

LIFELONG LEARNING AS AN AFFORDABLE INVESTMENT
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REDUCING THE RISK OF UNDER-INVESTMENT IN ADULTS

BACKGROUND PAPER

The attached report has been prepared by professors Gerald Burke and Michael Long of Monash University, Australia, in consultation with Gregory Wurzburg of the OECD Secretariat

(Note by the Secretariat)

1. Under the current mandate of the Education Committee, the Secretariat has undertaken a number of analyses of issues and evidence concerning resources for and financing of lifelong learning. Results of this work have been published in *Education Policy Analysis* (1998 and 1999) and in *Where are the Resources for Lifelong Learning* (2000). Additional material is available at the OECD web site (<http://www.oecd.org/els/edu/fll/index.htm>).

2. The attached report has been prepared by professors Gerald Burke and Michael Long of Monash University, Australia, in consultation with Gregory Wurzburg of the OECD Secretariat. The report examines in depth the resource and financing issues that arise in connection with adult and workplace learning. Increased demand for learning in each of these sectors is placing great pressure on available resources, requiring their different and often creative use and leading to non-marginal changes in existing financing approaches as well as the introduction of innovative strategies to secure needed resources and encourage their effective use. The analysis examines existing incentives and different means to mobilise and better use resources in order to strengthen demand, improve effectiveness and efficiency and overcome gaps in participation in adult learning. The document draws on related work of the Secretariat (including that referred to in the first component above, the thematic review of tertiary education); material submitted by national authorities in response to a request for information circulated in December 1998; other relevant literature. An earlier draft of this document was discussed by the Education Committee at its meeting in November 1999; the report has been revised in view of comments made by delegates.

3. The document will serve as background to the policy conference, “Lifelong Learning as an Affordable Investment” being organised by the OECD and Human Resources Development Canada, that will take place in Ottawa, 6-8 December 2000.

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I. INTRODUCTION: AN OVERVIEW OF THE RESOURCES PROBLEM

1. OECD Education Ministers underlined the importance of learning throughout the lifecycle, and the necessity of public strategies to make learning opportunities accessible to all (OECD 1996a). As Member countries have made progress towards this ambitious goal, they have aimed to address needs of learners at all ages, and in a variety of settings. This has been easier for persons covered by the formal education system. It is more problematic, but no less important for others. This paper examines the resource issues that arise with respect to adults in lifelong learning.

Why the growing importance of adult learning?

2. Access to lifelong learning for adults has become increasingly important for economic and social reasons:

- ageing of the working population, due to increased life expectancy and lower birth rates, diminishes the role of initial education as a source of renewed skills and competences, and increases reliance on further learning by adults;
- technological change, globalisation of production and new forms of work organisation are leading to rapid changes in the industrial and occupational structure and to changes in the nature of work, with implications for skills, competences, knowledge and know-how;
- because of the resulting mismatches between demand for and supply of skills, substantial numbers of adults in most OECD countries are underemployed or jobless for much of their adult life; and
- these developments pose risks such as reduced living standards, reduced social cohesion, increased fiscal drag induced by greater economic dependency, and constraints on the capacity of economies to adapt and grow.

3. In addressing the increased importance of lifelong learning, there are implications for initial education for young persons. The implications for adults are not so evident. There are only limited institutional arrangements that already exist; they cannot be adapted with simply “more of the same”. Rather, more fundamental re-thinking is needed in view of the uncertainties about how to motivate learning on the part of some adults; the relationship between formal and non-formal learning (when are they complements, when are they substitutes); and the financial resources required, and who should provide them.

4. These uncertainties risk leading to under-investment in adult learning. This paper focuses on that issue, how it is being addressed, and how it might be addressed more effectively.

Resource issues linked to expanding adult learning opportunities

5. It is impossible to specify the resources required for lifelong learning for adults simply because the objectives of such policies are so indeterminate. In contrast to initial formal education in OECD Member Countries, adult learning is open-ended with respect to the timing, venue, and duration of learning, the targets of policies, and their beneficiaries. In other words, the resource issues associated with lifelong learning for adults are complex because costs, benefits, and the burden of finance all are open to question. Costs and benefits of learning are variable, subject to choice of policy, institutional arrangements, and programmatic circumstances. Likewise, the decision about who should bear the burden of financing is more contestable than is the case with much of initial formal education where a central public responsibility is accepted.

6. There is need to evaluate experience as countries grapple with the resource issues. Member Countries should consider the issue of the balance between structured (formal courses and study) and unstructured (self-education or incidental on-the-job learning) provision of lifelong learning. Realistic assessment of policy options requires understanding the costs and benefits and the resource and financing requirements of alternative mixes of education and training. Beyond that, there are some common matters that need to be considered when formulating and evaluating options:

- learning should be advanced so long as there are sufficient incentives to support it, i.e., the rewards in terms of increased economic and non-economic benefits to society, individuals and employers should exceed the costs;
- it is therefore important to identify relevant costs and benefits, if not measure them, and to understand who bears them, who enjoys them;
- for any given policy to encourage adult learning, it is important to find means of reducing costs and enhancing benefits;
- for any given policy assigning financing responsibility, it is important to ensure that there is symmetry between who pays and who benefits; and
- it is important to ensure the financial means to cover the direct and indirect costs of learning, and ensure that such means reinforce incentives to enhance benefits and minimise costs.

7. Thirty years ago the response to the likely under-investment in lifelong learning would have been to expand public sector finance and public sector provision. The restriction in the size of the public sector is a major stimulus to considering new ways of financing of lifelong learning. It has led to close attention to the factors affecting private expenditures and to the causes of under-investment by individuals and firms. It gives added emphasis to the need to reduce failures in the market which contribute to under-investment. It also suggests increased attention to other policy instruments including regulation, leverage on private spending and exhortation, as well as through public expenditure

8. This paper addresses:

- why there is likely to be under-investment in lifelong learning for adults;
- the ways in which the perceived private costs can be made smaller and the benefits larger for individuals and firms thereby strengthening the incentives to invest in lifelong learning;

- the adequacy of financing mechanisms that influence the availability and cost of financial capital for investment in lifelong learning.

9. Section II examines the resource implications of the growing demand for adult learning in the context of actual institutional arrangements and opportunities for adult learning. Section III considers the incentives to invest in adult learning and how they might be strengthened. Section IV discusses how to expand the financial capacity for investment in adult learning. Section V sums up.

II. THE DEMAND AND OPPORTUNITY FOR ADULT LEARNING, AND RESOURCE IMPLICATIONS

10. Economic, social, and demographic developments in OECD countries put strains on the current institutional arrangements for ensuring that the skills, knowledge, and know-how of adults are up to date. As requirements for qualifications and competences change more quickly than before, individual adults need to learn more if they are to remain employable and active members of society. The labour force is ageing in most countries and this makes societies more reliant than ever on adults as a source of renewed skills, knowledge and know-how. But if adults need to learn more, there are bound to be new resource requirements. What are they likely to be?

11. This section provides an overview of recent economic, social, and demographic trends and developments that are likely to influence the demand for learning opportunities for adults. It considers existing institutional arrangements for learning and actual participation by adults in learning activities. It then considers the outlook for learning opportunities and the resource implications.

Economic change

12. The expansion of world trade, new technologies and production organised across nations has led to a changing pattern of employment and remuneration within OECD countries. There has been a reduction in routine production jobs in manufacturing. The nature of work has changed requiring a changing range of skills even within occupations. Many adults, particularly those over 45 have been displaced by these changes. The education and skills they have acquired may not be relevant to the changed work environment.

13. The strongest growth in employment has been in producer and social services. From the mid-1980s through the late 1990s, the fastest growing sub-sectors of these have been Business and professional services and Health services with Educational services the next fastest. Table 2.1 shows that nearly 60 per cent of the total employment growth during that time has occurred in these three sub-sectors. The growth in business and professional services is associated with the outsourcing of both public sector and private sector work and the growing internationalisation of business. The next fastest sub sectors are Retail trade and Hotels and restaurants which together account for nearly 20 per cent of employment growth

14. Employment has been static in some areas where productivity has increased sharply. In Manufacturing total employment has fallen. In Communication, where production has grown at a remarkable rate, employment has remained almost static.

15. In line with these changes in industrial structure, occupational employment showed a shift in composition from blue collar to white collar. This is shown in Table 2.2. Among white-collar jobs the growth is fastest in high skill areas such as business services though there is also notable growth in low skill jobs especially in personal and distributive services.

Table 2.1. Sectoral contribution to annualised employment growth, 1986-1998

	Australia ¹	Belgium	Canada ¹	Denmark	France	Greece	Ireland	Japan	Luxembourg	Netherlands ¹	Portugal	Spain	UK	US	Total OECD ²
<i>Agriculture</i>	0.01	-0.06	-0.03	-0.17	-0.25	-0.74	-0.29	-0.25	-0.03	-0.08	-0.49	-0.55	-0.02	0.00	-0.09
<i>Industry</i>	0.00	-0.18	0.16	-0.09	-0.31	-0.07	0.87	0.11	-0.41	0.07	0.58	0.43	-0.35	0.04	-0.01
Mining and quarrying	-0.02	-0.04	-0.01	-0.01	-0.05	-0.03	-0.03	-0.01	0.01	-0.08	-0.02	-0.04	-0.09	-0.02	-0.03
Manufacturing	-0.06	-0.26	0.13	-0.08	-0.21	-0.15	0.61	-0.11	-0.58	0.14	0.25	0.09	-0.27	-0.04	-0.06
Electricity, gas and water supply	-0.08	0.00	0.00	0.01	-0.01	0.00	-0.02	0.01	0.01	-0.01	-0.01	0.00	-0.04	0.00	-0.01
Construction	0.15	0.12	0.03	-0.01	-0.04	0.11	0.32	0.22	0.15	0.02	0.35	0.38	0.06	0.10	0.10
<i>Producer services</i>	0.56	0.46	0.54	0.24	0.33	0.34	0.70	..	0.85	0.69	0.25	0.54	0.53	0.42	0.45
Business and professional services	0.52	0.33	0.49	0.20	0.22	0.26	0.48	..	0.41	0.45	0.23	0.47	0.32	0.33	0.35
Financial services	0.01	0.07	0.04	-0.01	0.03	0.05	0.14	0.06 ³	0.36	0.10	-0.01	0.01	0.19	0.04	0.05
Insurance	-0.01	0.02	0.01	0.00	0.00	0.03	0.03	..	0.05	0.05	0.01	0.03	-0.05	0.03	0.01
Real estate	0.03	0.03	0.01	0.05	0.08	-	0.04	..	0.03	-	0.02	0.04	0.08	0.02	0.04
<i>Distributive services</i>	0.42	0.05	0.17	0.22	0.09	0.47	0.70	0.25	-0.08	0.46	0.14	0.46	0.22	0.32	0.29
Retail trade	0.31	0.08	0.08	0.14	0.01	0.38	0.43	0.15	-0.05	0.24	0.12	0.21	0.12	0.16	0.15
Wholesale trade	0.08	-0.05	0.01	-0.08	0.04	0.06	0.01	0.01	-0.12	0.09	0.02	0.13	0.00	0.05	0.04
Transportation	0.03	0.00	0.04	-0.03	0.06	0.00	0.16	0.09 ⁴	0.04	0.10	0.00	0.08	0.09	0.10	0.08
Communication	0.01	0.03	0.05	-	-0.02	0.01	0.10	..	0.05	0.03	-0.01	0.03	0.01	0.01	0.01
<i>Personal services</i>	0.41	0.11	0.23	0.07	0.17	0.34	0.65	..	0.12	0.16	0.36	0.33	0.15	0.22	0.22
Hotels and restaurants	0.19	0.07	0.14	0.05	0.03	0.23	0.42	..	0.03	0.16	0.24	0.22	0.06	0.11	0.11
Recreational and cultural services	0.09	0.05	0.06	0.04	0.06	0.05	0.16	..	0.03	0.02	0.05	0.09	0.08	0.11	0.09
Domestic services	-0.01	0.00	-0.01	-0.03	0.09	0.06	0.03	..	0.06	-0.02	0.04	-0.01	-0.01	-0.03	-0.01
Other personal services	0.13	-0.01	0.04	0.00	-0.01	0.01	0.05	..	0.00	0.00	0.03	0.03	0.02	0.04	0.03
<i>Social services</i>	0.47	0.42	0.32	0.09	0.46	0.48	0.72	..	0.84	0.71	0.29	0.70	0.48	0.60	0.53
Government proper	0.02	0.07	0.01	-0.09	0.13	0.10	0.11	..	0.42	0.23	-0.05	0.26	0.11	0.06	0.08
Health services	0.13	0.58	0.11	0.92	0.40	0.19	0.40	..	0.37	0.89	0.19	0.27	0.52	0.25	0.31
Educational services	0.15	0.12	0.08	-0.15	0.12	0.22	0.25	..	0.20	0.08	0.15	0.22	0.11	0.17	0.14
Miscellaneous social services	0.17	-0.35	0.12	-0.60	-0.19	-0.04	-0.04	..	-0.14	-0.49	-0.01	-0.05	-0.25	0.12	0.00
<i>Total services</i>	1.86	1.05	1.27	0.61	1.06	1.63	2.77	1.01	1.73	2.03	1.04	2.02	1.38	1.56	1.48
Non classified ⁵	0.00	0.00	0.00	-0.22	-0.03	0.00	0.03	0.00	-0.08	0.43	-0.01	-0.01	-0.10	0.00	-0.01
TOTAL	1.86	0.80	1.39	0.13	0.46	0.82	3.37	0.87	1.20	2.45	1.11	1.89	0.91	1.60	1.38

Data not available.

