need to be helped through (OECD 1994a, 1996b).

Improving young people's transition to work has been a policy priority in OECD countries for the past two decades. The principal concern has been the problems faced by early school leavers and young people who lack skills. However, making a successful transition to work can be difficult even for young people who complete advanced levels of initial education. Across the OECD area, there has been a general worsening in the employment and earnings position of young people since the 1980s despite a demographic decline in their relative numbers and employment shifts among industries towards youth-intensive sectors (OECD, 1996c).

The transition from education to work is becoming delayed. To provide an indication of how long it now takes for young people to leave the education system and move into work, Table 9 records the lowest age at which the majority of young people of that age are employed and not in education. Among the 15 countries concerned, the (unweighted) mean of this age was 23.1 years in 1994. A decade earlier, the mean stood at 21.6 years. Only two countries, Belgium and the United States, experienced no change in this age between 1984 and 1994. In each of the other countries, there was an increase of between 1 and 3 years in the lowest age at which more than 50 per cent of young people are employed and not in education. Although this is a somewhat arbitrary definition of when the transition from education to work occurs for a youth cohort, it nevertheless represents a substantial increase over the past decade in the age at which young people are working and no longer studying. In none of the countries is this point reached for the majority of youth before the age of 21 years. In the most extreme cases, Italy and Spain, this point is not reached until the ages of 25 and 27 years, respectively.

The reasons for the delayed age of entry to work are complex. Rising educational participation rates are related to the high private rates of return to further education that continue to be evident in most countries, and the substantial efforts in many countries to reform curricula and teaching methods to make them more attractive to a wider span of young people. However, part of the reason for the rise in educational participation has been the rapid decline in full-time employment opportunities for the young that has been experienced in most countries, coupled with systems of financial support that make education a relatively attractive financial and lifestyle option. The continuing high rates of youth

unemployment experienced by many countries mean that, even when young people leave the education system, their entry to employment can be delayed, and some drop out of the labour market altogether.

More young people are combining education and work, but apprenticeships are in decline. Although educational participation rates are generally rising, this does not mean that the young people concerned have no direct contact with the world of work. There are two main ways that young people experience a combination of education and work: either as an apprentice engaged in a structured combination of education, training and employment; or as a student who has part-time or casual employment. Table 10 records changes in the proportion of 16-19 year-olds engaged in these combinations of education and work between 1984 and 1994. There are substantial differences among countries in the proportions who are combining education and work. One half of Danish 16-19 year-olds were in this category in 1994, one third of Dutch 16-19 year-olds, and one-fifth or more in Australia, Canada, the UK and the USA. In most of these countries, the proportion had grown quite substantially since 1984. However, in half of the countries -- and especially in southern Europe -- fewer than 5 per cent of 16-19 year-olds were combining education and work in 1994, and there had been little change in this proportion since 1984.

Among the countries shown in Table 10, the proportion of 16-19 year-olds in an apprenticeship declined in almost every case between 1984 and 1994. Even in those countries where apprenticeship has traditionally been the major means of preparing young people for work (most notably Austria, Germany and Switzerland), the numbers taking up apprenticeships are in decline as young people seek more flexible (and perhaps higher status) educational pathways. There are concerns about the high costs of apprenticeships to enterprises in times of recession. In the case of Germany this change in educational participation has been characterised as a looming spectre of "the overabundant supply of graduates and a concomitant shortage of skilled workers" (OECD, 1994b, p. 11).

There can be both educational and employment benefits when students combine their studies with part-time or casual work. The earnings from part-time work are often an important source of financing educational participation, and the workplace experience may help orient students to work in general and to some occupations in particular. However, one of the most substantial studies of the long-term effects of paid employment combined with high-school enrolment sounds some cautionary notes (Carr, Wright and Brody, 1996). This study used data from the U.S. National Longitudinal Survey of Youth to examine the impact of paid employment during school on educational attainment and labour market outcomes around 10 years later. It found that once the amount of part-time work exceeded about 15 hours per week, there were moderately negative effects on educational attainment in that working students were less likely to complete four or more years of tertiary college. Overall, though, the authors concluded that working while in high school was generally a positive experience because the negative educational effects were offset by the positive effects a decade later in terms of labour force status, employment and income.

This finding suggests that there are some important forms of human capital formation that young people can experience in workplace settings even while their main activity is study. However, the student-worker model is a limited approach to preparing young people for work. The U.S. research shows, in line with earlier Australian research, (Robinson and Long, 1992), that high-school students who work part-time tend to be drawn from well-educated, middle-class families. In addition, the diverse and somewhat episodic nature of much part-time work by students makes it difficult for educational institutions to integrate the study and employment experiences of student-workers such that each reinforces and complements the other.

Groups at particular risk in the transition. Table 11 records the proportions of 16-19 year-olds who were neither in education nor employment in 1984 and 1994. Such young people face particular risks of long-term social and economic exclusion. To be neither working nor studying at that age implies not only that skills and knowledge are not being developed, but also that those young people have very limited forms of structured contact with the wider society. Countries vary markedly in the proportion of young people in this category, although there is one common feature: young women are more likely than young men to be outside the labour market and not in education and training. Overall, in 1994 the proportion of 16-19 year-olds who were neither in education nor work ranged from 2 to 3 per cent for males in Denmark, Germany, and the Netherlands to more than 15 per cent for females in several southern European countries. The former countries provide relatively structured routes -- in terms of institutional frameworks, certification and employer-education collaboration -- for young people moving from education to work.

Those outside both education and work comprise two separate sub-groups: the young unemployed and those outside the labour market altogether. Countries differ substantially in the relative size of these two groups and in their total magnitude as a proportion of the age group. In most countries the proportion of 16-19 year-olds who were unemployed declined between 1984 and 1994. However, the proportion of those who were outside the labour market and not participating in education and training changed little in the majority of countries. To provide adequately for their skill formation needs is a challenging task that will require close collaboration among education, labour and social welfare authorities. Another at-risk group in the transition process are those young people who are only working part-time and who are not enrolled in education and training. Part-time work can provide a bridge to full-time employment. However, extended periods of part-time, casual employment -- especially when education and training is not occurring concurrently -- are likely to do little for human capital formation.

Longitudinal data indicate that around one-fifth of 18 and 19 year-old Australians spent at least 12 months of the two-year period 1993 and 1994 in neither full-time employment nor full-time education (Sweet, 1996). This proportion was even higher (about one in three) for those who had low levels of academic performance in school, or who were from low socio-economic backgrounds. Furthermore, the longer that teenagers were outside of full-time education or full-time employment, the greater the likelihood that their mobility within this two year period was from one “marginal” activity to another such as from part-time work to unemployment or to another part-time job. Such teenagers would appear to face considerable difficulties in making a transition to stable full-time employment.

The importance of high levels of initial education in the transition process is evident from the U.S. National Longitudinal Survey of Youth. Young people who have completed high school or who have some college education are more likely than early school leavers to receive company-based training, whether in the workplace or off-the-job (Veum, 1995). This training helps to maintain existing competences and to build new ones, as reflected in the positive association between the incidence of company training and wage rises. Thus, the initial differences between early school leavers and their better-educated peers start to widen during the process of becoming established in the workforce. However, longitudinal research from Sweden cautions that higher levels of initial education do not necessarily guarantee a successful transition to work. This research found that entry to the labour market is increasingly characterised by young people holding jobs below their education, and that those holding an unskilled job run a higher risk of becoming unemployed (Schröder, 1996). It also shows that trying out different unskilled jobs does not facilitate the transition from unskilled to skilled jobs; relevant professional experience is becoming a more important factor in young people’s upward occupational mobility than general experience gained from unskilled jobs.

Upper secondary education is becoming the minimum entry point to the labour market. Young people who do not finish upper secondary education face the highest probability of unemployment; this is especially the case in countries that place a heavy emphasis on general education at the secondary school level. Table 12 records unemployment rates for leavers from different levels of education one year after leaving (6 countries) and five years after leaving (4 countries). Among the former countries, after one year early school leavers experienced an unemployment rate in 1994 ranging from 25 percent (Australia) to 62 percent (France). Of even more concern is the very high rates of unemployment that persist for early school leavers five years after exiting the education system. In general, the relative incidence of unemployment for early school leavers compared with leavers from other levels of education is higher in the youth labour market than it is for the adult labour force (see Table 3).

The other noticeable finding from Table 12 is that more education is not necessarily a guarantee of employment. In several countries graduates from tertiary education, including university, experience high unemployment a year after graduation, and in the case of Spain five years after graduation. The problems of making a successful transition to work are not confined to early school leavers.

4. POORLY QUALIFIED ADULTS AND LIFELONG LEARNING

Poorly qualified adults are of particular concern to labour market policy makers. Evidence in section 2, as well as that presented under Theme 1, shows that they face higher risks of unemployment and low earnings, and thus face higher risks of poverty and social exclusion. Current patterns of investment in various forms of lifelong learning after formal education tend to widen the gap in qualifications and economic outcomes between the least- and most-qualified.

In considering whether and how labour market policy might play a role in addressing the needs of poorly qualified adults for lifelong learning, it is helpful to evaluate a number of dimensions to the problem. The discussion below examines the number of persons with low levels of qualifications; how they are distributed by age and gender; whether or not they are in the labour force; where they are employed, and how this might affect their labour market prospects; and how the qualifications of those not in the labour force compare with those who are.

Regardless of the criteria used for identifying adults who are “at risk”, the numbers involved are large. Their magnitude can be appreciated by comparing them to current enrolment levels in formal education systems and labour market training programmes. Chart 1 compares the number of adults who have not completed upper secondary education or an equivalent vocational qualification, with the number of pupils in elementary and secondary education. It suggests that, if those adults were simply reinserted in the formal education system, in most countries the systems would have to at least double their present capacity. When using low literacy levels as the criterion, the number of adults at risk is at least as large in the five countries for which these data are available (see Chart 1). Even when one focuses only on those in the labour force, the number of poorly qualified adults is equal to half the school population or more.