1. For Australia, Canada and the Netherlands, the annualised employment growth has been calculated for the period 1987-1998.
2. "Total OECD" refers to the sectoral contribution to annualised employment growth in the 14 countries considered as a whole.
3. Includes the financial, insurance and the real estate services (FIRE).
4. Includes transport and communication services.
5. The "non classified" refers to employed people who could not be assigned to a specific sector.

Source: OECD 2000b, Table 3C2

Table 2. 2. Growth in occupational employment, major OECD countries

	Period	White-collar	Blue-collar	White-collar high-skilled	White-collar low-skilled	Blue-collar high-skilled	Blue-collar low skilled
United States	1983-93	2.4	0.7	2.7	2.2	0.8	0.6
Japan	1980-90	2.1	-0.8	2.7	1.8	-1.3	0.4
Germany (Western)	1980-90	1.7	-0.9	2.0	1.3	0	-1.8
France	1982-95	1.3	-1.6	1.7	0.8	-1.7	-1.6
Italy	1981-95	1.5	-2.0	1.3	1.6	-1.8	-2.2
United Kingdom	1981-95	1.0	-0.9	2.8	-0.7	-2.3	0.5
Canada	1981-91	2.4	-0.4	3.2	1.7	-0.8	-0.1

Source: OECD 1998 Meeting of the Industry Committee at Ministerial Level: Scoreboard of Indicators

16. Even the most advanced service economies tend to generate a considerable number of jobs in low skilled occupations as well as an increase in the share of part-time and temporary jobs (OECD 2000b, p.113). On average though, the shift towards white-collar employment has been associated with increased educational levels. Overall, the changes occurring are likely to increase the private benefits of high levels of education and training.

17. The continuing benefits of extra education are confirmed by recent data on unemployment, participation in the labour force and earnings. Table 2.3 shows that in the OECD adults with less than an upper secondary education are more than two times as likely to be unemployed as those with university education. The differences are even greater for men and women aged 30-44 years. (OECD 2000a, p.270).

18. The employment opportunities for those with low education are worse than indicated by the unemployment rates for they also participate in the labour force at a much lower rate than those with more education. Table 2.3 shows that participation in the labour force is relatively low for men and even more so for women with less than upper secondary education. This is most marked for persons aged 55 to 64 (OECD 2000a, p.269). Overall:

- about 80 per cent of women aged 25 to 64 with tertiary education were employed in 1998 compared with around 60 per cent for those with upper secondary/non tertiary and a less than 50 per cent of those with less than upper secondary education; and
- about 90 per cent of men with tertiary level education were employed, around 85 per cent for those with upper secondary and little over 70 per cent of those with less than upper secondary education¹.

19. The workforce participation rate of adult males has fallen whereas the participation rate of adult females has tended to rise. In the majority of countries there has been a relative growth in part-time employment (OECD 1999a, p.240, OECD 1998e, p.154). In some countries there has been an increase in the hours of work undertaken by those in full-time employment, with an increase in the proportion of men working very long hours (OECD 1998e).

¹ In part this reflects concentration of those with tertiary education in the younger age groups with the highest employment rates. But the effect remains large even after allowing for this.

Table 2.3. Unemployment rates and labour force participation rates by level of educational attainment and gender, persons 25 to 64 years of age (1998), OECD Country mean

	Unemployment rate		Labour force participation rate	
	Men	Women	Men	Women
Below upper secondary education	8.9	10.0	78	51
Upper secondary and post-secondary non-tertiary education	5.3	7.6	89	69
Tertiary-type B	4.3	5.2	93	80
Tertiary-type A and advanced research programmes	3.3	4.6	93	83
All levels of education	5.7	7.2	87	54

Source: OECD 2000a Tables E1.1, E1.2

20. As mentioned, in some countries there has been an increase in casual or temporary employment. While overall employment protection has been maintained there are examples of substantial changes in employment protection in a few countries especially in the regulations governing temporary employment (OECD 1999a, p.87). There is an increase in the proportion of persons perceiving a rise in job insecurity (OECD 1997b, p.129). This perception has to be seen against the evidence that average job tenure does not appear to be changing very much. In nine out of ten OECD countries where tenure data have been analysed average tenure did not change in the period 1985 to 1995 (OECD 1997b, p.140).

21. One explanation for this perception of insecurity is that the consequences of job loss for some and especially for older workers in a period of high unemployment and varying degrees of unemployment compensation, might be greater than in the past. There is also evidence that for workers with low levels of education, who already have relatively low rates of job tenure, that tenure is decreasing relative to persons with higher levels of education (OECD 1997b p.143).

22. Employment has not expanded sufficiently to employ all those wanting to work. This is indicated by the continuing high levels of measured unemployment in most OECD countries. The standardised rate in 1999 for 25 OECD countries was 6.8 per cent compared with 6.1 per cent in 1990 and a peak level of 8.2 per cent in 1993 (OECD 2000b p.202). Underemployment, indicated by persons working part-time but seeking full-time work, is a further problem. There are also a large number, about equal to the official number of unemployed, who would like work but are not actively looking for work. Most of these are older adults whose problems have not attracted the same attention as those of unemployed youth.

23. The problems of the high level of joblessness are worse than the aggregate figures suggest. This is because of the increased concentration of unemployment in particular households and regions.² 'The contrast between work-rich and work -poor households has developed alarmingly' (Schuller 2000). In many cases the incidence of jobless households increased over the last decade even as non-employment rates fell. This is partly accounted for by the growth in single adult households but within households with two or more adults there is the simultaneous increase of both workless households and households with at least two adults in work (OECD 1998e, p.25).

² The need to look beyond the measured rate of unemployment is also emphasised in a recent review of the rising rate of incarceration. This is obvious in the US where the numbers in prisons and jails have trebled in the 1980s and 1990s. About 2 per cent of adult males are in jails or prisons including nearly 10 per cent of black adult males. The apparently low US unemployment rate of 4 per cent can be considered against its high prison population and the workforce engaged in the building and operating of prisons (Western & Beckett 1999). It is indicative of the wider social problems of the persistence of an underclass in society and which it is hoped that increased learning can help redress.

24. Data on earnings by educational attainment in Table 2.4 continue to show that on average the more education a person has the higher their earnings. In general persons with tertiary type A qualifications tend to earn about 60 per cent more than persons with upper secondary education and about twice that of persons with less than secondary. In Portugal, Ireland, United States and Czech Republic earnings of persons with Tertiary type A qualifications are typically more than 80 per cent above those with only upper secondary schooling. At the lower end of the scale in Netherlands, Australia and Sweden earnings are only about 30 per cent higher. The earnings differentials between tertiary and upper secondary are larger than between upper and lower secondary. Women for a range of reasons, including a greater incidence of part-time work, earn less than men but the ratio of the earnings for women with Tertiary-type A qualifications to those with less than upper secondary education is slightly greater on average than for men.

Table 2.4. Relative earnings of 25 to 64 and 30 to 44 year-olds with income from employment (ISCED 3/4=100) by level of educational attainment, nineteen countries

		Below upper secondary education		Tertiary-type B education		Tertiary-type A and advanced research programmes	
		ISCED 0/1/2		ISCED 5B		ISCED 5A/6	
		Ages 25-64	Ages 30-44	Ages 25-64	Ages 30-44	Ages 25-64	Ages 30-44
Portugal	1997	62	59	139	144	192	201
Ireland	1997	76	80	117	122	183	184
United States	1998	70	68	116	116	184	184
Czech Republic	1998	68	70	150	150	180	182
Hungary	1998	68	70	x	x	179	173
Finland	1996	97	96	121	117	186	173
United Kingdom	1998	64	63	125	125	168	172
France	1998	84	85	126	132	169	171
Switzerland	1998	74	79	137	140	162	156
Germany	1997	81	82	108	106	163	153
Spain	1995	76	71	96	104	161	151
Canada	1997	82	79	107	109	151	149
Italy	1995	76	80	x	x	156	148
Denmark	1997	85	85	115	110	140	142
Norway	1997	85	87	x	x	138	138
New Zealand	1998	77	80	x	x	148	134
Netherlands	1996	84	84	x	x	137	132
Australia	1997	79	75	103	101	136	131
Sweden	1997	90	89	x	x	129	128

x data included in another category

Source: OECD 2000a, Table E5.1

25. There was a widening in the distribution of earnings of full-time workers in the 1980s in most OECD countries, though moderating in many countries in the 1990s (OECD 1998d). In some countries there has been an increase in the relative earnings of those with tertiary qualifications³. Thurow (1999, p.134) notes that the peak in earnings for graduates has dropped in the United States from the 45-54 age

³ Nevile and Saunders (1999) speculated for Australia that as result of globalisation the earnings of persons with degrees (higher level skills) would increase relative to those with lower levels. They found this for the private sector but not for public employment where severe job shedding had been occurring in the 1980s, the period of their analysis.

group to the 35-44. The value of experience relative to the qualification appears to have fallen. He interprets this as “Old knowledge and experience are simply much less valuable than they used to be”.

26. The pursuit of high economic performance has led to the adoption of a range of new work practices. These involve changes in job design, job rotation, greater complexity, higher job skills and working in teams. Measuring the extent of these changes and their effects is a complex task. There does appear to be an increase in the incidence of flexible practices, but there are wide differences across countries that are not easily explained. Workplaces with flexible practices tend to have above average levels of training. The usual tendency for training to decline for older workers is less evident where flexible work-practices are more widespread (OECD 1999a p.160).

Social and Demographic Developments

27. The ageing of the workforce draws new attention to the need for increased learning for all. Most European OECD countries, and several non-European, have had low birth rates from the 1960s and several have stationary or declining populations. The decline in births reduced the proportion of the population of compulsory school age. There is now rapid growth in the numbers and proportion aged 60 and over. Life expectancy has increased and this also adds to the growth in the number of older persons.

28. Many of the current adult population had limited access to education in their youth. Only about 45 per cent of those aged 55 to 64 in OECD countries have completed secondary schooling compared with over 70 per cent of 25 to 34 year olds. Table 2.5 shows that there is considerable variation across OECD countries. For example among 45-54 year olds over 80 per cent have attained upper secondary education in the Czech Republic, Germany, Switzerland and the United States and less than 20 per cent in Mexico, Portugal and Turkey.

29. Even among young adults there still remains an average of nearly 30 per cent who have not completed secondary education and for whom social and economic prospects may be relatively limited. As will be discussed, those with the least initial education are likely to receive the least education and training as adults.

30. Older adults with low levels of education have been particularly affected by economic changes of the last decade. They - particularly older males - have suffered a disproportionate decline in jobs in an era of overall high unemployment. Knowledge, and the education and training to acquire it, have become more important yet older less educated adults have not had the opportunities that younger or better educated persons have had to undertake further education and training.

Table 2.5. Percentage of the population that has attained at least upper secondary education, by age group (1998)

	25-64	25-34	35-44	45-54	55-64
Australia	56	64	58	52	44
Austria ²	73	84	78	68	56
Belgium	57	73	61	51	34
Canada	80	87	83	77	65
Czech Republic	85	92	88	84	74
Denmark	78	85	80	78	67
Finland ²	68	84	78	62	41
France ³	61	75	63	56	41
Germany	84	88	87	84	76
Greece ²	44	66	52	36	22
Hungary	63	77	73	65	31
Iceland	55	61	58	55	40
Ireland	51	67	56	41	31
Italy	41	55	50	35	19
Japan	80	93	91	77	57
Korea	65	92	70	45	27
Mexico	21	26	23	16	9
Netherlands	64	74	68	59	50
New Zealand	73	79	77	69	58
Norway ²	83	93	88	78	65
Poland	54	62	59	53	37
Portugal	20	29	20	14	12
Spain	33	53	38	23	12
Sweden	76	87	80	73	60
Switzerland	81	88	83	80	71
Turkey	18	24	19	13	7
United Kingdom ³	60	63	62	58	53
United States	86	88	88	87	80
Country mean	61	72	65	57	44

1. Excluding 3C Short programmes. 2. Year of reference 1997.

3. Not all ISCED 3 programmes meet minimum requirements for ISCED 3C Long programmes

Source: OECD 2000a Table 2.2a

Current adult participation in learning activities

31. Table 2.6 shows the education participation rates by age in selected OECD countries. There is virtually universal participation to age 14 and in the high-income countries very high rates in the 15 to 19 age group. In these ages nearly all the participation is full-time and in most countries the large majority are in publicly funded institutions.

32. About a fifth to a quarter of the 20 to 29 age group are enrolled in education in most high income countries though the table does not reveal whether this is on a full or part-time basis, or the level of the course. In a number of countries students do not complete their first tertiary qualification until their late twenties.

Table 2.6. Enrolment rates by age, full and part-time students (1998)

	Number of years at which over 90% of the population are enrolled	Students in stated age group as percentage of population of that age				
		5-14	15-19	20-29	30-39	40 and over
Australia	11	97.8	81.6	27.1	14.5	6.0
Austria	11	98.9	76.2	17.4	3.4	0.3
Belgium (Fl.)	15	96.2	86.1	19.5	4.3	1.7
Canada	12	97.0	78.0	19.8	4.4	1.1
Czech Republic	12	99.2	74.9	13.2	0.8	n
Denmark	12	98.4	80.1	27.9	5.5	0.7
Finland	10	90.6	82.1	33.1	7.6	1.3
France	15	99.9	87.8	19.1	1.9	x
Germany	12	97.5	88.3	21.7	3.0	0.2
Greece	10	97.8	77.6	18.4	n	n
Hungary	12	99.8	75.4	14.8	2.5	n
Iceland	10	98.0	79.7	29.5	6.0	1.5
Ireland	12	99.8	80.7	15.5	2.2	x
Italy	12	99.1	69.8	16.8	1.7	0.1
Japan	14	101.0	m	m	m	m
Korea	12	92.1	78.6	20.9	1.1	0.2
Luxembourg	m	m	m	m	m	m
Mexico	6	93.2	38.5	8.3	1.7	0.6
Netherlands	14	99.3	86.0	22.0	3.5	1.4
New Zealand	12	99.7	71.7	20.3	8.4	2.7
Norway	12	96.9	86.4	26.5	5.2	1.1
Poland	11	93.2	81.4	20.6	2.2	x
Portugal	10	106.4	76.2	19.3	3.4	0.6
Spain	12	104.4	76.5	23.7	2.6	0.3
Sweden	13	96.5	86.1	30.4	13.3	2.7
Switzerland	11	98.0	84.1	17.6	3.1	0.1
Turkey	4	72.5	31.9	7.2	1.5	0.2
United Kingdom	12	98.9	69.5	18.1	8.8	3.2
United States	10	99.8	74.2	21.4	5.6	1.6
Country mean	11	97.2	76.3	20.4	4.4	1.2

m Data not available. x Data included in another category/column. n negligible or zero

Source: OECD 2000a, p.135

33. The enrolment rate for persons aged 30 and over is much more dispersed. The countries with education participation rates over 5 per cent for persons aged in their thirties are Australia, Sweden, the United Kingdom, New Zealand, Finland, Iceland, Norway and the United States. For persons 40 and over only Australia has a rate over 5 per cent. For a number of countries there are no data on the enrolment rate of persons 30 and over. Nor do we have estimates of the duration of the enrolments of the older participants. In Australia which has the overall highest rates of participation for persons 30 and over, many of the enrolments are for very short periods.

Education and training

34. So far attention has been on the education system. But much adult learning takes place not in the education system but in the workplace through structured training and from various forms of informal learning. An important source of information on this is the International Adult Literacy Survey (IALS). This was based on a household survey and it included information for the preceding 12 months on “any training or education including courses, private lessons, correspondence courses, workshops, on-the-job training, apprenticeship training, arts, crafts, recreation courses or any other training and education” (OECD 1998a p.204).

35. Data from the IALS survey are shown in Table 2.7 which presents data on education and training not leading to a formal qualification⁴. More than a third of persons 25 to 44 participate in most of the countries listed, Participation in education and training tends to be highest among those aged 25-34, be a little lower among those 35-44 and to decline among the older age groups. Estimated lifetime hours of participation are shown. The highest is over 2000 hours in the Netherlands or equivalent to more than a year and a half of full-time participation.

Table 2.7. Expected hours of training over the life cycle and percentage of 25 to 64-year-olds participating in continuing education and training (1994-95)

	Expected hours of training outside formal education	Participation rate by age group				
		25-34	35-44	45-54	55-64	25-64
Belgium (Flanders)	1020	23	20	21	12	20
Canada	m	32	37	28	12	30
Ireland	1219	21	21	17	m	18
Netherlands	2027	38	35	30	16	31
New Zealand	1714	41	42	41	24	38
Poland	1024	17	17	14	m	13
Sweden	m	48	56	56	38	50
Switzerland	1761	44	44	38	25	39
United Kingdom	1693	43	45	38	22	38
United States	1680	35	41	43	28	37

Source: OECD 2000a, Table C1.4

36. Unemployment is higher among persons with low levels of education and training. In general the unemployed do not participate in education and training at the levels of those in employment (OECD 1998a Table C5.1 and C5.2). With the exception of the Netherlands, access to education and training is about 40 per cent higher among those who are employed compared with those unemployed. Other data suggest that adults who are ‘not in the labour force’ have still lower rates of participation in education and training than those who are in the workforce but unemployed.

37. The distribution of training reinforces the disadvantages that persist from the home and through schooling. Table 2.8 illustrates this. In all the countries shown, workers with university degrees participate at least 50 per cent more than those who have not finished secondary schooling and in the United States and Switzerland the rates are strikingly higher.

⁴ Data from this table and table 2.6 are not comparable because the sources and definitions of learning activity differ.

38. Literacy levels are closely associated with levels of education completed. The disadvantages of those with low levels of education in access to training shown in Table 2.8 are mirrored in Table 2.9 where the relationship of literacy levels with training is shown. In every country the proportion participating of those at the low literacy level 1, is but a very minor fraction of those with literacy levels 4 or 5. However in four of the countries and notably Canada, the hours per participant are higher among those with literacy level 1 than among those with literacy levels 4 or 5.

Table 2.8. Ratio of participation in career or job related training by workers aged 25 to 64 with a university education to those whose attainment is below upper secondary schooling (1994-95)

Australia	Belgium (Flanders)	Canada	Ireland	Nether- lands	New Zealand	Poland	Switzerland (French)	Switzerland (German)	UK	US
2.0	5.1	2.7	2.6	2.0	1.7	3.7	5.3	4.1	1.8	3.7

Source: OECD 2000a Table C7.4

Table 2.9. Participation of 25 to 64 year olds in job-related education and training and hours of training by literacy level, document scale (1994-95)

	Participation rate		Mean hours per participant	
	IALS level 1	IALS level 4/5	IALS level 1	IALS level 4/5
Australia	9	54	198	152
Belgium (Flanders)	2	28	214*	130
Canada	9	51	501	137
Ireland	4	36	388*	219
Netherlands	10	37	155*	185
New Zealand	20	57	303	200
Poland	7	23	89	181*
Switzerland	10	44	107	173
United Kingdom	18	65	124	139
United States	15	58	92	104

Literacy on document scale. * Sample size too small for reliable estimate.

Source: OECD 1998a Table C5.4

39. Table 2.10 shows that about one in six adults are graded at IALS level 1, the lowest literacy level, and which is seen to be a level leading to considerable difficulties in using many of the printed materials that may be encountered in daily life. There is variation across the countries listed. Sweden, Germany and Netherlands have 10 per cent or less at IALS level 1. New Zealand, US, UK and Ireland have over 20 per cent at this level. Immigrants with foreign language background contribute to the high percentages in some countries at level 1. The highest proportions with low levels of literacy are among older persons.

Table 2.10. Percentage of the population aged 16 to 64 at IALS literacy level 1 (document scale)

Australia	Canada	Germany	Ireland	Nether- lands	New Zealand	Sweden	Switzer- land	United Kingdom	United States
17	18	9	25	10	21	6	17	23	24

Source: OECD 1998a Table A3.1

40. Table 2.11 gives an indication of the proportion of adults who did not participate in education and training and their reasons for not participating. While the data do not refer specifically to the less advantaged groups they are, as already discussed, heavily over-represented in those not participating in

education and training. The proportion not participating in the year varies from half to two thirds of the adult population for the countries listed. Only 10 to 20 per cent of the adult population were persons who wanted to take training but did not undertake it. The table shows:

- lack of time was the most common reason;
- the expense of further education and training was a much cited factor in *some* countries; and
- family responsibilities were also frequently reported.

Table 2.11. Perceived barriers to participation among adult non-participants who wanted to take training 1994-95

	% of population who did not take training in previous year	% of population who did not but wanted to take training	Of non-participants who wanted to take training – reasons given for not taking it							
			Lack of time	Too busy at work	Family responsibilities	Lack of employer support	Course not offered	Too expensive	Lack of qualifications	Inconvenient time
Australia	64	22	***	*					**	*
Canada	64	9	***		*			**		
Netherlands	64	12	***	*				*		*
New Zealand	54	14	***	***	***		*	***	**	*
Switzerland	58	13	***	*	*		*	*		*
United Kingdom	55	9	**	*	*		*	**	*	*
United States	58	9	***	*	*			***		*

* 10% or more of non-participants, ** 20% or more, *** 30% or more
Source: OECD 1998a Table C5.9

41. The main findings on the correlates of training by employers are summed up by the OECD (1999a Chapter 3). A summary based on this and on a range of other sources (e.g. Groot 1997) are given in Box 2.1.

Informal training

42. Informal training includes learning-by-doing, watching other workers, being shown by supervisors or other workers or reading a manual. The tacit knowledge that underlies much of the work of organisations is generally derived from informal learning. How much informal training occurs and how much learning is acquired in this way is not known. This is a major limitation in our understanding of the current levels of lifelong learning and of ways to improve it.

Box 2.1. Which adults get education and structured training?

- training tends to be provided disproportionately for those with more education
- workers with higher levels of literacy obtain more training
- participation rates rise quite strongly with the level of income, though those on low income who do receive training tend to receive more hours of training
- men and women in employment participate at fairly equal rates though women may receive less employer support and less hours of training over a lifetime
- training participation declines with age, but less so in the US and Nordic countries
- part-time workers and casual worker participate less than full-time permanent workers
- workers receive more training in countries with higher levels of education, high R& D and high trade in 'high tech' production
- the amount of training is larger the bigger the firm
- training is higher in unionised workplaces
- workers in managerial, administrative, professional or semi-professional jobs have a higher than average intensity of training; operators or labourers have low levels of training
- there is a high incidence of training in Finance, insurance and business services, Community, social and personal services; Mining, Utilities (electricity, gas and water) and Public administration
- agriculture and construction have relatively low levels of training
- self employed undertake less training than employees
- the unemployed and those not in the labour force receive less education and training than the employed
- there is considerable variation across countries.

43. The few studies that measure informal training suggest that formal training represents only a small part of the total training effort. Frazis, *et al.* (1998), for instance, estimated that for every hour of formal training there were two hours of informal training. Bishop (1991) in a study of new hires in the first three months after joining the firm found that formal training was only 11 of 133 hours of training he identified:

- formal training programs (11 hours);
- watching others do the job (rather than doing it themselves) (47 hours);
- informal individualised training and extra supervision by management and line supervisors (51 hours); and
- informal individualised training and extra supervision by co-workers (24 hours).

44. Drake (1995) reviewed European studies of what he calls e-learning, experience led learning, as distinct from i-learning, instruction led learning. He concluded that, difficult though it is, it is urgent that we find out more about the types of e-learning, its relation to i-learning and the circumstances that foster e-learning, which include increased authority to make decisions and a work experience that encourages a capacity for reflection.

45. Informal education can occur in a wide range of non-work settings. The Canadian national research network on new approaches to lifelong learning has undertaken a survey on the array of adult learning activities (Livingstone 1999). They found that Canadian adults average about 15 hours per week on informal learning or vastly more than is spent in the formal education system. Expanding and integrating these types of findings into a study of the financing of lifelong learning is a major challenge.

Resources for adult learning

46. The concern of this paper is resources for learning but much of the data reported refers to education or to training, sometimes to both. The distinction is not a clear one. Formal vocational qualifications can now be acquired in the workplace in a number of countries and the distinction of vocational from general or academic education is blurring.