Another way to put the number of poorly qualified adults into perspective is to compare it to the number of persons enrolled in labour market training programmes. Chart 2 indicates the proportion of persons in the labour force and population with less than an upper secondary education, and an approximation of the proportion of the labour force entering labour market training programmes each year. Existing labour market training programmes are far smaller than the scale which would be needed to serve the number of adults with low levels of educational attainment.

The choice among policy options for the provision of employment-related lifelong learning opportunities depends to some extent on the composition of the potential target population, particularly with regard to gender and age. Table 13 shows that older adults, on average, tend to be considerably less qualified than younger ones. Though as a group, the learning needs of older adults may be more acute, their expected shorter remaining time in the labour force would argue for less costly interventions with more modest objectives and quicker results. However, the problem of low qualifications is by no means confined mainly to older people. On average, 31 percent of all 25-34 year olds, and 37 percent of all 35-44 year olds have not completed upper secondary education. Women are less qualified than men in most countries: although rising rates of educational attainment among women are closing that gap in younger age groups, the gender differences in educational qualifications are substantial in older age groups.

The choice of policy options also depends on the extent to which poorly qualified adults have access to lifelong learning opportunities in the absence of policy interventions. In that respect, those with low educational qualifications tend to be doubly handicapped, first by their lower overall likelihood of participating in various forms of lifelong learning (see section 2), and second by the fact that they are more likely to be concentrated in industries in which employment of poorly qualified workers is declining in relative, if not absolute terms (Table 14). The employment of poorly qualified adults has either declined more quickly, or grown more slowly than employment overall. The employment losses have been especially severe in declining industries, but even in industries experiencing employment growth, the poorly qualified workers' share of employment, and frequently their absolute numbers, have declined.

A final consideration in weighing policy options is whether Labour Ministers should address the lifelong learning needs of those adults who are not presently employed or looking for work. If persons out of the labour force are poorly qualified relative to those who are already active, an increase in labour force participation in response to tightening labour markets will lower overall levels of labour force qualifications. Entry of less productive workers might entail, in turn, extra labour costs in the form of education and training required to make those persons job-ready and to raise their level of productivity on the job. Learning undertaken before (re-)entry into the labour force might be undertaken at lower costs in lost production, and could facilitate faster transition into employment, and faster growth in productivity. The extent to which policy action by Labour Ministers is needed depends on how likely those out of the labour force are likely to become active, and the degree to which those out of the labour force are less qualified than those already in the labour force.

Although countries vary relatively little with respect to overall labour force participation rates among the prime-age population (25-44 years old) there are marked differences across countries with respect to the qualifications levels and activity rates of the active and inactive populations. In Norway, Sweden, and Switzerland, for example, the differences in educational qualifications between those inside and outside the labour force are relatively small, which implies that there is room for labour force growth without creating disproportionately large increases in demand for lifelong learning opportunities. In contrast, in 1994, prime-age adults (25-44 years old) out of the labour force in Belgium Denmark, and New Zealand were only half as likely to have completed an upper secondary education, as those in the labour force. Given present patterns of labour force participation, future growth in labour supply based on increases in participation rates will depend disproportionately on increases in participation among these relatively poorly qualified adults. In such countries increases in labour force participation imply greater training efforts to maintain productivity levels.

5. POLICY ISSUES FOR LABOUR MINISTERS

Future economic prosperity and social cohesion depend on all members of society having the skills, motivation and opportunities to be active learners throughout their lives. Without the creativity and flexibility that learning can bring, individuals, enterprises and nations will struggle in the face of economic and social changes. The creation of a learning society is an ambitious task that will require action on a number of fronts. It is not only an issue for public policy makers. A learning society will not develop unless enterprises and individuals themselves invest in learning. Public policy, though, has an important role to play in creating the environment for this investment to occur. This does not entail a completely new agenda for public policy makers. As the examples given below indicate, many policies and programmes underway in OECD countries are consistent with lifelong learning objectives. What is lacking is a framework that draws separate initiatives together, and ensures that the key policy domains are operating in a more coherent manner.

Lifelong learning is a long-term, preventative strategy that involves a broadened conception of the "target groups" for public policy. It requires that high-quality initial education and training is available for all young people. For those adults with an adequate foundation of initial education and training, policies should ensure opportunities for upgrading the skills and knowledge needed to maintain employability and earnings growth potential. For those with deficiencies in initial education and training, policies need to provide for second-chance learning and the acquisition of the foundations for further learning.

The comprehensive nature of a lifelong learning perspective requires that labour authorities co-operate closely with their colleagues in a broad range of policy areas and other stakeholders, but especially those concerned with initial education and training. Co-ordination is particularly important in regard to making lifelong learning affordable and cost-effective. There is a need to ensure that there are strong incentives to invest in lifelong learning, that such investments do not consume excessive resources, and that financial barriers do not limit accessibility for individuals who are less qualified or lacking resources.

Lifelong learning is already a reality for many people, particularly those with high levels of initial educational attainment, those who are employed in higher level jobs, and those with financial resources at their disposal. Special efforts are needed for those who are at risk of leaving school early, and those with low levels of qualifications, whether they are employed or not. This section discusses the contribution that labour market authorities can make to these efforts within a lifelong learning framework. It concludes with the assessment and recognition of learning since this is a key element in the framework for young and old alike.

A. Improving the transition from initial education to work

Improving the transition to work means more than finding ways of initiating young people into work and teaching them specific skills -- it also requires helping them to become effective learners throughout their adult lives. The longer and somewhat fragmented transition process that many young people now experience poses three main challenges for policy makers: how to ensure that the extended period of initial education provides skills and competences that enhance employability; how to minimise the risk of some young people being excluded from the labour market on a long-term basis; and, as discussed in section C, how to ensure that learning continues during the transition process, and is subsequently recognised for employment and educational purposes.

Improving young people's employability

For young persons, the greatest emphasis should be on prevention. The key preventative strategy is to ensure that, when young people leave initial education and training, they have the skills, knowledge and attitudes necessary to be productive and employable workers. This is the bedrock upon which all other policies depend. The concept of employability, though, is broadening. Productive work habits, personal confidence, decision-making skills, and a commitment to learning are as important as specific vocational skills. For example, in response to employers' criticisms about the job-readiness of university graduates in the United Kingdom, the recent Dearing Report has recommended mandatory work experience as part of undergraduate degrees, and a new emphasis on communication, numeracy and competence in information technology.

The common ingredient in successful approaches to young people's transition to work, whether at national, regional or local levels, is the development of partnerships between educational institutions and enterprises (OECD, 1994a). Labour Ministries, working in collaboration with Education Ministries, have an important role to play in fostering such partnerships where they are under-developed, and maintaining and strengthening partnerships where they are already in place.

Experience with school-to-work transition in the United States illustrates the problems that can arise when collaboration is lacking. The experience there has been that it is difficult to expand successful youth apprenticeship programmes at individual school and regional level into larger systems because of the absence of skill standards across a range of industries, and the lack of structures that bring together the parties that need to be involved: employers, unions, schools and government (Center for Learning and Competitiveness, 1994). To help redress these problems, in 1994 the federal government passed the School to Work Opportunity Act to provide mechanisms and funding to support collaborative programme development, and to disseminate good practice more widely.

In terms of encouraging educational institutions to see the need to form partnerships, one relatively straightforward contribution that labour authorities can make is to provide educational institutions with up-to-date feedback on the labour market destinations of their graduates and on the changing skill requirements of enterprises. Schools in particular often lack the capacity to do much follow-up of their former students in terms of employment outcomes, yet such information is vital for schools and school systems seeking to adapt and improve their programmes. The Czech Republic provides a recent example of how this can work in practice. Earlier this year, the Education and Labour Ministries agreed that regional labour offices would provide non-confidential information to local schools on unemployment registrations of their former students, and more aggregated data to the Education Ministry at national level. In the Netherlands, the partnership works in a slightly different way: the educational institutions and the Ministry of Education, with co-financing support from the Labour Ministry, have the prime responsibility for organising information on students' employment outcomes. What is particularly noteworthy is that the same data collection instrument is used for all levels of education, which enables the results to be compared.

Another means to increase the sensitivity of educational institutions to the labour market needs of young people would be for Labour Ministries to commission educational institutions to provide education and training programmes (or, in a more directly competitive form, to invite such institutions to tender against other providers) for the young unemployed. Not only does it make more extensive use of costly educational infrastructure, it should help to increase awareness, especially at school level, of what young people need to succeed in the labour market, and encourage development of a wider range of curriculum and teaching approaches to bring this about.

An innovative policy change designed to encourage schools to see that the employability of their students is a vital part of their mission has been announced recently by the federal government in Australia. In the context of privatising the provision of public employment services (see Theme 2), secondary schools will be able to compete in the provision of job-placement services to at-risk groups. Under the programme, schools would provide job-brokerage services, matching school leavers who have become unemployed to vacancies with local employers. They could also operate as a one-stop apprenticeship shop, helping employers create apprenticeships and traineeships, particularly in new industries, and helping young people fill such slots. Schools would be paid a cash benefit for successful placements, with the payment structured to reflect the expected difficulty of placing the young person concerned.

To improve all students' employability, most education and training systems are trying to reduce the traditional separation between vocational education and academic or general education. This objective often involves complementing classroom teaching with learning in workplace settings, most commonly in enterprises but sometimes also in school-based enterprises. These educational changes are based on the need for all students to develop theoretical understanding and practical applications in a more integrated way so that they will be better prepared to cope with the demands of future employment and education. Rapid changes in markets and technologies often make it more efficient to locate teaching and learning close to the actual productive process; the blending of vocational and general education mirrors the convergence of working and learning in the workplace (Stern and Wagner, in press).

More integrated approaches to the provision of upper secondary education are becoming evident in a number of OECD countries including Canada, Norway and the United States. In Norway, for example, the 1994 education reforms, which allow students to commence an apprenticeship, while continuing with upper secondary education, have led to an increase in the number of apprentices which is against the trend observed in most OECD countries. A convergence of general and vocational education, and the increased interest in workplace-based learning requires labour market authorities to help facilitate dialogue and partnerships that link the education system, young people and employers. Co-operation is necessary to ensure the content and quality of education and training, and to safeguard standards.