47. An overview of the levels of public and private expenditure on educational institutions is given in Table 2.12. OECD countries spend on average 6 per cent of GDP on education. In addition, public subsidies to student living costs amount to about 0.3 per cent of GDP but are notably much higher than this in Sweden and Denmark (OECD 2000a, Table B1.1a).

Table 2.12. Public and private educational expenditures as per cent of GDP

	1997			1990	
	Direct public expenditure for educational institutions	Private payments to educational institutions	Total public and private expenditure for educational institutions*	Total for tertiary educational institutions	Total public and private expenditure for educational institutions
Australia	4.3	1.1	5.6	1.7	4.9
Austria	6.0	0.4	6.5	1.5	m
Belgium (Fl.)	4.8	0.4	5.2	0.9	m
Canada	5.4	0.7	6.5	2.0	5.7
Czech Republic	4.5	0.7	5.2	0.8	m
Denmark	6.5	0.3	6.8	1.2	6.4
Finland	6.3	x	6.3	1.7	6.4
France	5.8	0.4	6.3	1.2	5.6
Germany	4.5	1.2	5.7	1.1	m
Greece	3.5	1.4	4.9	1.2	m
Hungary	4.5	0.6	5.2	1.0	5.3
Iceland	5.1	0.6	5.7	0.7	4.8
Ireland	4.5	0.4	5.0	1.4	5.2
Italy	4.6	0.1	4.8	0.8	m
Japan	3.6	1.2	4.8	1.1	4.7
Korea	4.4	2.9	7.4	2.5	m
Luxembourg	4.2	m	m	m	m
Mexico	4.5	1.0	5.5	1.1	m
Netherlands	4.3	0.1	4.7	1.2	m
New Zealand	6.1	m	m	m	m
Norway	6.6	m	m	1.4	m
Poland	5.8	m	m	m	m
Portugal	5.8	0.0	5.8	1.0	m
Spain	4.7	0.9	5.7	1.2	4.9
Sweden	6.8	0.2	6.9	1.7	m
Switzerland	5.4	0.5	6.0	1.1	m
Turkey	m	m	m	m	3.2
United Kingdom	4.6	m	m	1.0	m
United States	5.2	1.7	6.9	2.7	m
Country mean	5.1	0.8	5.8	1.3	5.2
OECD total	4.8	1.2	6.1	1.7	5.0

* includes public subsidies to private sector for expenditure on educational institutions

Source: OECD 2000a Table B1.1a, c

48. Public expenditure makes up about 85 per cent of the total. Korea, US and Japan have notably high rates of private expenditure and most European countries have low rates. For most countries where comparative data are available the total expenditure on educational institutions has risen faster than GDP in the 1990s. The rate of private expenditure is growing relatively rapidly in the countries for which data is available (table 2.13).

Table 2.13. Index of the change in public and private expenditure on education between 1990 and 1996, by level of education (1990=100)

	Primary and secondary education			Tertiary education		
	Direct public expenditure for educational institutions plus public subsidies to the private sector	Direct private expenditure for educational institutions	Total direct expenditure from both public and private sources for educational institutions	Direct public expenditure for educational institutions plus public subsidies to the private sector	Direct private expenditure for educational institutions	Total direct expenditure from both public and private sources for educational institutions
Australia	117	146	120	137	190	150
Austria	127	m	m	141	m	m
Belgium (Fl.)	109	m	m	105	m	m
Canada	111	128	112	111	145	120
Denmark	115	x	x	114	x	x
Finland	93	x	90	135	x	128
France	114	101	113	135	115	131
Hungary	60	96	62	60	235	73
Ireland	136	90	134	156	167	159
Italy	85	m	m	78	m	m
Mexico	149	m	m	95	m	m
Netherlands	104	112	105	92	126	95
New Zealand	132	m	m	135	m	m
Norway	110	m	m	129	m	m
Portugal	140	m	m	149	m	m
Spain	113	118	114	142	201	152
Switzerland	109	m	m	99	m	m
United Kingdom	110	m	m	143	752	148

Source: OECD 200a, Table B1.2

49. Nearly 65 per cent of educational expenditure is for primary and secondary education and about 25 per cent is for tertiary education (with the remainder for pre-primary or undistributed). Much of the tertiary expenditure is for school leavers rather than for adults. A rough estimate taking account of the participation rates shown in table 2.6 is that only about five cent of all educational expenditure is devoted to persons aged 25 and over⁵.

⁵ Australia has one of the highest rates of educational participation of adults of any OECD country. About 60 per cent of Australia's non-university tertiary students and about 40 per cent of its university students are aged 25 or over. Of the university students aged 25 or over only 30 per cent are full-time students compared with 80 per cent of those aged under 25. Many of the older *non-university* students are in very short courses. Therefore the share of tertiary resources going to persons 25 and over is much smaller than the share of the head count of enrolments – perhaps a third of tertiary resources compared with over half the enrolments. Across the OECD the share of tertiary resources going to adults would be smaller than the one third estimated for Australia. Given that about a quarter of all education resources go to tertiary education (as indicated in Table 2.12) then a rough estimate is that about five cent of all education expenditure is devoted to persons aged 25 and over.

Labour market programs

50. Governments in most OECD countries provide programs to help unemployed persons gain employment. These in part involve training. Table 2.14 indicates that about 0.2 per cent of GDP is on average directed at training for adults. The programs are most extensive in the Nordic countries with Denmark having the highest levels. Such training programs often appear to yield low benefits (OECD 1998b, p.61) but it must be remembered that they often focus on those who without the intervention would be likely to remain unemployed. The criteria of monetary economic returns may not be appropriate. The programs may also have social effects in terms of lower crime and better health.

Table 2.14. Public expenditure on labour market programs as per cent of GDP

1999 or year stated	Active labour market programs	<i>Of which</i> - labour market training for adults
Australia 1997-98	0.5	0.1
Austria	0.5	0.2
Belgium 1998	1.3	0.3
Canada 1998	0.5	0.2
Czech Republic	0.2	0.0
Denmark	1.8	1.0
Finland	1.2	0.4
France 1998	1.3	0.3
Germany	1.3	0.4
Greece 1997	0.4	0.1
Hungary	0.4	0.1
Ireland 1996	1.7	0.2
Italy	1.1	0.3
Japan 1998-99	0.1	0.0
Korea 1998	0.5	0.1
Luxembourg 1997	0.3	0.0
Mexico	0.1	0.0
Netherlands	1.8	0.3
New Zealand 1998-99	0.6	0.2
Norway	0.8	0.1
Poland 1998	m	0.0
Portugal 1998	m	0.3
Spain	0.8	0.2
Sweden	1.8	0.5
Switzerland 1998	0.7	0.2
United Kingdom 1997-98	0.4	0.1
United States 1998-99	0.2	0.0

Source: OECD 2000b, Statistical Annex Table H

Resources for firm-based training

51. Whereas adults were estimated to receive only 5 per cent of the spending on education they receive the large bulk of training expenditure⁶. Many more adults participate in in-house and external training courses than undertake study in educational institutions, though the hours per person are low in these training courses compared with the hours per person for those enrolled in the education system.

⁶ e.g. Australian data for wage and salary earners indicate that whereas persons aged 20 to 24 have the highest rate of education enrolment the highest incidence of training courses is among persons 35 to 44.

52. Table 2.15 provides estimates of employer expenditure on training for European countries as a percentage of total payroll costs. The average is 1.6 per cent with a low of 0.8 per cent for Italy and 2.7 per cent for the United Kingdom.

53. Lynch and Black (1998) attempt to put the level of expenditure on enterprise-based education and formal training in the U.S. in perspective. Various estimates suggest that such expenditure is between 10 and 40 per cent of the total of expenditure on K-12 schooling and of public and private higher education. A similar estimate can be made for Australia where Employer expenditure is estimated at about 2.5 per cent of gross wages and salaries or about 1 per cent of GDP. It is equivalent to 15 per cent of all expenditure on education and training. About half of employer expenditure is for the wages and salaries for the employees while training and about half for the provision of the program.

Table 2.15. Employer expenditure on training as a percentage of total payroll costs

Belgium	Denmark	Germany	Greece	Spain	France	Ireland	Italy	Luxem- bourg	Nether- lands	Portugal	U.K	Total (EU12)
1.4	1.3	1.2	1.1	1.0	2.0	1.5	0.8	1.3	1.8	0.7	2.7	1.6

Source: Commission Européenne (1999), p.50.

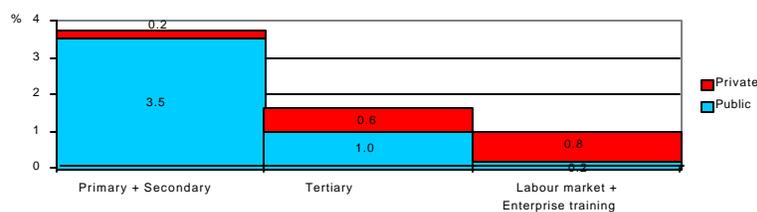
54. Estimates of participation in continuing education and training were given in Table 2.7. The OECD (1999a, table 3.9) has estimated the hours of career or job related training an adult could expect between the ages of 25 and 64. The estimates vary from a low of 217 hours for Switzerland (French) to a high of 2627 for New Zealand, with an unweighted average for the OECD of 1288 hours. This total of 1288 hours could be seen as equivalent to a little more than one year of schooling. This can be compared with the estimated school expectancy (full and part-time) for OECD countries of 16.4 years (OECD 2000a Table C1.1).

Summing up: public and private financing of learning

55. Public expenditure has been expanding but private expenditure has been growing even faster. The distribution of public and private shares of financing of learning reflects the degree of consensus as to the extent to which learning constitutes a “public good” - something that provides benefit to society as a whole, and that therefore, should be publicly financed. Figure 1.1 breaks down the total finance of learning activities in the OECD area into three sectors: schools, tertiary and enterprise based training and labour market training.

56. Compulsory education, widely viewed as a public good, is almost entirely publicly supported. The private share goes toward covering costs in private schools, though even there, public authorities often pay a substantial share of total costs. The larger private share for tertiary education reflects the more ambiguous view about public vs. private responsibility. As discussed in Section 3 though there are unambiguous social gains from university education, there are substantial earnings premia for tertiary graduates relative to less qualified persons that justify a greater private share of the financial burden. Moreover, even in countries where the direct costs are free, individuals and their families pay a substantial share for indirect costs such as living expenses, to say nothing of foregone earnings. Finally, for adults, enterprise outlays far outweigh the government outlays for labour market training.

Figure 1.1. Public and private shares of education and training outlays (per cent of GDP)



Source: OECD

The outlook for resource requirements for adult learning

57. Adults find themselves in a world in which their learning needs are changing in ways that were never anticipated by the policy makers, administrators and teachers in the formal education systems of earlier decades. As a result, existing arrangements for adult learning are inadequate. Putting them right, and in particular, ensuring that the most disadvantaged are served, is likely to be expensive (OECD 1996a, Ch. 8, OECD 1999c, OECD 2000c). The OECD Secretariat has tried a number of alternative approaches to estimate the scale of the challenge.

- One is to estimate the number of adults that had less than an upper secondary education and were therefore likely to be in need of attention. The target used in calculating the estimates were set so as indicate the number of poorly qualified adults in excess of the *median* proportion (for all countries) of adults with less than an upper secondary education, and the number in excess of the proportion in *good practice countries* (the top 4). The scale of the challenge appears staggering in some countries, entailing number far in excess of the numbers enrolled in secondary education, for example (see table 2.16). Though this estimate takes account of one measure of need, it fails to indicate the volume of training that might be involved.
- A more refined approach is to estimate the increase in the total volume of training needed to increase the participation of persons with less than a secondary education to the level of participation of those with an upper secondary education. These estimates, for a more limited number of countries ranged from a slight increase of less than 3 percent in Canada, to more than 37 percent in Ireland, (see table 2.17). However, such estimates are misleading inasmuch as the increase in necessary capacity would need to be adapted to the learning needs of poorly qualified individuals.
- A more refined approach yet is to consider the volume of training taken already by poorly qualified adults, and then estimate the increase in such a volume so as bring the participation level of that population up to the participation level of adults with upper secondary education. This suggests that substantial increases are needed, doubling or even tripling the volume of training for poorly qualified persons that was observed in the mid-1990s, (see table 2.18). In some countries, such as the United States, though the overall increase in volume is small (less than 8 per cent), the increase in volume of training for poorly qualified is more than 200 percent.

- Still another approach is to calculate gaps in participation on the basis of country-specific goals and objectives, estimate the public cost of closing such gaps on the basis of unit costs in formal education and labour market programmes, and to then express such costs as a percentage of GDP. A number of countries that prepared reports on issues related to financing of lifelong learning estimated costs that were in the range of 0.2 - 1.0 percent of GDP, with Hungary estimating public costs at 2.8 per cent of GDP (OECD 2000d, annex 3).

Table 2.16. Ratio of the adult population to be served under different policy targets compared to secondary education enrolment (figures expressed as ratios), 1996

	Median*	Good practice
	36.8	18.5 (Germany)
Australia	0.25	1.01
Austria	0.00	0.57
Belgium	0.50	1.43
Canada	0.00	0.32
Czech Republic	0.00	0.00
Denmark	0.00	0.94
Finland	0.00	0.89
France	0.15	1.06
Germany	0.00	0.00
Greece	1.23	2.42
Hungary	0.00	0.87
Ireland	0.56	1.35
Italy	1.67	2.90
Korea, Republic of	0.11	1.05
Luxembourg	2.82	4.35
Netherlands	0.04	1.10
New Zealand	0.12	0.86
Norway	0.00	0.00
Poland (1995)	0.00	0.58
Portugal	2.31	3.30
Spain	1.58	2.45
Sweden	0.00	0.40
Switzerland	0.00	0.09
United Kingdom	0.00	0.23
United States	0.00	0.00

* median percentage of adult population with less than upper secondary education

Source: OECD 1999c Table 1.1.

Table 2.17. Change in total volume of training to increase participation of persons with less than upper secondary education to the level of those with upper secondary education (Adults 25 to 64) (percentage increase needed)

	Total	Men	Women
Canada	2.9	7.5	1.5
Germany	8.1	5.9	8.7
Ireland	37.1	24.4	50.4
Netherlands	25.2	16.7	32.2
Poland	12.8	15.8	10.9
United Kingdom	12.0	10.7	11.9
United States	7.7	7.2	9.4

Source: OECD 1999cTable 1.3

Table 2.18. Change in volume of training provided to persons with less than upper secondary to increase their participation to the level of those with an upper secondary education (Adults 25 to 64) (percentage increase)

	Total	Men	Women
Canada	27	85	12
Germany	69	67	54
Ireland	124	84	180
Netherlands	126	97	133
Poland	109	166	97
United Kingdom	109	174	68
United States	207	149	361

Source: OECD 1999cTable 1.3

58. It is difficult to estimate accurately the costs of policies for expanding learning opportunities because historical costs probably are not a good guide to the cost of expanding existing capacity or creating new capacity. Numerous factors (discussed in the following chapter) can affect the supply of and demand for learning, especially over the longer term when the effects of entry of new providers and the emergence of alternatives to formal learning work their way through. Furthermore, with the exception of the last one, the estimates presented above are concerned with the costs of expanding learning for the poorly qualified. They do not address the resource requirements for meeting the needs of more highly qualified workers, nor do they address the costs that are likely to be borne by employers and individuals.

59. Nonetheless, it would appear that there is a need for substantial net new resources to make lifelong learning a reality for all adults. This raises the question as to where those resources will come from. There are three possible sources: improved efficiency of current spending on learning activities, thereby freeing up additional resources; reallocation of public resources from other areas of spending; and reallocation of private resources from other areas of spending. In all of these cases, increases in resources on adult learning depend on strengthening the incentives to invest in adult learning, and ensuring that adequate financial resources are available. Section III deals with the first of these by considering the benefits and how they might be increased, and the costs and how they could be reduced. Section IV considers how the necessary finance can be provided.

III. STRENGTHENING ECONOMIC AND SOCIAL INCENTIVES FOR INVESTMENT IN ADULT LEARNING

60. Section II documented the need for expanding learning opportunities for adults, and considered the possible implications for net new resource requirements. It concluded by noting that in order to ensure that adequate financial resources are available, it is necessary to strengthen the incentives to invest in lifelong learning, and ensure that there are financial means for doing so.

61. This section addresses the question of how to strengthen the economic and social incentives to invest in lifelong learning. It first presents an overview of those incentives and how they are evaluated, illustrated with evidence on rates of return from education and training. Then it examines the facts that drive costs and benefits, and rates of return, and the policy options and practices that are found or are being considered in Member Countries, that have the potential for raising rates of return - and the incentives to invest in lifelong learning.

What are the incentives to invest in lifelong learning?

62. The incentive to invest in lifelong learning for adults depends on comparing the expected benefits and costs. In principle, there is a positive incentive to invest as long as the expected benefits exceed the costs.

63. There are alternative approaches to evaluating the incentives to invest in learning in general, and adult learning in particular (OECD 1997a, pp.268-271; OECD 1998b pp.53-79). The simplest one is to compare average earnings of groups of persons that differ with respect to the incidence, volume, and type of learning activity (as shown earlier in table 2.4). That approach is of limited usefulness in evaluating incentives insofar as it ignores costs. That may not be an important problem in the case of evaluating incentives to invest in initial education first because indirect costs in the form of foregone earnings are negligible, and direct costs (for public education at least) are more or less the same for everyone. In any case, the range of alternative choices is effectively limited by political commitments to provide initial education regardless of cost. This approach is of less use in evaluating choices for adults. First, it is more difficult to specify the learning outcomes whose benefits are to be compared, insofar as adults typically participate in short-term education and training that does not lead to a degree or to a recognised qualification at all. Second, the issue of benefits relative to costs is more important in evaluating learning decisions related to adults precisely because there are competing demands for investment resources.

64. There are several approaches that evaluate costs as well as benefits (usually measured by additional earnings). All approaches, variations of the same technique, depend on converting cost and benefits to values that reflect the time preference for money. Thus, the value of future earnings are discounted by an amount (a *discount rate* - typically the prevailing interest rate) to reflect what they would be worth in the same period that costs are incurred. *Benefit - cost ratios* divide the present value of benefits by costs; values greater than 1 indicate that benefits exceed costs. *Net present value* is calculated by subtracting the present value of costs from the present value of benefits; values greater than 0 indicate that benefits exceed costs. The *internal rate of return* is the discount rate that equates present costs with net present value of future benefits.

65. There are limitations to the value of the findings based on these techniques partly because of data limitations. First the data on earnings typically used in the estimates are cross sectional data on persons by age and qualification at a particular time, often at a high degree of aggregation by type of qualification. In part, the additional earnings are due to factors such as ability and motivation though statistical analysis

suggests that most is due to education. The data indicate a high variability of earnings by age and qualification. The data on education and earnings are at best a rough indication of what any individual let alone a person of mature age could expect to earn in the future on completing a qualification. Very little cost estimation is undertaken that accounts for the actual time students spend in post-secondary education and training and the probability of course completion.

66. Second, the relation between benefits and costs is influenced by the extent and manner in which non-monetary benefits and costs, externalities and options and contingencies are included. Non-monetary benefits may include the personal satisfaction of self-development for an individual, or a higher degree of employee motivation and loyalty for an employer. Non-monetary costs for an individual may be the time that learning activities take away from family responsibilities. Positive externalities may include the improvement in societal welfare from having persons with higher levels of competence. Not only may learning equip an individual to carry out a current job more effectively, it may position that person to undertake entirely new tasks; this may increase a company's functional flexibility and enable it to capture part of the benefits of the education and training the person has completed.

67. Third, the incentives to invest in learning depend on the perspective from which benefits and costs are evaluated. From the perspective of an individual or employer, the *private returns* depend on how much of the full cost each pays, how much of a wage premium extra qualifications earn in the labour market which are usually seen to depend on how much such qualifications boost productivity. For individuals, returns depend on how much additional income is taxed away; for an employer they depend on how much of the gains from increased productivity can be captured as higher profits rather than paid to the employee. From a governmental point of view, the *fiscal returns* depend on how much of the full cost is borne by government, and how much of the benefits in the form of higher earnings can be recovered through taxes. For society as a whole the estimation of *social returns* should include all external effects. This may include the beneficial effects of more qualified persons on adaptability of the labour force or improved health and a reduced incidence of crime.

68. There is a rich body of evidence on the incentives to invest in education and training. Its coverage is limited, however, mostly to measures of relative earnings and rates of return to initial education in the formal sector (secondary education and tertiary education). Benefits and costs tend to be narrowly defined. Most analysis is concerned with private returns to individuals, with little on returns to employers and even less on fiscal or social returns.

69. Although it is possible to infer from this evidence certain conclusions about the likely returns for adults, direct evidence on returns for adults is limited. Evaluating returns for adults is more difficult because the learning outcomes are more diverse and less commonly signalled in formal degrees and diplomas. The various costs and benefits are difficult to observe, and participation is variable across countries, groups of adults, sectors, and the size of firms.

70. Evidence on incentives to invest in education and training in general, and adult learning in particular is presented below. On balance, it supports the argument that additional investment in adult learning can be justified on efficiency grounds. It also provides the context for the discussion in the following sub-sections on why we observe the incentives that we do, and how those incentives might be strengthened.

Returns from formal education

71. The economic benefits of formal education have been well documented. The association of qualifications with earnings can be estimated for most countries. It is clear that those with tertiary level

qualifications, on average, earn well in excess of those for persons with lesser levels of education as shown in table 2.4. They also have higher rates of labour force participation and lower rates of unemployment as shown in table 2.3.

72. Table 3.1 shows estimates of university tertiary education. Three rates are shown for both men and women - for university education compared with upper secondary education. The private rates are based on all forms of additional after tax income to age 64 compared with additional private costs and income foregone. The fiscal rate is based on the additional net tax receipts to government compared with public costs of university education and taxes lost on earnings foregone during the time of study. The social rates take account of both public and private benefits and costs associated with additional education.

73. The social rates do not include any estimate of external and non-monetary benefits of education such as: improved health, reduction in unwanted pregnancies, reduced crime (OECD 1998b, pp.66-68), or benefits to employers in excess of the benefits captured by the employee's earnings. Nor does it account for improved social cohesion that is seen as a potential consequence of greater access for all to continued learning. Social cohesion is given attention in the burgeoning discussion of social capital. Social capital is concerned with networks, implying that trusting relationships are good for social cohesion and for economic success (Schuller 2000).

74. Table 3.1 shows that in general the private rates are in excess of 10 per cent. The rates are 20 per cent or more for men in France and for women in France, Australia and Canada. (OECD 1997a, Table E5.1). The rates for females with university qualifications are based on their earnings compared with women with upper secondary education - not with the earnings of male graduates. The relatively very high labour force participation rates of females with university qualifications shown in table 2.3 are a factor in the high rates of private return shown. The lowest social and fiscal rates are 7 per cent, except for fiscal rates in Sweden where free tuition and a compressed wage structure affect the rates. But it needs to be remembered that the fiscal and social rates do not include an important range of social and economic external benefits (OECD 1998a, p. 362).

Table 3.1. Estimate of private, fiscal and social rates of return to education at the university level, by gender (1995)

	Men			Women		
	Private	Fiscal	Social	Private	Fiscal	Social
Australia	14	10	11	21	10	13
Belgium	14	9	9	8	13	9
Canada	14	7	9	21	7	11
Denmark	8	8	8	7	8	8
France	20	11	13	28	9	13
Sweden	m	6	9	m	4	7
United States	11	9	10	12	9	11

Source: OECD 1998a Table F8.1

75. The estimates of rates of return presented in table 3.1 confirm that education is often a good investment even without the consideration of external benefits. However their relevance is limited for the issue of investment in the education of adults and of disadvantaged adults in particular. Box 3.1 provides a summary of some of the issues in interpreting the available estimates of rates of return for adults.

76. Even if an older person received the same earnings when they completed their course as persons who completed the education when in their early twenties they would have less time to recoup their investment. They may face a relatively high level of tax if the income tax system of their country is progressive. And the costs of temporarily leaving the workforce for full-time study would be much higher

than if the course were undertaken when younger. Wolter and Weber (1999) show that educational investment for persons beyond 40 in Switzerland may not be a good investment - if the individual has to bear the costs and if it is considered that a 10 per cent return is the yardstick for a reasonable return.

77. For less advantaged adults, especially those experiencing long term unemployment, the assumption that they could access the earnings levels of persons who attained tertiary qualifications when young does not seem very plausible. On the other hand, their costs are low too. For example, the unemployed (assuming that whatever financial assistance they receive continues) do not suffer 'earnings foregone' while undertaking further education and training.

78. The likelihood of the less advantaged completing a tertiary course will be relatively low. The rewards from education and training are greater for completion of courses rather than partial completion. Rewards and completion rates are also likely to be greater if students are able to undertake courses related to their aptitudes and abilities, taught in a mode appropriate to their capacity and maturity.