The increasing use of workplace-based learning will also require agreements to be reached on co-financing among the various partners (OECD, 1994a). For employers, this may entail the costs of supervision, on-the-job training, and consultation with school authorities, while the costs to trainees can take the form of a training wage or allowance which is set sufficiently low relative to market wages in order to reflect their lower productivity levels. If the training wage is set too high, employers are likely to view young people as employees rather than as trainees, and the quantity and quality of learning are likely to suffer accordingly. Labour market authorities need to be involved in brokering such agreements and in monitoring their implementation. A recent example of co-financing is provided by the USA state of Colorado, where employers that invest in school-to-career programmes receive a 10 per cent credit against the state's business income tax.

Reducing the risks of social exclusion

Policies need to be geared towards encouraging young people to see the relevance of education and the benefits of completing secondary education, and gaining a qualification that gives them access to employment or to further education and training. However, the reality is that a certain proportion of young people find it difficult to succeed in secondary education, no matter how informal and student-centred. An education and training entitlement can provide a way back into the education system. Such an entitlement would be a form of credit that the young people could use to purchase approved education and training programmes from public or private providers at times and in forms that are best suited to their

needs. A starting basis could be the amount of public funding that would have been involved had they continued with their initial education up to the minimum level of acceptable qualification (say the end of secondary school or its vocational equivalent). A pilot scheme to provide access to training for early school-leavers using an entitlement-based form of credit card is currently being tried in Scotland.

The provision of programmes for at-risk young people is often fragmented between education, employment, counselling, health and social welfare agencies. Those young people who are likely to have educational, labour market or social difficulties may find that the services they need are not available in places or forms that they know about, or which are readily accessible to them. Greater coherence in service provision requires extensive collaboration at both Ministry and service delivery level. An interesting example of this is provided by the agreement recently reached between the Education and Labour Ministries in the Czech Republic that was cited earlier. The two ministries co-ordinate their respective counselling and guidance services to ensure that young people leaving the school system who are judged to be at risk of unemployment are provided with on-going, coherent support. Whatever organisational forms are used to achieve service coherence, an important criterion for judging the success of programmes for at-risk groups would be the extent to which they enhance the motivation and skills needed for effective lifelong learning.

In those youth labour markets where increasing numbers work part-time and are not enrolled in education or training, it may be possible to develop mechanisms that enable individual packages of part-time employment to be bundled up into a more coherent whole, and to link such employment more directly to learning. The approach is analogous to that used in some countries to provide apprenticeships in industries with a large number of small firms. Where firms are too small to take on a full-time apprentice, or where the firm's work is too specialised to provide an apprentice with broad experience, an intermediary body takes on responsibility for the employment of the apprentice and organises their workplace experience by leasing them on a rotating basis among several different firms (see, for example, Australia, House of Representatives, 1995). The individual firm is spared the risk and cost of taking on a full-time apprentice, and the young person has more varied work experience than would otherwise have been the case. The same principle could be applied to organise packages of part-time employment for the young. Private sector employment agencies could provide this service as could organisations such as employers' associations or regional development bodies. Labour Ministries could play an important role in accrediting such intermediary bodies, and ensuring that improving young people's access to learning opportunities is part of their mission.

B. Addressing the lifelong learning needs of poorly qualified adults

Labour market policies have a long history of seeking to help poorly qualified adults in order to reduce risks of social exclusion. However, the mandate to make lifelong learning for all a reality requires labour authorities to address education, training and learning needs that are broad based. Given the scale of the population of poorly qualified adults, and the nature of the remedies needed, Labour Ministers need to formulate strategies for achieving two objectives: i) enlarging the scope of labour market policies and the populations they serve; and ii) developing reliable and practical mechanisms for co-ordinating labour market policies and programmes, with complementary policies, particularly in the area of education.

A greater emphasis on preventive approaches

The lifelong learning mandate implies that job-placement strategies for the unemployed should be evaluated not simply in terms of short-term placement rates, but also by the criterion of whether they are likely to support lifelong learning. Where job placements are not likely to entail lifelong learning

opportunities, it is important that linkages to such opportunities be established, such as through adult education programmes. Labour market authorities may want to strengthen incentives for employers to more systematically provide training for poorly qualified workers. This might be done by increasing hiring inducements, such as reductions in social charges (France) or preferential tax treatment (Netherlands) when employers hire long-term unemployed persons, when employers provide training as well (both measures have been adopted recently in Spain). There is also a need to ensure that persons who are employed, but who lack access to lifelong learning opportunities, have information about where and how to take advantage of such opportunities. This kind of information might be generated in co-operation with education authorities and the social partners. It is important that it be accessible through a variety of channels, including those offered by new information technologies and not just through labour market programmes or public employment services.

The learning needs of the those who are out of the labour force need to be evaluated in terms of their capacity to enter employment. Where adults outside the labour force are poorly qualified relative to those already in the labour force, labour market authorities could develop, in consultation with education authorities, strategies for identifying those likely to enter the labour force, and enhancing their learning opportunities. Depending on the individuals and potential jobs involved, this may be best achieved through training to develop up-to-date skills before commencing employment, or by assisting them into the job and then providing post-placement support. For example, formal classroom training before employment has been found to be effective for women who are seeking re-entry to the workforce after a long absence, provided that the courses signal strong labour market relevance (OECD, 1996f). The experience of some of the Nordic countries with the "Folk High School" and "Study Circles" in reaching poorly qualified adults outside the workplace, may provide insights into how to do this.

Making lifelong learning more affordable

Labour market authorities can play a role in making lifelong learning more affordable by helping to reduce its costs. This might be accomplished by encouraging and disseminating innovations that enhance the efficiency and quality of learning, regardless of the setting in which it occurs. Measures for accomplishing this include evaluating the cost-effectiveness of different teaching and learning approaches employed in labour market training, including those that are technologically based; stimulating competition among providers, or finding other means for strengthening incentives for providers to adopt cost-effective teaching and learning approaches; providing information on the quality and effects of learning programmes; and reducing the barriers to competition in markets for lifelong learning (OECD, 1996b). In encouraging cost-effectiveness, labour market authorities need to pay particular attention to identifying and rewarding approaches that respond to the learning needs of adults with very low levels of qualifications. They often do poorly in training settings modelled on traditional classroom approaches using teaching methods that do not meet their needs. There is evidence that it is particularly important to build on what individuals already know, and to place learning "in context" -- to relate it to what actually occurs on the job, for example (OECD 1996b). (Japanese firms have been successful in achieving high levels of participation of relatively poorly qualified workers through their heavy reliance on this approach to training.) Labour market authorities have a role to play in supporting further development of more cost-effective teaching and learning methods for adults with low levels of qualifications or literacy levels.

The affordability of lifelong learning depends also on relaxing liquidity constraints that arise where learning opportunities need to be paid for before the benefits are realised. This problem is overcome in some countries through policies by which the government guarantees loans, thus allowing a lower interest rate or, in another variant, requiring repayments through the income tax system once individuals have attained higher earnings. Financial constraints also might be relaxed by treating lifelong learning expenses as a deduction from earned income (this is generally possible for enterprises, but has

only recently been considered for individuals). Financial constraints for enterprises also might be relaxed by developing means for them disclosing, in capital markets, the impact of investment in learning on firm performance, thereby decreasing the cost of capital for firms that raise productivity through training.

Improved financing mechanisms and incentives are a necessary, but not sufficient, condition to encourage greater investment in lifelong learning. By themselves, self-financed individual training accounts or government subsidised loans or grants covering direct training costs and living expenses are not likely to have much impact on participation among poorly qualified adults, because lifelong learning outside the workplace is evidently not yet a widely acquired "habit". Nor are inducements for employers to finance training likely to have much effect. Measures such as the training levy tried in Australia (which required employers to undertake a certain minimum level of training expenditure, or pay the shortfall as a tax), appear to have had little impact on spurring employers to train poorly qualified workers (Fraser, 1996). Although there needs to be greater availability of, and coherence in, financing mechanisms for lifelong learning, they will need to be complemented by other strategies for reaching the poorly qualified.

Better co-ordination of policy development and implementation

The population of those in need of greater access to lifelong learning opportunities is both larger and different in character to that served customarily by labour market programmes. It includes poorly qualified adults who are unemployed; workers who because of their low levels of initial qualifications have little access to lifelong learning opportunities related to their job; and poorly qualified adults who are out of the labour force altogether. Some of these needs might be met by directly enhancing the education and learning content of labour market programmes; but many can be met only ensuring that participants in labour market programmes have access to education and learning opportunities in other settings. The practical challenge facing labour market authorities is to develop, in co-operation with other public authorities and social partners, strategies that, taken in their entirety, reach all those in the target group of poorly qualified adults. These actors will have to ensure that in implementing such strategies, service delivery at the client level is as "seamless" as possible.

Co-operative planning and action on the part of labour market and other public authorities, employers and trade unions is particularly important. In Canada, the National Literacy Secretariat of Human Resource Development Canada has organised a *Policy Conversation* to gather information on the problem of adult illiteracy, and to identify possible leadership roles for education and labour market authorities, employers and trade unions in their respective areas of competence and interest. In Sweden, the Commission for Adult Education and Training, established as a commission of the Ministry of Education and Science, includes in its membership other government portfolios, including labour, and representatives of employers and unions. Its mandate is to start the process of rationalising responsibilities among education authorities, labour market authorities, and others, for identifying persons in need of learning opportunities (Swedish Ministry of Education and Science, 1995). At the policy level, such a co-ordinating body permits labour market and education authorities to allocate resources according to function and where their comparative advantages lie. At the programmatic level it should make it easier for an individual to gain access to and participate in job-related training provided by labour market authorities, and basic education provided through municipal education authorities.

The Sector Councils in Canada offer another example of a government-initiated strategy to involve the social partners in identifying industry human resource needs, and knitting together the programme elements for addressing them. The Councils, first established in 1989, now cover 22 industrial sectors throughout Canada; they are subsidised partially through the Federal government; they include employers, trade unions, and government officials as members. Their purpose was to overcome market

failures related to human resource issues; these included the under-provision of labour market information, the absence of private sector standards, and under-supply of training due to poaching and the high fixed cost of developing some forms of training. The Councils are viewed as having been successful in achieving their goals. However, as labour market programme funding is progressively devolved to the Provincial level, the future usefulness of the Councils depends on how well they balance competing priorities and succeed in winning support from provincial labour market and the social partners at a regional level (Centre for the Study of Living Standards, 1996).

In Spain, tripartite action has been more explicitly linked to the industrial relations system. Public authorities, employers and trade unions jointly developed an agreement on continuing training (Segundo Acuerdo Nacional sobre Formación Continua). The agreement, in force from 1997 to 2000, lays out a division of labour among the various actors, with the government being responsible for administering a training bank that is funded by a tax paid by employers; employers and workers assuming responsibility for managing continuing training; and public authorities and the social partners working jointly to ensure that enterprise training is appropriately linked to the national system of continuing training (InforMISEP, 1997).

In Korea, 1997 legislation designed to strengthen vocational education has brought together the Education and Labour Ministries in a Council on Vocational Education and Training Policy. The Council is charged with planning human resource development, improving the cost-effectiveness of vocational education and training, and co-ordinating and integrating policies in related areas of the two Ministries. Both Ministries are also represented on a new qualifications agency that is intended to integrate educational and training qualifications in a single national framework.

C. Assessment and recognition of lifelong learning

One of the main challenges in implementing lifelong learning is to find ways of assessing and recognising the learning that occurs outside formal educational institutions. The need to assess and recognise non-formal learning is obviously important for adult workers. They are likely to have accumulated skills and competences through training and experience that contribute positively to their performance in any given job, and can be applied in other work settings. When validated, such learning can serve as a visible platform for further training. Adults with low levels of initial educational qualifications are in particular need of assessment and recognition mechanisms to validate what they have learned through on-the-job experience. To prevent the risk of spending unnecessary time acquiring qualifications through formal educational institutions, there needs to be recognition of prior learning and training in workplace settings.

The need to recognise learning that occurs outside formal educational institutions is also an issue for young people making the transition from initial education to work. Such young people are likely to choose -- or be required to have -- a variety of educational and employment experiences either concurrently or in quick succession. Without some way of demonstrating the learning they have achieved, whether through education or in work, they are likely to find pathways blocked or unnecessarily long.

The benefits of credible assessment and recognition of workplace-based learning can be seen in countries with strong traditions of apprenticeship or company-provided training. The curriculum and assessment standards for apprenticeship training that have been developed jointly by enterprises, unions and educational authorities in Germany provide young people with clear incentives to acquire such training. The apprentices know that the certificates they will obtain are portable and valued in the labour

market. This lowers the risk of undertaking the training, and makes them more willing to accept relatively low pay during the training period (OECD, 1994a).

In Japan, the pay-offs to credible assessment systems are perhaps most evident in the internal labour markets of large firms. The characteristic steep wage-tenure profiles observed in Japanese labour markets are influenced in large part by the role that firm-based assessment practices play in determining wages. Wages are based in substantial part on the breadth and depth of skills and competences of workers. Breadth is evaluated by supervisors in terms of the number of different tasks individuals can perform; depth is evaluated in terms of the level of proficiency: the lowest being whether an individual can perform

Box 2 The New Zealand Qualifications Framework

The National Qualifications Framework (NQF) enables learners to accumulate credits over time and at their own pace as they work towards a qualification. Learners are assessed against standards which tell them specifically what is required of them. Because the standards are nationally agreed, learners' achievements are transferable to a range of settings. Standards, which are prepared by expert groups in consultation with stakeholders from the relevant learning areas, industries and Ministries, are reviewed on a regular basis. Each registered standard has a defined credit value and fits a specified level on the Framework. Credits may be accumulated from different learning institutions or workplaces towards a single qualification; all organisations accredited to assess standards recognise Framework credits awarded by others.

The Framework has eight levels of progression. Levels 1-3 approximate to senior secondary education and basic trades training, Levels 4-6 to advanced trades, technical and business qualifications, and Levels 7 and 8 to bachelor and postgraduate degrees. Levels 1-4 qualify for National Certificates, Levels 5 and upwards for National Diplomas and Levels 7 and 8 for National Degrees. The expert groups, including industry representatives, set standards and accredit education and training providers. Only accredited organisations are able to assess learners against Framework standards, and award credits. The organisation is accredited, not their programmes. At present there are around 900 accredited providers, including some 400 schools. The standards state the outcomes which programmes should generate, not how they must be learned or assessed. Assessment can be done by the representative of an accredited provider or by a registered assessor. A wide range of evidence, including workplace performance, may be used in assessment. Consistency among assessors is ensured through assessor training, regional panels, re-assessments of samples of work, and common assessment tasks.

Once a learner is assessed and awarded a credit, the learning institution notifies the Qualifications Authority and the credit is then added to the national data base. Once a year, or more often if requested, the learner receives a record of all standards and qualifications achieved in the year. This Record of Learning is an official document and can be presented as a credential to future employers or education providers. To date, some 170,000 people (about 5 per cent of the New Zealand population) have been "hooked on" to the Record of Learning associated with the NQF, and about 5,000 National Qualifications have been awarded. Some 20 per cent of these have been awarded to learners assessed primarily in the workplace. Managing the qualifications framework is the responsibility of the Qualifications Authority, an agency established by legislation in 1990. The Authority is required to cover costs from charging users of the system for its services.

Source: New Zealand Qualifications Authority, 1997.

a task under supervision, the highest being whether an individual can teach the task to others (Dore et al. 1989). Faced with such an award structure, workers have clear incentives to continue learning during their employment.

In countries with less structured linkages between education, training and the workplace, Labour Ministries will need to play a role in ensuring on-going dialogue and consultation between educators and the social partners on how to assess and recognise that learning which is important for success in the workplace, and that which is acquired through the workplace. Such dialogue and consultation is necessary at national level between relevant ministries and peak organisations, but also between educators and industry at regional and local levels where national frameworks have to be implemented and made to work (Colardyn, 1996).

In recent years a number of OECD countries have started to accumulate valuable experience in this difficult process. Perhaps the most fully developed example is that of New Zealand, which in 1990

established a National Qualifications Framework and an authority to oversee its operation (see Box 2). Through a process such as that initiated in New Zealand, the role of public authorities becomes increasingly one of steering and monitoring the education and training system, and guaranteeing its quality, rather than being directly involved in programme provision. There is a need for labour market authorities to undertake, in co-operation with education authorities and the social partners, further experimentation and monitoring in this area. They should pay particular attention to how to ensure the validity of such arrangements among different actors, how to keep them practical and easy to use at different occupational levels, and how keep them cost-effective.

Labour market authorities also have an important role to play in providing incentives for individuals and employers to take new approaches to assessment and recognition seriously. Labour market programmes can use national assessment and recognition mechanisms to determine clients' training needs and to provide trainees with a credential that has credibility within the national framework. In cases where labour market authorities can influence wage determination practices, they should encourage that workers' qualifications be evaluated not just in terms of initial educational qualifications, but also in terms of skills and competences more broadly assessed.

6. CONCLUSION

"Human capital"-- the skills and competences of individuals -- is increasingly important as a determinant of employability, and the capacity of enterprises and economies to adapt. In the past, the development of human capital was accomplished largely through policies that were geared to once-and-for-all employment preparation and implemented through formal education and training systems. More recently it has become apparent that this approach is inadequate on its own. Labour market requirements are changing so quickly that individuals need to acquire new skills and competences, over and above those acquired in initial education and training, to maintain their employability.

These developments have implications for young persons and adults. The transition from initial education and training to work is longer and more complex. Increasing numbers of young people are staying longer in formal education, with the consequence that transition issues arise over a wider age span. The increasing importance of updating skills and competences means that a successful transition to work depends on having a sound foundation for further learning. The increasing importance of skills and competences has negative consequences for adults with relatively low levels of qualifications -- typically those with less than an upper secondary education or the equivalent vocational training.

In considering how public authorities policy should respond to these developments and the issues they raise, OECD ministers have endorsed an overall strategy for "lifelong learning". Its goals are to ensure that initial education and training provides a sound foundation for further learning, and that opportunities for learning during adulthood are available to all who want them.

Lifelong learning and the mandate to improve skills and competences of persons with low literacy levels are not a panacea to cure low employment growth and high rates of structural unemployment. Macro-economic and other structural policies are needed to ensure adequate aggregate demand and to facilitate adjustment. However, lifelong learning is necessary to ensure that overall productivity levels and growth rates are sustained, and that the benefits of employment and productivity-led earnings growth are broadly shared. In this regard, a primary goal of labour market and other public policies for lifelong learning should be to increase the learning opportunities of persons with very low levels of skills and competences, while strengthening the incentives to take advantage of the opportunities available.

If the overall goals of lifelong learning are to be achieved, labour market policies need to be adapted in a number of ways.

- The scope of labour market policies would need to be broadened to address the education and learning needs of a target population that includes persons out of the labour force, as well as persons who are employed, but who are at risk because of their lack of access to learning opportunities. Such policies should provide foundation skills for adults with low literacy levels, and support education and learning of the rest of the target population.

- In formulating and implementing such policies, labour market authorities should focus their direct responsibilities on their areas of "core competence" (such as identifying individuals at-risk of unemployment), and establish transparent linkages with public authorities, social partners, and other actors, who have core competence in related areas such as education and training; such linkages should be clear at both the policy and delivery level. Responsibilities for identifying at-risk individuals and serving them need to be negotiated and allocated among different agencies, and the pathways education, training and work need be clearly marked and made as direct as possible.

- The policies themselves will also need to adopt a longer-term perspective in order to ensure access to learning opportunities on an on-going basis.

- Extensive collaboration will be needed to ensure that learning, wherever it takes place, is assessed and recognised in a manner that enables individuals to build coherent linkages between learning and work.

As the examples provided in this paper show, however, initiatives consistent with lifelong learning objectives are evident in a number of OECD countries. The challenge facing policy makers is to build on these initiatives so that their economic and social benefits are available to all.