Box 3.1. Rates of return to education: interpreting them for older adults

- The estimated rates of return in table 3.1 apply to persons taking university courses at the most common ages (typically completing in their early twenties) and then having a workforce experience and income over a lifetime indicated by recent cross section data (OECD 1997a, p.383).
- The level of aggregation across a variety of courses means that the data may not indicate what a person taking a particular course might expect.
- The income foregone for older persons in employment will generally be higher than for younger persons, though earnings foregone could be lower if:
 - the course can be taken in conjunction with employment e.g. part time basis, or
 - taken more quickly with recognition of prior learning, or
 - the person is currently jobless.
- The period of additional earnings for an adult will be shorter – though this will not be important if the person has ten or more years to remain in the workforce.
- An older person taking a course may not have access to the same earnings stream as a younger person.

Returns from labour market training for unemployed

79. Analyses of public training programs for the unemployed do not in general indicate a substantial effect on earnings or employment, however there are some programs that do work especially for adult women (Martin 2000, p.93, OECD 1998b, pp.61-3). Martin notes that the available literature does not provide satisfactory answers as to why some programs work for some target groups such as adult women and not for others. Establishing links with local employers is seen as important though there is then the concern that those placed in employment may displace individuals who did not participate in the program. In the US the gains in annual earnings have typically not been large enough to lift families out of poverty. The main effects are on job opportunities rather than on earnings per hour (Bennici *et al* 1999, p.39).

Returns from firm based and other forms of continuing training

80. Much of the analysis of the effects of employer provided training reports on effects on the wages of employees. The benefits to firms are in the increase in productivity, not the increase in what they pay to their workers. The benefits to firms' and therefore their incentives to invest in training will be greater:

- the greater the increases in productivity of the employees trained;
- the greater the period of work or the retention of workers while the training is still effective;
- the smaller the proportion of the benefits of the productivity that are paid to the workers in higher wages and salaries; and
- the more effective is the training and the firm’s awareness of its benefits.

81. A range of studies on the benefits of training to firms are summarised by the OECD (1998b Table 4.2). The conclusion is that:

- ‘some of the gain goes to workers in wages and some is kept by firms: it has been estimated that the two shares are roughly the same size’;
- ‘enterprise-based training has the greatest impact on performance when undertaken in connection with changes in work organisation, job structure and in some instances technological innovation’. (OECD 1998b, 61)

82. There are a number of reasons why firms reap a substantial proportion of the benefits of general training (of use to more than one employer) as well as of specific training. The reasons suggested include:

- that other firms may not recognise the usefulness of the skills of workers trained by a particular firm (Bishop 1996);
- that workers and firms face costs when changing jobs (Acemoglu 1997); and
- that wage compression caused by industrial arrangements may mean that wage increases are less than the increased productivity of the workers (Acemoglu & Pischke 1998).

83. A range of research studies suggest that the provision of training in firms leads to wage increases of average of about 8 per cent – a very large amount in response to training courses often as short as a week. The estimates of the size of the effect varies between studies (Blundell, *et al.* 1996). It does appear, as expected, that general training has larger wage effects than specific training and that longer courses produce larger wage effects. It is less clear that formal training has larger effects than informal training, that off-the-job training has larger effects than on-the-job training or that employer-supported training has a larger effect than non-employer supported training⁷.

⁷ It was long assumed (following the arguments of Becker 1964) that firms would not pay for general training, training of value to other employers, on the grounds that they would either have to pay their workers the increase in their productivity or lose them to another employer. Firms would pay some if not all of the costs of training specific to their own workplace. They might pay the specifically trained workers more to reduce labour turnover. Workers likely to benefit from training would bear part of the cost of training in the form of lower wages. However, apart from apprenticeships and traineeships, there is little empirical evidence of a training wage. Those being trained are not paid less than those not being trained (Stern 1996).

Factors changing the outlook for firm-based training

84. There are a number of aspects of the current global and technological change and workforce reorganisation that are increasing the incentive to invest:

- there is a continuing shift, on average, to industries and occupations that appear to require an increased level of skills;
- work reorganisation means that within many occupations there is a change in the skills required often to a higher level e.g. in the skilled trades from repair to diagnosis and preventive maintenance;
- increasing global competition means there is an increasing emphasis on the skills of workers to provide firms with a competitive edge – workers in ‘high-tech countries’ receive more training, though it is not clear that firms facing increased competition increase their levels of training;
- there is an increasing use of new technology which at least at the time of its introduction requires an increase in the level of training (ABS 1998b); and
- the rate of technological change means that knowledge and skills are becoming obsolete at a faster rate.

85. However, there are also forces working to decrease the incentives to firm-based formal training and for particular groups:

- the growth in part-time and casual work in some countries means that an employer (and an individual) has less work or less certainty of employment from which to recoup the investment;
- there is some tendency over time for low educated workers to be less secure in their employment (OECD 1997b, 143).
- the continuing relative growth in the private sector which does not provide as much training as the public sector;
- the decline in union membership, as unionised workplaces have been associated with greater levels of training;
- an increase in self employment which is associated with lower levels of training; and
- a higher aggregate rate of unemployment, reducing the incentive that a tight market gives to retain workers and train them (Stern 1995, 174).

86. It is hard to sum up the net effects of these changes. Thurow’s view of the US is stark: “Since the needed skills will depend on the new fast-moving technologies being deployed, many will have to be created in a joint on-the-job training effort between employees and employers. But individuals no longer have lifetime careers with one company, companies no longer have lifetime employees. The result has been the gradual destruction of existing on-the-job training systems” (Thurow 1999, p.132). There is evidence in some countries of a decline in the quantity of firm based training in recent years (e.g. ABS 1997, 1998a).

What factors drive the costs and benefits that underlie the incentives to invest?

87. Strengthening the incentive to invest in adult learning depends on raising benefits and/or reducing costs. Economic benefits can take the form of higher earnings and enhanced mobility and employability for individuals; higher productivity and profitability for employers, higher tax revenues to public authorities thanks to higher individual earnings and employer profitability. Both the levels and flow of benefits (the flow referring to who enjoys them) vary according to policies and institutional arrangements. Thus the benefits of learning depend on:

- *the inherent quality of learning and its impact on the knowledge, know-how, competence, and performance of an individual, enterprise and an economy*; this depends on considerations that influence the quality, timeliness, and relevance of learning outcomes;
- *the extent to which learning outcomes and their actual or potential impact are signalled, recognised, and utilised in the labour market and within enterprises*; this depends on the presence of systems for assessing and recognising learning outcomes; provisions in hiring, human resource management, and collective bargaining practices that take account of learning activities and outcomes;
- *how the benefits of learning are allocated*; this depends on how the fruits of learning are allocated between wages for employees and profits for companies; how much of the increase in earnings and profitability is taxed.

88. The costs of learning include direct (fees) and indirect (travel, rental of facilities, e.g.) costs of the provision of formal education and training; costs to firms of wages paid/output lost during training - or income foregone by individuals; and foregone leisure time. Costs depend on factors such as:

- *the content of learning activities and who provides them*; this depends on flexible approaches to teaching and learning, such as those using information and communication technologies (ICT) to permit distance learning, or learning in the workplace; choice among formal providers, and whether there are barriers to entry of new providers; the conditions under which formal learning approaches more cost-effective than non-formal learning approaches, and vice versa; the extent to which non-formal learning can be substituted for formal learning, and vice versa;
- *the duration of learning activities*; this is important because it determines the scale of foregone earnings/production; it is influenced by the extent to which learning providers compete on the basis of duration of learning activities; it depends also on the extent to which prior learning can be reliably evaluated and duplicative learning be reduced;
- *how costs are allocated*; as in the case of benefits, costs may be allocated to different parties; employers may bear the cost of foregone production if learning activities occur during work time and are not compatible with production; employees may bear the cost in the form of foregone earnings, if they have to cease work during learning activities, or foregone leisure, if they do it during non-work hours. Governments may assume part of the costs of learning activities if they allow employers or employees to deduct the cost of learning activities from income;
- *the abilities and attitudes of the trainees* that affect their willingness and capacity to learn at a particular rate or with various learning methods.

89. It is argued that the expansion of adult education and training ought to encompass alternative modes of delivery more suitable to adults and especially for those who were not successful in education as children. The costs of these alternatives compared with existing major forms of delivery is not yet known. However the evolving forms of delivery will still include the major resources: teachers, administrative and support personnel, materials, equipment and buildings. Hence a discussion of those factors and the ways of reducing them is relevant to new as well as existing forms of educational provision.

What policies and practices raise benefits and reduce costs?

90. The benefits for individuals acquiring further education and training will be greater if by potential employers can be made aware of the skills, knowledge, and other capabilities they have acquired. A system of qualifications which are understood and recognised throughout the country is seen as contributing to this. These national systems generally involve arrangements for the recognition of prior learning including workplace learning. Such systems are being developed in several countries including Australia, Austria, Denmark, Hungary, Italy, Netherlands, New Zealand, Norway and UK. How effective they have been is yet to be determined. Greenhalgh (1999, p.108) concluded that 'the UK has yet to achieve a transparent system of reliable vocational qualifications, which can be broadly marketed as individual property rights across labour markets'.

91. To the extent that individuals make choices and plan their own pathways it is necessary to improve the range of learning and job information available. Levin (1998) sees this as a major role for governments "to establish an information system on lifelong learning opportunities that includes data on availability, cost, subsidies and markets for trained personnel in a variety of occupations as well as individual data on providers" (Levin 1998, 210).

92. A number of countries have developed models for forecasting employment by occupation which is part of the data required on occupational opportunities by region. Such forecasting systems are important in providing a coherent picture of possible job futures. In the Netherlands, Canada, USA and Australia this work has been enhanced by estimates of the jobs for newcomers or re-entrants to the workforce created by labour turnover (Willems & de Grip 1993, Boothby et al 1995, Eck 1991, Shah & Burke 2000).

93. There is a wide range in the qualification levels among persons in most occupations so that an information system will never be able to provide a simple link between education and training and jobs. There is also likelihood of a large forecasting error in the pattern of change in an economy and in the number and distribution of jobs. Even the best forecasting models draw much of their base data from past trends. Any forecasting system needs to be supplemented by local and recent information and from informal sources, especially from employers, on emerging occupations and their views on the appropriate training for them.

94. Data from such information systems are used to a minor degree in planning the provision of subsidised places in education or in training programs, as in old fashioned 'manpower forecasting'. They are mainly used to provide advice on job opportunities and the education and training associated with them.

95. Getting job and education information in a form suitable for job and education seekers to use is a major matter. Intermediaries may be important. The provision of 'one-stop-shops' for information on jobs, training and various forms of financial assistance have been promoted in some countries. It does seem though that there is never and will never be enough good information and counselling. It is necessary not to exaggerate the accuracy of the information that can be provided.

96. The least advantaged may not be well fitted to use and profit from the information systems. The introduction in the UK of 'Learning Direct' a help phone line for free information for adults with learning or career queries is an example of one means of making the information system more accessible (DfEE online).

Modes of education and training

97. One of the crucial issues for adults and less advantaged in particular is the mode of learning offered to them. Many of them have been failures in the formal education system, some with poor attendance records. The reluctance of some of the low skilled to attend at all regularly at government sponsored literacy or training classes can be cited (Drake 1999, 11). The apparent low rate of benefit from basic education classes is also noted by Barnow & King (1999, p.338). Key issues are self-confidence and motivation to take part. Hence the importance of a range of settings including community centres and the workplace alongside formal education. Providing finance will not be enough. It will be necessary to monitor and support appropriate modes that recognise their levels of prior learning and culture.

ICT

98. The new technologies and the internet offer huge possibilities for the adult population in general though not necessarily for the less advantaged. Even though the costs of access are tumbling the less advantaged may still lack the means. They may also lack the necessary skill and confidence in using computers. Unless there is careful support for their access the new technologies could increase rather than decrease disadvantage.

99. New technology is seen as the means of providing increased access to learning at fairly low cost in the education system and in the workplace. The usual high initial costs of course development in using the new technology must be noted though there are examples of low cost provision. There is also a very strong need for expenditure on staff development if the new technologies are to be used to provide quality education and training (OECD 2000d, pp.40-44).

Improving programs for the unemployed

100. Identifying what works for the unemployed is a crucial issue. Barnow and King (1999, pp.161-67 and 336-41) identify successful programs in the US as including those that:

- are targeted on those most in need;
- have close links to local labour markets, drawing on up-to-date labour information (though Martin (2000, p.93) notes the concern about displacement of other workers);
- have longer term occupational training, rather than short programs directed at immediate labour market attachment;
- provide basic skills in the context of occupational training rather than in stand-alone education programs;
- have employers engaged in the design of training and if possible the provision of on-the-job training;

- encompass support services such as child care; and
- include performance management practices that promote successful outcomes, though not rigid performance standards insensitive to particular needs.

Strengthening incentives to invest in firm-based training

101. As discussed many of the returns arising from training are received by the employee in higher wages or, if the employee leaves, by other firms. Any steps a firm can take to increase its retention of its trained workers without providing pay increases appears likely to lead to an increased return on its investment. Hence contracts of employment as in apprenticeship schemes, superannuation schemes, permanent employment and the provision of a career structure may all contribute to the firm recouping more of its investment in training. One of the reasons why small firms provide less training is that they are at greater risk of losing workers they train. On average smaller firms tend to pay lower wages. They also have fewer career opportunities within the organisation to help retain their workers.

102. The problem of losing the investment in trained workers can be mitigated by tacit agreements not to poach workers, sustained by chambers of commerce most notably in Germany. Establishing these arrangements in countries where the social and political framework is dissimilar to Germany may not be at all easy. Failing these means, there may be a case for government grants to offset part of costs, especially the costs of transferable in-service training (Dougherty 1997, p.41). Such issues are considered in Section IV.

103. The regulatory structure, and the costs of non-compliance, may affect the incentives for firms to invest. France for example provides relatively more training for the less skilled employees than does the UK. This perhaps reflects the greater obligation to train in France (firms with more than ten workers being required to spend 1.5 per cent of the wage bill on training) and the higher costs associated with dismissal (Hocquet 1999, pp.248-9).

104. More effective training or greater understanding of its effects will also bring increased benefits and hence increase the incentive for firms to invest. A survey in Australia (ABS 1998b, p.11) found for employers who do not provide training that while cost or time considerations are important factors the most nominated reason for not providing training is that current employees are adequately trained. This may well be true in the current mode of operation but it could reflect lack of knowledge of training and its benefits.

105. While knowledge of the outputs and returns to the formal education system have been well known since the 1960s (see table 3.1), the methods of estimating them have little if any application at the enterprise level (Westphalen 1999, p.7). The promotion within enterprises of the measuring and reporting of intellectual capital (OECD 1999b) is a more promising means of raising awareness of the value of investment in training and the subsequent better planning and monitoring of that investment. It is unlikely that firms will make effective use of their training investment if they have little idea of its allocation across the firm and little monitoring of the benefits.

106. One of the best known schemes to date is the Investors in People (IIP) in the UK. By early 1999 some 33,000 organisations covering a third of the total workforce had committed to the standard framework for training. The large majority of organisations involved see it as important for morale, workplace relationships, skills, quality of product, customer satisfaction and financial performance (Westphalen 1999). A more cautionary note on IIP is from Greenhalgh (1999, p.106) who says that ‘the

proportion of employers meeting the criteria for designation is only a fraction of the government's target levels'.

107. Governments assist firms in defining the types of training needed in particular occupations. In some countries, notably UK, Australia and New Zealand, industry training boards have been established with a major task of identifying the competencies required for a wide range of occupations. Modes of assessing competencies are also defined. In some cases these developments are linked to a nationally recognised system of qualifications, which as already discussed, should enhance the market value to an individual of the learning acquired.

108. These developments are associated with the production of materials to be used for instruction and particularly for assessment in the workplace. The costs involved in materials development prior to their use in training are substantial and are largely borne by government. They provide the prospect for an increase in structured training to occur in the workplace with reduced cost to the employer. The formal assessment of competencies may require that persons with qualifications in carrying out assessment are engaged by the firms or that the assessment is contracted out to training institutions⁸.

109. Small and medium employers who currently provide the least training are likely to be the main beneficiaries of these government activities. Larger employers are more capable of financing training facilities, identifying training needs and organising in-house and external training. The effect on the level and quality of training of these developments are yet to be well assessed.

110. There are some potential conflicts between changes that increase incentives for individuals to seek training and the interests of the firms providing training. The spread of national schemes for the wider recognition of training provided in the workplace will tend to reduce the extent to which the training in one firm is hidden from others. Similarly the widening of the distribution of earnings may create incentives for individuals to invest, but it seems that wage compression may create incentives for employers to invest.

111. It is unlikely that policy related to training will have a major bearing on the economy wide distribution of earnings by education or training in the medium term. The main information to be fed into the policy process may be that the incentives will be greater for the individual in the economies with a large variation in earnings by education and training and for firms in other economies.

Strategies for reducing costs

112. Box 3.2 provides a classification for considering the major elements of costs in educational institutions and policy options for reducing them. The major cost in education and training is for personnel. Personnel costs account for over 70 per cent of current expenditures in primary and secondary education and about half of the total in tertiary education (OECD 1998a, Table B5.1). For enterprise-based training, personnel costs also include the wages for the time workers are paid for off-the-job training courses.

113. Attempts to economise on capital costs often involve merging institutions in the hope of achieving economies of scale. Usually the annual costs of the use of capital facilities are not a matter for

⁸ Training in the workplace usually involves mentoring on-the-job and less formal instruction than training delivered external to the workplace (Symmonds *et al* 1999). The training and the learning are likely to be qualitatively different in the workplace though there are instances of workplace and campus based training leading to the same qualification.

the budget of a public educational institution so it has no reason to try to economise on them. The increasing use of accrual accounting should draw more attention to the annual costs of facilities.

Box 3.2. Classification of costs and policy options for education institutions

Cost area	Main source of cost savings	Policy options
Teacher costs	Reduction in student hours of class attendance	Ministry directives to take more student units for a given budget Ministry monitoring of resources e.g. with relative funding model, reports on key indicators and collection of relevant data and
	Shorten courses	Rewards to institutions or personnel linked to outcomes Development of distance and flexible delivery modes Provision of more learning materials Provision of more ICT and multimedia facilities
	Increase in average class size especially by eliminating very small classes	Form larger institutions or regional clusters if institutes are very small Ministry directive and monitoring of performance
	Greater use of part-time staff and specialist staff	Form larger institutions if institutes are small
	Average salary costs	Further devolution of allocation of institute budget Revise salary schedules
	Increase in teacher class hours in <i>some</i> institutions	Ministry directive and requirement to take more students for a given budget Ministry monitoring e.g. relative funding models and key indicators
	Teacher and administrator development	Ministry provision of support for teacher and administrator staff development
Equipment and buildings	Greater number of students using facilities through Increase evening and	Form larger institutes Ministry directive and monitoring of performance Introduction of accrual accounting to make annual capital cost transparent

	<p>part-time students using facilities</p> <p>Reduce hours per student,</p> <p>Lengthen operating hours per institute</p>	<p>Analysis of equipment standards in other countries</p> <p>Increased recognition of prior learning</p> <p>Devolution of management of part of equipment budget to institutes</p> <p>Provision of more learning materials</p>
	<p>Renting or leasing rather than purchasing equipment</p> <p>Allowing other institutes to use the equipment</p> <p>Greater industry use of equipment</p> <p>Use of equipment for commercial production</p>	<p>Devolution of greater part of financial management to institutes</p> <p>Putting part of the provision of training to public tender by both public and private providers</p> <p>Putting the delivery <i>in public facilities</i> to tender</p> <p>Ministerial monitoring of resources</p>
Support staff, services and supplies	<p>Reduced administrative, clerical, printing, library/resource centre costs per student</p> <p>Increased provision of learning materials</p>	<p>Form larger institutions</p> <p>Ministry dissemination of learning materials</p>
Student welfare	Greater local	Increased provision and co-ordination

	<p>provision of training</p> <p>reducing need of financial support for living expenses</p>	<p>Improve data on type and extent of public and semi-public forms of assistance to allow monitoring of effects of support by socio-economic group</p>
Central administration	<p>Changed functions for Ministries</p>	<p>Co-ordination across government departments and ministries with responsibilities for education, work and training</p> <p>Increased purchasing of places in private and public training institutions via public tendering for provision</p> <p>Greater devolution in decisions to institutions</p> <p>Broad quality supervision rather than regulation of the private sector</p>
Total operating funding	<p>Students, parents and employers</p>	<p>Increased fees backed with income contingent loans or other targeted support</p> <p>Continue with programs seeking industry co-operation and funding</p>
General efficiency	<p>Increased competition from private sector</p>	<p>Co-ordination across government departments and ministries with responsibilities for education, work and training</p> <p>Outsourcing some activities including some course delivery</p> <p>Putting part of the publicly funded training to public tender</p> <p>Funding vouchers and loans for choice in public or private institutions</p>

		Increased labour market information and career advice
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114. A crucial issue is whether expansion of the provision of education and training can be achieved at a marginal cost less than current average cost. This is not at all clear in the workplace though various activities of government in providing an infrastructure to promote training may help to reduce firms' costs.

115. Costs can be cut by shortening the length of courses or reducing the hours. The Netherlands in 1998 reduced from four to three years their higher vocational program for students with appropriate earlier vocational training (Baaijens *et al* 1998, 48). This shortening can also be achieved by the recognition of prior learning in the workplace so that material already mastered does not have to be taught again. Governments in some countries (e.g. New Zealand and Australia) are supporting a framework for this. The development of modular courses, competency based assessment and flexible delivery are all aimed at students progressing at their own speed so that the official time period for the course ceases to have much relevance. However, evaluation of these sorts of changes on the length and costs of training do not appear readily available. The worry in educational institutions is whether there is a reduction in course quality when the course is shortened.

116. Several forms of organisational change, included in Box 3.2, are seen as promoting the cost savings in personnel, capital or other costs. One change advocated is the better co-ordination of policies across the various ministries with responsibility for education, training and employment. This is recognised in the majority of OECD countries and some notable examples can be cited: "In Japan, for example, the Ministry of Education, Science, Sports and Culture works with the Ministry of Labour, the Ministry of Health and Welfare, the Ministry of Construction and the Ministry of International Trade and Industry on joint research surveys to foster the development and dissemination of various aspects of lifelong learning" (OECD 2000d, p.36).

117. One major change occurring in most countries is the devolution of decision making to as close to the delivery of services as possible (OECD 1996a, Ch.5). The role of central government is restricted to the provision of the infrastructure of the curriculum and qualifications framework. It monitors the outcomes rather than engaging in bureaucratic determination of resource allocation. In some cases this involves a system of funding at least partly related to outcomes, the compilation of indicators of those outcomes and incentives related to those outcomes.

118. An approach adopted increasingly in recent years is the promotion of competition among providers of training. This encourages meeting the needs of the clients – students, trainees or employers - at reduced cost. In some instances, governments have put to tender the provision of publicly funded training. This is common practice for the labour ministries in Denmark and Australia. An increasing proportion of the provision of formal vocational training courses in the tertiary sector has been put to tender in Australia, though a series of critical reviews of the quality of training have suggested a need for better oversight of the competitive system (e.g. Schofield 2000).

119. The limited evidence on the costs of structured training provided by employers indicates they are on average considerably higher per hour of training than in the formal education system. In Australia in 1996 the costs of tuition in senior secondary education or non-university tertiary courses appears to be around A\$12 per hour plus additional funding for the living costs of some students on a means tested basis (Burke 1998). The average employer expenditure on an hour's workplace training was about A\$38 – comprising about A\$20 for the training and about A\$18 for the wages of the person released for training (ABS 1997). For employers who provide training, cost and time constraints are easily the main factors in

limiting their expenditure on training and costs are an important factor for firms that do not provide training.

Conclusions

120. This section has reviewed:

- evidence of the benefits and costs of formal education and training;
- factors that influence benefits and costs; and
- some of the policy initiatives taken in countries that are likely to enhance benefits and reduce costs.

121. The purpose of this section was to discuss ways to increase the benefits and reduce the costs, whatever the political judgement or the industrial circumstances determining the distribution of who receives the benefits and who bears the costs.

122. Increasing the benefits and reducing the costs will still not be effective in encouraging an increase in investment if the firms or individuals lack the finance to undertake the investment. This is the focus of section IV.

IV. EXPANDING FINANCIAL CAPACITY FOR INVESTMENT IN ADULT LEARNING

123. The previous section has examined how to strengthen the economic and social incentives to invest in adult learning. But substantial economic and social payoffs are not enough to ensure that investment in learning occurs. There also is a need to ensure that there are adequate financial resources for such investments where they can be justified on economic and social grounds.

124. Meeting the resource requirements for expanding adult learning opportunities seems likely to require approaches that, for a number of reasons, are different from those adapted to other populations engaged in learning. First, as suggested in Section II, the volume of the increase in learning opportunities likely to be needed is substantial in most countries. Though there could be savings in initial education institutions due to greater efficiency the savings are likely to be needed for improving the quality of education and participation by young persons. Second, the costs of adult learning may be high because more there is more heterogeneity in their learning objectives (which limits the economies of scale that may be found in initial education). Also, opportunity and associated costs (e.g. income foregone during learning activities, costs of childcare) are higher than for young persons. Finally, to the extent that adult learning entails substantial private returns for individuals and employers, it can be argued that they should bear some of the financing burden, and not the public authorities as is the case for much of initial education and training. This can be problematic inasmuch as the institutional arrangements for supporting such a burden are not well developed.