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STATISTICAL ANNEX

Table 1 Labour force participation rates by educational attainment level, 25-64 year-olds, by gender, 1994

(Percentages of the age groups 25-64 with given educational attainment levels who were in the labour force)

	Gender	Early childhood, primary and lower secondary education	Upper secondary education	Non-university tertiary education	University-level education	Total
North America						
Canada	Men	75	89	91	92	87
	Women	48	72	79	85	70
United States	Men	72	88	92	93	87
	Women	45	72	81	82	71
Pacific Area						
Australia	Men	83	90	91	94	88
	Women	55	61	76	82	62
New Zealand	Men	80	91	94	94	88
	Women	56	72	77	81	66
European Union						
Austria	Men	73	86	93	93	84
	Women	49	68	87	86	62
Belgium	Men	71	88	92	91	81
	Women	39	68	81	85	56
Denmark	Men	78	90	94	95	87
	Women	68	86	93	92	79
Finland	Men	72	89	87	93	83
	Women	64	81	83	89	76
France	Men	72	90	93	91	85
	Women	52	74	83	81	67
Germany	Men	79	85	89	92	86
	Women	45	67	80	81	64
Greece	Men	86	88	91	91	88
	Women	40	47	74	81	48
Ireland	Men	82	93	94	94	87
	Women	31	58	77	81	48
Italy	Men	77	88	a	92	81
	Women	33	66	a	83	44
Netherlands	Men	76	87	a	90	84
	Women	40	66	a	79	56
Portugal	Men	86	89	90	95	87
	Women	59	80	86	95	64
Spain	Men	82	91	94	91	85
	Women	37	68	77	83	46
Sweden	Men	91	92	91	94	92
	Women	81	89	92	93	88
United Kingdom	Men	75	90	93	94	88
	Women	57	73	82	88	70
Other OECD countries						
Norway	Men	75	89	90	95	87
	Women	55	77	83	90	75
Switzerland	Men	93	95	96	94	95
	Women	62	69	77	78	68
Turkey	Men	88	91	a	93	89
	Women	28	39	a	81	32
Country mean	**Men**	**79**	**89**	**92**	**93**	**86**
	Women	**50**	**69**	**82**	**85**	**63**

Source: OECD (1996e).

Table 2. Relative earnings by educational attainment level, 25-64 year-olds, by gender, 1994

	Year	Men (average earnings for men with upper secondary education = 100)			Women (average earnings for women with upper secondary education = 100)		
		Lower secondary education	Non-university tertiary education	University-level education	Lower secondary education	Non-university tertiary education	University-level education
North America							
Canada	1994	81	109	152	74	114	162
United States	1994	64	116	168	63	127	175
Pacific Area							
Australia	1993	90	117	144	81	120	152
New Zealand	1994	68	93	157	61	97	155
European Union							
Austria	1991	85	m	146	81	m	134
Belgium	1992	86	115	149	78	137	164
Denmark	1993	86	110	142	86	111	133
Finland	1993	91	128	192	94	129	175
France	1994	85	134	187	75	131	165
Germany	1994	97	116	167	81	111	162
Ireland	1993	77	121	171	62	123	187
Italy	1993	76	m	141	67	m	112
Netherlands	1993	84	m	136	73	m	141
Portugal	1993	65	124	179	67	117	188
Spain	1993	77	97	148	71	87	139
Sweden	1993	88	117	164	92	118	158
United Kingdom	1994	79	119	164	66	150	204
Other OECD countries							
Norway	1993	79	130	158	79	132	156
Switzerland	1994	76	124	142	68	135	160

Note: m: not available
Source: OECD (1996e).

Table 3 Unemployment rates by educational attainment level, 25-64 year-olds, 1994
(percentages)

	Below upper secondary education	Upper secondary education	Non-university tertiary education	University level education	Total
North America					
Canada	14.3	9.0	8.5	5.2	9.2
United States	12.6	6.2	4.3	2.9	5.8
Pacific Area					
Australia	10.2	6.9	5.4	3.9	7.7
European Union					
Austria	4.9	2.8	1.3	1.8	3.3
Belgium	12.5	7.1	3.4	4.0	8.3
Denmark	17.3	10.0	6.0	5.0	11.5
Finland	22.7	16.4	11.1	6.6	16.7
France	14.7	10.5	7.6	6.1	10.8
Germany	14.2	9.0	6.1	5.0	8.7
Greece	6.2	8.7	10.0	6.5	7.2
Ireland	18.9	9.7	6.4	3.4	12.9
Italy	8.4	7.5	a	6.4	7.9
Netherlands	8.2	4.8	a	4.3	5.7
Portugal	6.0	6.2	2.7	2.4	5.5
Spain	21.3	19.4	18.5	13.8	19.8
Sweden	8.8	7.6	3.9	3.4	6.8
United Kingdom	13.0	8.3	3.9	3.9	8.2
Other OECD countries					
Norway	6.5	4.7	3.6	1.5	4.3
Switzerland	5.1	3.4	2.5	3.7	3.6
Turkey	6.0	7.1	a	4.1	6.0
Total OECD	**11.6**	**8.3**	**5.3**	**4.7**	**8.5**

Source: OECD (1996e).

Table 4 The impact of continuing education and training on enterprise flexibility and performance: Summary of results from recent surveys and analyses

Country and Source	*Findings*
Canada, United States (Kling, 1995; Betcherman *et al.*, 1994)	New work organisation and specific work-place practices such as training, alternative pay systems, and employee involvement are often correlated with higher productivity. These and other practices are associated with greater productivity when implemented together. Gains in labour productivity and reductions in units costs are greater when work-place education programmes are present to support organisational change.
Canada (Human Resources Development Canada, 1996)	A major review of the impact of technological and organisational change concluded that the association between technology and firm performance is positive, but that effects on employment growth tend to be weaker. Bundles of organisational innovations, including training, can result in better performance. Technologically and organisationally innovative firms place a premium on highly skilled workers and tend to pay them more.
Denmark (Danish Ministry of Business and Industry, 1996)	Enterprises that introduced process or production innovation accompanied by training were more likely than non-innovators to report, for the period 1990-92, growth in output (11 percent vs. 4 percent); growth in employment (3 percent vs. 2 percent); and growth in labour productivity (10 percent vs. 4 percent)
Denmark (Lund and Gjerding, 1996).	Value-added per full-time employee was 26 percent higher in manufacturing firms that exhibited more flexible organisational approaches, including an emphasis on training, than in the least flexible firms.
France, Germany, Netherlands, United Kingdom (Mason *et al*, 1994).	Detailed comparison of productivity, machinery, and skills in matched samples of biscuit manufacturing plants found that although capital equipment was roughly equivalent, quality-adjusted productivity in France and Netherlands was 25 percent higher than in the U.K., and that levels in Germany were 40 percent higher than in U.K. The relatively low productivity of UK plants was largely attributable to the lower levels of qualifications of U.K. workers and to less effective on-the-job training which resulted in a less flexible workforce.
Germany, Japan, United Kingdom (Carr, 1992)	This analysis compared changes between 1981-83 and 1989-90 in labour productivity in vehicle component manufacturing. Over this period, UK productivity relative to German productivity rose from 30-50 percent to 65-70 percent, in part due to improved industrial relations, fewer inflexible work practices, and less overmanning. Continued productivity differences between enterprises in the two countries were attributed to lack of management skills, and less systematic use of training in the U.K. Lower productivity levels in U.K. plants relative to Japanese plants were attributed in part to the fact that though engineering graduates in Japan were less well-prepared than those in the U.K., their performance improved once in work due to ongoing firm-based training, better social support within the companies, and rotation between production and non-production settings.
United States (Russell *et. al*, 1985)	A survey of 62 outlets of a multinational retail company found a significant positive correlation between sales volume per employee, and the proportion of employees who received sales training, and with the employees' perceptions of how seriously training was taken by the company.
United States (Bartel, 1989)	Formal training has a positive effect on productivity, and the effect is larger when firms evaluate training programmes according to their impact on productivity
United States (Bishop, 1994)	On-the-job training has a positive impact on productivity and wage growth; a doubling of length of training raises productivity by up to 5 percent, but raises wages by only 1 percent.
United States (Ichniowski *et al.*, 1994)	In steel finishing plants, high-performance work practices (problem-solving teams, profit-sharing plans, pay for knowledge, formal training) have a significant positive effect on productivity, particularly if they are used together.
United States (Lynch and Black, 1995)	There are strong links between new work practices and the incidence and depth of training, and investments in human capital have positive effects on productivity.

Table 5.A Participation rates in job-related continuing education and training by educational attainment level and employment status, 25-64 year-olds
(percentages)

	Employment status	Primary education	Lower secondary education	Upper secondary education	Non-university tertiary education	University-level education	Total
During the 12-month period preceding the survey							
Australia	Employed	20	33	35	53	67	38
1993	Unemployed	12	25	25	43	53	24
Canada	Employed	6	12	25	35	43	28
1993	Unemployed	6	6	15	24	30	16
France	Employed	8	28	42	72	57	40
1994	Unemployed	14	22	38	66	75	35
Germany	Employed	x	15	28	43	50	33
1994	Unemployed	8	10	19	24	21	16
Switzerland	Employed	m	16	39	51	53	38
1993	Unemployed	m	m	m	m	m	33
United States	Employed	7	13	24	36	49	34
1995	Unemployed	6	10	11	17	24	14

Notes: m: Data not available, x: Data included in the following category.
Source: OECD (1996e).

Table 5.B Participation rates in job-related continuing education and training by literacy level and employment status, 26-65 year-olds, 1994

(percentages)

		Level 1	Level 2	Level 3	Level 4/5
Netherlands	Employed	23	34	44	55
	Unemployed	14	18	31	41
Poland	Employed	14	21	27	37
	Unemployed	2	6	8	14
Sweden	Employed	38	50	63	64
	Unemployed	20	21	32	54

Note: The International Adult Literacy Survey IALS defines literacy in terms of "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." Three domains of literacy are identified: prose literacy; document literacy; and quantitative literacy. Individual literacy is expressed as a score in each domain on a standard test instrument. This paper uses data measuring literacy in the document domain, since it is the best single predictor. The five levels of document literacy are defined as follows: level 1 - making a literal match with a piece of information in texts or tables that contain little distracting information; level 2 - making some literal matches and drawing low-level inferences from material with some distracting information; level 3 - making multiple literal or synonymous matches, taking account of conditional information, integrating information from multiple sources; level 4 - same as level 3, but requiring higher order inferences; level 5 - same as level 4, but uses multiple complex displays of information containing multiple distracters, requiring higher order inferences and the use of specialised knowledge.

Source: OECD and Statistics Canada (1995).

Table 6 Employment rates by whether or not persons participated in continuing education and training, by literacy level, 26-65 year-olds, 1994
(percentages)

		Level 1	Level 2	Level 3	Level 4/5
Canada	Participant	36	73	82	84
	Non-participant	43	61	65	82
Germany	Participant	51	58	83	82
	Non-participant	34	52	59	69
Netherlands	Participant	47	67	77	86
	Non-participant	33	46	65	77
Poland	Participant	89	87	92	93
	Non-participant	49	59	74	78
Sweden	Participant	68	82	88	85
	Non-participant	46	55	67	79
Switzerland	Participant	74	81	84	87
	Non-participant	51	73	73	77
United States	Participant	83	88	88	91
	Non-participant	51	66	71	83

Note: For definitions of literacy levels, see Table 5.
Source: OECD and Statistics Canada (1995).

Table 7 Comparison of the earnings distributions among participants and non-participants in continuing education and training, 1994

	Probability of no earnings or earnings in the lowest two quintiles		Probability of earnings in the upper two quintiles	
	Participant	Non-participant	Participant	Non-participant
Canada	0.19	0.29	0.62	0.48
Switzerland	0.17	0.27	0.61	0.48
Germany	0.17	0.29	0.58	0.51
United States	0.35	0.55	0.35	0.2
Netherlands	0.18	0.24	0.52	0.42
Poland	0.19	0.33	0.58	0.42
Sweden	0.12	0.18	0.69	0.61

Source: OECD, Education Database (IALS data).

Table 8 Participation rates in job-related continuing education and training by educational attainment level, age and gender

(Percentages of the relevant age-gender attainment level groups)

(continued on next page)

	Age	Gender	Primary education	Lower secondary education	Upper secondary education	Non-university tertiary education	University-level education	All levels of education
Participation rate 12 months								
Australia	25-34	Men	23	29	39	56	66	41
1993		Women	26	33	40	57	68	43
	35-44	Men	20	39	35	55	70	42
		Women	24	35	40	56	72	42
	45-64	Men	16	31	25	42	59	29
		Women	17	35	33	59	66	34
Canada	25-34	Men	m	9	20	37	40	28
1993		Women	m	13	24	33	39	29
	35-44	Men	10	15	23	37	47	31
		Women	m	13	30	37	55	34
	45-64	Men	5	14	22	33	32	23
		Women	7	9	30	31	49	27
Finland	25-34	Men	x	23	36	58	56	38
1993		Women	x	25	43	42	56	43
	35-44	Men	x	29	38	63	62	42
		Women	x	33	45	77	73	49
	45-64	Men	x	25	36	52	55	35
		Women	x	27	44	63	65	40
France	25-34	Men	12	31	60	113	61	62
1994		Women	26	37	69	75	106	71
	35-44	Men	9	28	42	64	50	40
		Women	12	29	40	68	65	41
	45-64	Men	6	19	12	24	29	14
		Women	5	26	23	55	41	21
Germany	25-34	Men	m	m	m	m	m	39
1994		Women	m	m	m	m	m	33
	35-44	Men	m	m	m	m	m	35
		Women	m	m	m	m	m	33
	45-64	Men	m	m	m	m	m	32
		Women	m	m	m	m	m	26
Switzerland	25-34	Men	m	m	44	56	47	44
1993		Women	m	(cs)	41	(cs)	63	39
	35-44	Men	m	m	43	57	58	45
		Women	m	(cs)	39	(cs)	(cs)	35
	45-64	Men	m	16	36	47	51	37
		Women	m	16	31	(cs)	(cs)	29
United States	25-34	Men	7	17	20	29	46	30
1995		Women	3	17	21	36	50	33
	35-44	Men	11	9	22	37	49	33
		Women	11	17	28	39	57	39
	45-64	Men	6	9	20	37	41	30
		Women	5	12	32	39	54	37

Table 8 continued

	Age	Sex	Primary education	Lower secondary education	Upper secondary education	Non-university tertiary education	University-level education	All levels of education
Participation rate 6 months								
Sweden	25-34	Men	0	30	35	59	54	40
1995		Women	20	29	38	54	61	43
	35-44	Men	32	30	35	57	51	40
		Women	22	25	48	67	65	51
	45-64	Men	27	30	45	58	54	40
		Women	29	38	47	64	75	47
Participation rate 4 weeks								
Denmark	25-34	Men	x	9	16	22	28	17
1994		Women	x	10	20	24	25	20
	35-44	Men	x	8	10	21	16	12
		Women	x	10	19	21	31	20
	45-64	Men	x	2	7	15	19	9
		Women	x	6	13	20	30	14
Greece	25-34	Men	m	m	m	m	m	1
1994		Women	m	m	m	m	m	1
	35-44	Men	m	m	m	m	m	1
		Women	m	m	m	m	m	1
	45-64	Men	m	m	m	m	m	0
		Women	m	m	m	m	m	0
Ireland	25-34	Men	4	2	5	7	13	6
1994		Women	4	3	7	9	11	7
	35-44	Men	2	2	3	7	8	4
		Women	0	5	6	8	7	6
	45-64	Men	1	1	2	4	3	2
		Women	1	2	3	5	6	3
Italy	25-34	Men	1	1	2	a	4	1
1994		Women	m	1	2	a	4	2
	35-44	Men	0	1	2	a	2	1
		Women	m	1	3	a	3	2
	45-64	Men	0	1	2	a	2	1
		Women	m	1	2	a	3	1
Spain	25-34	Men	0	1	7	6	13	4
1994		Women	2	2	11	8	13	8
	35-44	Men	0	1	4	3	6	2
		Women	0	2	4	2	8	3
	45-64	Men	0	1	1	1	2	0
		Women	0	1	3	0	4	1
United Kingdom	25-34	Men	x	4	14	26	26	16
1994		Women	x	5	14	27	28	17
	35-44	Men	x	4	11	22	23	13
		Women	x	5	14	27	27	16
	45-64	Men	x	3	7	13	18	8
		Women	x	3	10	24	27	10

Notes: m: Data not available; (cs): cell size too small; x: Data included in the next highest level.
Source: OECD (1996e).

Table 9 The age of transition from initial education to work, 1984 and 1994

	Lowest age at which >50% are employed *and* not in education	
	1984	1994
Australia	19	22
Belgium	23	23
Canada	21	23
Denmark	22	24
France	22	24
Germany	20	22
Greece	23	24
Ireland	20	22
Italy	23	25
Luxembourg	20	21
Netherlands[a]	22	23
Portugal[b]	22	23
Spain[a]	26	27
UK	20	22
USA[c]	21	21
Country mean	**21.6**	**23.1**

Notes: The table shows the lowest single year of age at which more than 50 percent of people at that age are employed and not enrolled in education. (a) 1987 is used instead of 1984; (b) 1986 is used instead of 1984; (c) 1993 is used instead of 1994.

Source: OECD (1996d).

Table 10 Combining education and work during the transition, 1984 and 1994
(percentages of 16-19 year-olds who are in both education/training and employment)

	1984			1994		
	Apprenticeship	Other education or training	Total	Apprenticeship	Other education or training	Total
Australia	8	12	20	6	20	26
Belgium	1	1	2	1	1	2
Canada	-	23	23	-	30	30
Denmark	15	24	39	12	38	51
France	6	1	7	4	2	6
Greece	-	2	2	-	1	1
Ireland	2	3	5	1	3	4
Italy	-	1	1	-	1	1
Luxembourg	12	1	13	4	1	5
Netherlands[a]	1	21	22	4	29	33
Portugal[b]	-	3	3	-	4	4
Spain[a]	-	1	1	-	2	2
USA[c]	-	18	18	-	19	19

Notes: (a) 1987 is used instead of 1984; (b) 1986 is used instead of 1984; (c) 1993 is used instead of 1994. "Other education or training" excludes training that is conducted only in the work environment.

Source: OECD (1996d).

Table 11 Teenagers in neither education nor employment, by gender, 1984 and 1994
(percentage of 16-19 year-olds)

	Male				Female			
	1984		1994		1984		1994	
	Unemployed	Not in Labour force	Unemployed	Not in labour force	Unemployed	Not in labour force	Unemployed	Not in labour force
Australia	12	2	10	2	10	6	7	5
Canada	9	5	5	4	7	8	3	7
Denmark	4	1	1	1	4	2	1	4
France	10	3	5	2	13	4	4	2
Germany	3	1	2	1	3	2	1	2
Greece	4	4	4	4	8	20	7	9
Ireland	14	1	8	3	10	2	6	3
Italy	11	3	8	6	13	11	6	12
Luxembourg	4	2	3	5	4	4	4	6
Netherlands[a]	3	4	2	1	5	7	2	2
Spain[a]	16	5	12	5	15	11	10	6
USA[b]	6	4	5	5	5	11	4	10

Notes: (a) 1987 is used instead of 1984; (b)1993 is used instead of 1994.
Source: OECD (1996d).

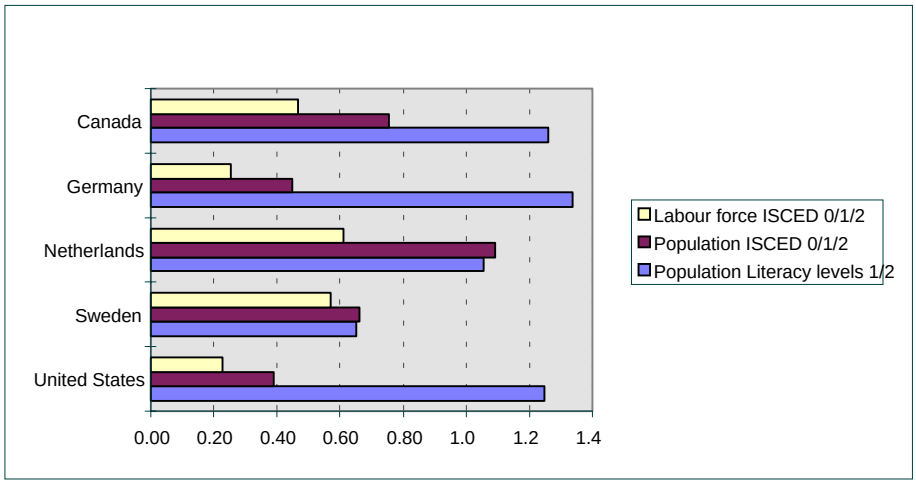
Table 12 Unemployment rates for leavers from different levels of education, 1994
(percentages)

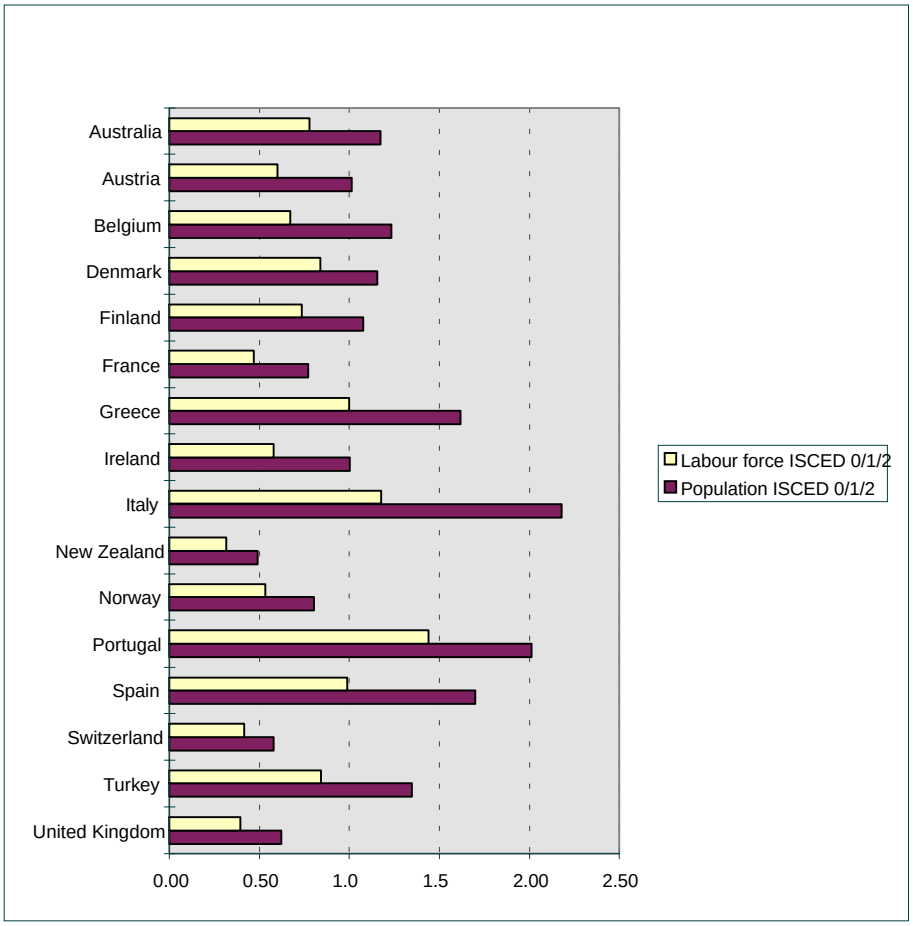
	Lower secondary education	Upper secondary education	Non-university tertiary education	University-level education
One year after completion				
Australia	25	18	12	8
Finland	48	39	24	12
France[a]	62	35	19	21
Ireland[b]	35	23	17	8
Spain	55	45	58	46
USA	29	12	7	6
Five years after completion				
Denmark[c]	26	13	6	5
Finland	51	20	11	6
France[a]	41	17	6	4
Spain	47	34	31	17

Notes: (a) The unemployment rates for leavers from lower secondary education in France may be inflated as those who comence an apprenticeship after leaving school are excluded from the data (b) 1995 for non-university tertiary and university-level education (c) 1993.

Source: OECD (1996e).

Chart 1 The ratio of the number of poorly qualified adults [(a)] to the school population [(b)]

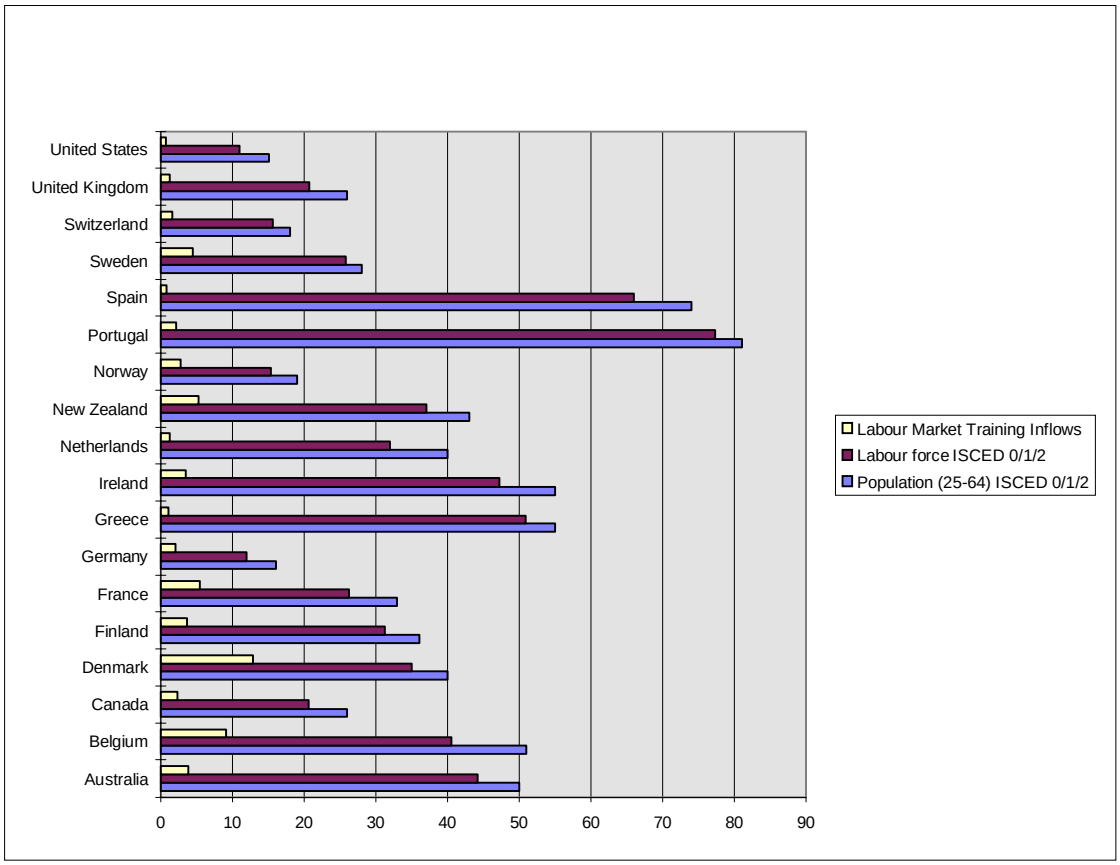




(a) Defined in terms of the number of persons in the population with less than an upper secondary education (ISCED 0,1,2) completed; the number of persons in the labour force with less than an upper secondary education; the number of persons in the population with low literacy levels (levels 1,2 on the document scale).
(b) Number of pupils enrolled in elementary and secondary education, including vocational education.

Source: OECD, Education Database.

Chart 2 Adults with low levels of qualification [(a)] compared with the number of entrants into labour market programmes [(b)]
(percentages)



(a) Expressed as percentage of adult population 25-64 years old, at ISCED level 0/1/2, and as percentage of adult labour force 25-64 years old, of ISCED level 0/1/2.
(b) Inflows into labour market training programmes as a percentage of the labour force.

Source: OECD, Education Database.

Table 13 Adults with low level educational attainment (ISCED 0,1,2) by age group

(Percentage of population in given age group)

	Age group			
	25-34 (a)	35-44 (b)	45-54 (c)	55-64 (d)
North America				
Canada	18	21	30	47
United States	14	11	15	24
Pacific Area				
Australia	46	46	53	59
New Zealand	38	40	44	55
European Union				
Austria	21	28	36	52
Belgium	35	46	57	72
Denmark	32	38	41	54
Finland	18	28	44	66
France	16	27	40	59
Germany	10	12	16	28
Greece	38	50	65	74
Ireland	39	53	65	73
Italy	53	59	74	86
Netherlands	31	36	46	56
Portugal	70	78	85	92
Spain	55	71	84	91
Sweden	15	22	31	48
United Kingdom	14	22	31	43
Other OECD countries				
Czech Republic	13	21	32	49
Norway	11	15	22	37
Switzerland	11	16	21	27
Turkey	76	80	84	90
Country average	**31**	**37**	**46**	**58**

Source: OECD (1996e).

Table 14 Trends in employment of persons with low levels of educational attainment, by industry

(continued on next page)

	Australia 1984-94		Canada 1984-94		Denmark 1982-92		Finland 1987-93		Germany 1982-93		Italy 1981-91		Japan 1982-92	
	a (%)	b(%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)
Agriculture, forestry and fishery	6.5	-0.1	9.2	-6.2	3.4	0.4	12.7	-7.1	6.5	-7.9	10.3	-4.0	16.5	-4.4
Mining	0.9	-1.2	1.4	-10.4	0.2	2.9	0.3	-9.8	0.7	-10.4	0.3	-5.4	0.2	-8.8
Total Manufacturing	14.9	-0.4	19.8	-9.2	16.9	-2.9	22.1	-8.7	35.2	-5.2	31.2	-2.4	27.1	-2.6
Food, drink and tobacco	2.9	0.0	3.2	-7.6	3.4	-1.9	3.4	-6.5	3.4	-6.3	2.8	0.1	m	m
Textiles, footwear and leather	1.7	-1.9	2.8	-8.6	1.7	-2.2	1.6	-15.8	3.5	-6.9	7.6	-2.4	4.8	-3.5
Wood, cork and furniture	1.5	2.8	2.6	-7.0	1.2	2.2	2.7	-8.2	2.2	-5.6	3.0	-1.7	m	m
Paper, printing and publishing	1.6	0.9	2.3	-10.3	1.2	-1.6	4.3	-8.1	2.3	-3.9	1.5	-2.0	m	m
Chemicals	0.7	-0.4	1.6	-9.6	2.5	-0.9	2.0	-5.6	4.3	-4.2	2.3	-3.4	3.3	0.7
Stone, clay and glass	0.7	-0.3	0.6	-9.0	0.6	-7.0	0.9	-11.1	1.3	-5.9	1.6	-2.5	m	m
Basic metal industries	0.8	-4.0	0.9	-11.5	0.4	-4.4	0.9	-6.4	2.4	-5.9	1.8	-3.7	3.9	-3.3
Fabricated metal products and	3.9	-1.1	4.9	-10.5	5.6	-5.0	5.9	-9.1	15.4	-4.7	10.1	-2.9	7.3	-2.0
Other manufacturing	1.0	1.4	0.9	-8.2	0.6	1.8	0.4	-6.8	0.4	-3.6	0.6	0.2	7.9	-3.3
Electricity, gas and water	0.8	-5.9	0.6	-13.4	0.3	-4.3	1.1	-6.3	0.5	-5.0	0.8	-2.8	0.2	-6.1
Construction	5.7	2.7	7.8	-6.8	3.3	-3.0	5.7	-10.8	7.6	-4.9	10.5	-1.5	15.3	-1.3
Wholesale/retail trade, hotels and	31.6	3.5	30.1	-7.7	20.6	1.9	16.0	-7.9	16.0	-3.3	18.2	-0.3	17.4	-2.8
Wholesale trade	6.8	2.8	4.2	-9.8	6.7	-0.5	3.9	-7.5	3.0	-3.8	2.7	-3.5	3.2	-2.7
Retail trade	19.0	3.1	15.4	-8.7	5.6	1.7	9.7	-8.1	8.5	-3.7	11.0	0.1	9.7	-3.1
Hotels and restaurants	5.7	5.8	10.5	-4.9	8.3	4.5	2.4	-7.8	4.5	-2.0	4.5	1.2	4.5	-2.4
Transport, storage and	7.4	0.7	7.2	-9.2	7.0	-2.0	10.7	-4.9	5.3	-3.6	5.8	-2.8	5.9	-2.2
Transport and storage	5.7	1.2	5.8	-8.1	6.3	-2.1	7.7	-4.1	3.6	-3.4	4.6	-2.9	5.7	-1.8
Communications	1.7	-0.9	1.5	-12.6	0.7	-0.5	2.9	-6.9	1.6	-3.9	1.2	-2.4	0.2	-9.3
Finance, insurance, real estate,	11.2	4.0	2.4	-15.4	7.4	2.8	6.8	-4.8	4.6	-1.7	2.5	1.3	1.2	-2.7
Finance and insurance	4.8	1.1	1.0	-19.8	1.9	0.4	2.6	-6.5	2.3	-2.2	0.9	-2.0	0.6	-4.4
Financial institutions	3.5	0.4	0.8	-19.3	1.4	0.8	1.9	-7.2	1.7	-1.9	0.6	-2.1	m	m
Insurance	1.3	3.3	0.2	-21.3	0.5	-0.4	0.7	-4.1	0.6	-3.1	0.3	-1.8	m	m
Real estate and business services	6.5	6.9	3.6	-9.7	5.5	3.8	4.0	-3.6	2.3	-1.2	1.7	3.6	0.6	-0.8
Community, social and personal	21.0	4.0	19.4	-9.5	41.0	1.7	24.6	-5.9	23.6	-3.2	20.3	-0.1	15.0	-0.9
Public administration and defence	4.4	1.1	2.8	-15.2	5.9	-2.9	3.5	-5.9	5.8	-6.5	6.7	0.7	0.7	-7.4
Sanitary and similar services	m	m	m	m	4.4	8.0	2.5	-4.9	2.3	1.4	1.7	7.9	m	m
Social and related community services	12.8	5.4	7.6	-9.7	26.8	2.2	10.5	-5.6	10.3	-1.6	5.1	-2.3	3.1	-2.5
Recreational and cultural services	2.1	5.5	1.7	-4.5	2.2	4.8	2.3	-2.7	0.9	1.0	0.6	0.1	4.9	5.5
Personal household services	1.6	1.8	7.4	-6.5	1.7	-1.2	2.3	-4.3	4.1	-3.6	6.2	-0.5	7.0	-3.0
International services	m	m	m	m	0.0	0.0	0.0	31.8	0.2	-9.5	0.0	-8.5	m	m
Total Industries	4 428 410	2.2	2 846 930	-8.7	38 667	0.3	570 827	-7.2	4 396 000	-4.5	12 371 536	-1.7	15 608 000	-2.6

Table 14 continued

	Netherlands 1985-94		Norway 1984-94		Spain 1983-93		Sweden 1986-93		United Kingdom 1984-94		United States 1983-93	
	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)	a (%)	b (%)
Agriculture, forestry and fishery	6.1	-2.3	7.8	-5.4	17.5	-5.7	2.6	-9.8	2.6	-3.0	3.4	-2.1
Mining	m	m	m	m	0.7	-5.5	0.3	-3.2	0.4	-12.6	0.2	-8.9
Total Manufacturing	22.2	-1.3	22.8	-5.1	27.3	-2.4	22.0	-4.3	20.2	-3.4	64.2	17.0
Food, drink and Tobacco	4.0	-1.4	5.2	-2.6	m	m	2.3	-1.1	m	m	56.9	42.5
Textiles, footwear and leather	1.1	-4.6	m	m	m	m	0.5	-11.5	m	m	1.6	-5.0
Wood, cork and furniture	1.4	2.7	2.6	m	m	m	1.2	-5.6	m	m	0.9	-3.3
Paper, printing and publishing	2.8	1.3	1.6	m	m	m	3.3	-3.9	m	m	0.8	-3.3
Chemicals	2.0	-2.4	m	m	m	m	1.6	-3.7	m	m	0.6	-3.8
Stone, clay and glass	0.8	-2.4	m	m	m	m	0.7	-2.0	m	m	0.3	-3.4
Basic metal industries	0.6	-5.5	1.6	m	m	m	3.7	-5.4	m	m	1.0	-5.4
Fabricated metal products and	6.3	-2.3	5.2	m	m	m	7.8	-4.4	m	m	2.2	-5.3
Other manufacturing	3.0	0.1	m	m	m	m	0.9	-3.2	m	m	m	m
Electricity, gas and water	0.5	-3.5	m	m	0.7	-4.2	0.8	-0.7	0.6	-8.0	0.4	-3.5
Construction	8.5	-1.4	9.8	-5.4	14.1	0.4	7.1	-2.0	5.9	-1.8	4.3	-1.4
Wholesale/retail trade, hotels and	24.2	2.5	17.1	-4.8	31.4	1.6	16.6	-2.7	25.9	-0.6	13.6	-15.4
Wholesale trade	6.2	0.1	3.1	-7.4	m	m	7.4	-2.4	m	m	1.4	-2.5
Retail trade	12.7	2.6	9.3	-6.2	m	m	6.8	-3.6	m	m	5.8	-22.0
Hotels and restaurants	5.1	5.7	2.1	m	8.6	2.2	2.4	-1.2	5.6	-1.4	6.4	0.5
Transport, storage and	8.7	0.7	11.9	-3.2	7.4	-0.8	7.7	-4.2	7.5	-0.5	1.7	-3.0
Transport and storage	6.8	1.2	8.8	m	m	m	5.7	-2.3	m	m	1.5	-3.1
Communications	1.9	-1.2	m	m	m	m	2.1	-8.2	m	m	0.1	-1.9
Finance, insurance, real estate,	5.8	1.0	3.1	m	5.7	6.5	10.1	0.5	11.7	1.8	2.2	-0.9
Finance and insurance	2.0	-2.2	m	m	1.7	-1.8	2.2	-5.2	4.4	0.1	0.3	-4.9
Financial institutions	1.3	-2.4	m	m	1.2	-2.4	1.6	-2.0	m	m	0.2	-3.7
Insurance	0.7	-1.8	m	m	0.5	0.0	0.6	-11.4	m	m	0.1	-6.7
Real estate and business services	4.0	3.2	1.6	m	4.0	14.7	7.9	2.6	7.3	3.1	1.9	0.0
Community, social and personal	22.3	1.1	25.4	-3.4	22.6	1.0	32.9	-2.2	25.1	0.2	10.1	-2.0
Public administration and defence	4.1	2.4	3.6	0.0	5.0	1.5	3.1	-3.1	5.4	-1.3	0.4	-9.6
Sanitary and similar services	3.5	2.7	1.6	-6.7	0.6	-7.7	0.2	-0.9	m	m	m	m
Social and related community	10.3	-0.1	16.6	-3.1	8.7	15.5	28.4	-2.3	18.6	0.8	4.8	-1.4
Recreational and cultural services	1.5	0.9	m	m	1.7	-2.8	1.1	1.0	m	m	1.3	3.2
Personal household services	2.8	0.9	1.6	-11.3	6.6	-4.6	0.0	9.1	0.9	0.1	3.5	-2.5
International services	m	m	m	m	0.0	-17.4	0.0	-27.4	0.1	-5.0	m	m
Total Industries	2 175 850	0.4	193 000	-4.3	640 734	-0.5	2 703 929	-3.0	12 111 309	-1.1	43 948 288	-0.2

Notes: a = Percentage of persons with a low level of educational attainment (ISCED 0/1/2) employed in each sector of industry for the last available year for each country; b = Annual growth rate of the employment of persons with a low level of educational attainment in each sector of industry.
(m) = Data not applicable because the question does not apply.

Source: Data supplied by national authorities**.**