125. Section II suggested that, regardless of how lifelong learning is implemented, it is likely to be an expensive proposition. This section examines strategies for ensuring that adequate financial resources are available to allow worthwhile investment in learning for adults. It considers strategies to expand financial resources for adult learning, and their impact on achieving efficiency and equity and objectives. It concludes with criteria for evaluating future options.

Strategies to expand financial resources for adult learning

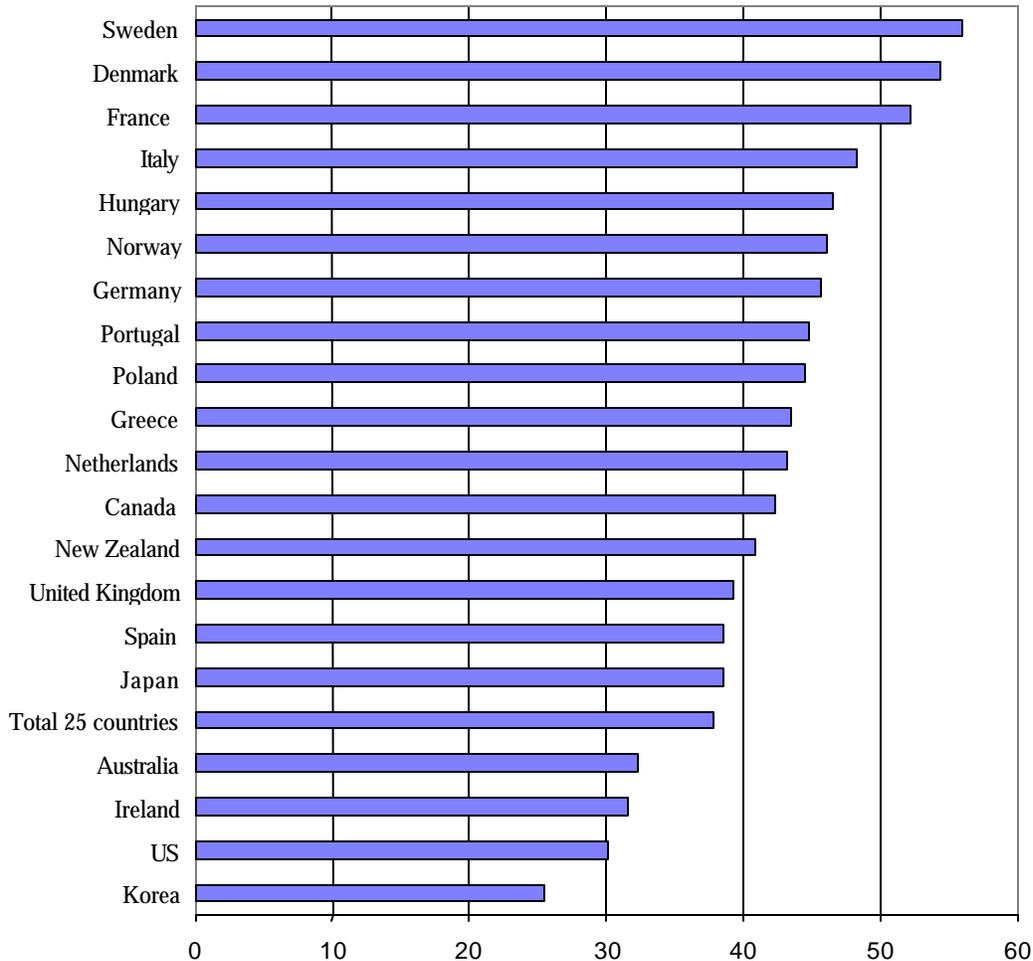
126. As discussed in Section II a major addition to educational expenditures would be required to lift the levels of participation or attainment of those adults who have e.g. less than literacy level IALS level 3 or who have not completed secondary education.

127. Several of the strategies for financing adult education and training involve government spending. It is therefore appropriate to review briefly the overall levels of government spending and the prospects for increases in these areas. In the short term most OECD countries appear to be planning to reduce the share of the GDP taken up by total government outlays (OECD 1998c). Hence expenditures for education and training face strong competition with other priorities.

128. There is considerable variation across countries in commitment to public spending in general and to educational spending. Figure 4.1 illustrates the range of general government outlays as a percentage of nominal GDP. General government outlays range from 25 per cent to over 60 per cent of GDP. Korea has the lowest levels of government outlay. There does not appear to be an overall pattern in changes in the 1990s in the general government share – several countries have experienced a growth and about as many a decline.

129. The spread in the public outlays specifically on education and training shown earlier in Table 2.12 are smaller than that in total government outlays. Other activities of government, such as social security expenditure, vary much more than education expenditure.

Figure 4.1. General government outlays as percentage of GDP 1999



130. The countries with lower total government outlays on education tend to be those with higher private expenditures on education e.g. Korea, Japan, US and Australia. In some instances the higher levels of private expenditure can simply be attributed to the governments opting out or only partly funding particular sections of education. In other instances governments have, by mandate or incentives, helped to stimulate private expenditures.

131. It appears that there is no economically determined level of public expenditures that can be tapped for the finance of lifelong learning. It is a matter of the political circumstances of each country. It is possible that the hold of 'economic rationalist' arguments in favour of small government, privatisation and deregulation are not as globally entrenched as earlier in the 1990s. As noted earlier there appear to be more countries increasing public education outlays as a share of GDP in the 1990s than reducing it.

Government direct financial support for adult students

132. Support for living expenses or for tuition in the forms of free tuition, grants or loans are available in a large number of countries. There is a tendency for these to be available for full-time, younger students in higher education. As documented, those who are able to avail themselves of these are not the most disadvantaged. The less advantaged may not have achieved the minimum education level needed for entry or may lack the motivation and aptitude to continue in the formal education system.

133. Sweden and Finland in 1997 were the only two OECD countries where no fees were charged for tuition at tertiary level (OECD 2000a, p.63). In many countries assistance is given to households for senior secondary and tertiary students in the form of grants and (subsidised) loans. In some countries adult students are not eligible for all forms of assistance. A broad indication of the existence, though not of the importance, of various sorts of assistance at tertiary level is given in Table 4.1.

Table 4.1. Types of public subsidies available for tertiary education

	Australia	Canada	Czech Republic	Denmark	Finland	France	Germany	Ireland	Italy	Netherlands	Norway	New Zealand	Poland	Sweden	Switzerland	United Kingdom	
Scholarships and grants																	
for tuition fees	✓					✓		✓	✓				✓				✓
for general purposes	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Specific subsidies																	
Housing		✓			✓		✓		✓		✓	✓					✓
Medical			✓				✓				✓	✓			✓		✓
Transport					✓		✓			✓	✓	✓					✓
Other					✓		✓		✓		✓	✓		✓	✓		
Family or child allowances contingent on student status		✓				✓	✓	✓								✓	✓
Public loans																	
Public loans for fees only	✓											✓					
Public loans for general purposes		✓		✓			✓		✓	✓	✓	✓		✓	✓		✓
Government subsidies or guarantees for private loans	✓	✓					✓		✓								✓
Tax reductions or credits	✓	✓	✓		✓	✓	✓		✓				✓				✓

Source :OECD (2000 p.72)

134. It is not a simple matter to draw conclusions from the information in Table 4.1. For example, Sweden does not provide grants of support loans or grants for tuition fees - since it does not charge tuition fees. Australia and New Zealand have introduced fees for university education and do provide loans specifically to cover those fees. Every country listed except the Czech Republic provides some form of grants to tertiary students for general purposes such as living expenses - and the Czech republic makes family or child allowances contingent on student status.

135. In most countries education provided in the formal education system for the less advantaged is provided with low or no tuition charges though there may be limits to the places available. Extending the available places in a range of settings suitable to their needs, and the provision of living expenses, may be difficult to achieve without cost savings elsewhere in the budget.

Schemes to transfer costs from the public sector to the more advantaged in the private sector

136. European countries in the OECD have typically charged low or no tuition fees and provided considerable assistance with living expenses to university students. Cutting these forms of assistance is a way of freeing public funds to be directed at the less advantaged who have not even completed secondary school. A major argument here relates to the fact that, on average, university graduates go on to earn well above average incomes, as shown in table 2.4.

137. However unless attention is given to access to finance, cutting support for universities could deter even middle class students from participation. The Netherlands has progressively introduced fees for higher education and restricted access to financial assistance and it is noted that this has reduced university enrolment by persons over 26 and by part-time students, both of which groups are subject to greater costs than full-time and younger students (Baaijens 1998, 26).

138. There are a variety of schemes involving tuition fees and loans that are aimed to shift costs to the student without having a major effect on enrolments. Income contingent loans were advocated long ago for this purpose by Milton Friedman (1962, pp.104-106). A scheme of tuition charges and income contingent loans was introduced in Australia in 1989 and by 1998 receipts from the scheme offset more than 15 per cent of government grants. Under the scheme students were initially required to pay about 20 per cent of the operating costs. Repayment (through the income tax system) can be deferred until the student's income reached the level of average earnings in the community. No interest is charged but repayments are adjusted by the consumer price index. A discount is made to the charge if students paid the fee up-front.

139. The early evaluations did not detect any notable deterrence to enrolment. But there have been changes to the scheme. Repayment now must be made when income reaches about two thirds of average earnings. The level of the charge has been raised and now varies by course, higher for courses that cost more to provide and for those such as law that lead to higher incomes. While it still appears that the scheme is not much of a deterrent to enrolment it may be noted that a recent government study suggested that participation in higher education by people from socio-economically disadvantaged backgrounds remains low and is becoming gradually lower (DETYA 1999, p.58).

Schemes to transfer funds to the less advantaged and to stimulate private spending

140. A number of schemes have been proposed for 'entitlements' to permit the less advantaged to have a proportionate or more than average share of government support for education and training. Entitlement proposals differs in detail from the original 'voucher' concept (Friedman 1962, p.93) in guaranteeing for each person an amount of money after compulsory schooling for the purpose of education and training. These aim to ensure that finance is accessible for the less advantage, to help to signal the value of continued learning and to stimulate private expenditures alongside the public outlays.

141. Timmermann (1995, p.5) suggests entitlements might be used over a working life for a variety of learning opportunities including university courses, vocational courses, apprenticeships, on-the job training, continuing education programs and vocational and non-vocational adult education. The value of the entitlement might be varied according to the social background of the learners. The entitlements might accumulate interest so that their value would be larger when used later in life. Such a scheme ranks high on equity though there may be a problem of financing high cost courses, assuming that market forces alone will not ensure a correct allocation of training to meet the needs of the workforce.

142. Levin (1998), who had advocated entitlements in the 1980s, reviewed his proposal in the light of the increasing concern to contain government outlays. As a result he now advocates that an increase in the proportion of government support be based on loans, rather than grants (see also OECD 1996, p.243).

143. The concept of lifetime entitlements is much discussed but nowhere adopted as a comprehensive scheme. The more limited idea of entitlements to study leave or a voucher for payment for a limited amount of training are more common. The UK has introduced Individual Learning Accounts. The government will pay £150 into the account after an adult pays in £25. They will be open to anyone in work but not in full-time education. The funds can be used for any course the adult wants (DFEE 1998a). It is expected that many of the account holders will spend their funds at the newly founded University for Industry (Ufi) which will co-ordinate a network of learning centres in traditional education settings but also in some non-traditional centres like football clubs and churches (DFEE 1998b).

144. These accounts are at an early stage of development but it does appear in mid 2000 that they are unlikely to be a major element in the financing of education and training. One factor is that they are considered too small by the major banks to handle them at a reasonable charge. It is likely instead that more attention will be given to the development in income contingent loans.

145. Sweden has recently announced a system of Individual Learning Accounts to be used for competence development. These are to be funded by employees and employers contributions, encouraged by a tax entitlement at time of contribution. At time of use the funds are subject to tax, but this is partly offset by a competence grant premium. The premium is determined not by the costs of the training or living expenses but by the competence acquired. The scheme is planned to be implemented by 2002 (Sweden 2000).

146. An alternative entitlement scheme is the Franchise Model advocated by Van Ravens (1998). This involves two elements:

- a lump sum grant by government to finance post secondary school studies but with a rising proportion of self finance with increasing age; and
- an open system of learning where competencies will be accredited whether acquired in the education system, the workplace or the community.

147. The lump sum grant, which can be used to cover up to 100 per cent of costs for the young, is seen to offset the difficulties of access to finance when they are greatest, which is for young people without income. The 'open system of learning' is seen to promote efficiency in the way people can learn, with a considerable reduction in unit costs. Van Ravens (1998, p.96) argues 'The drop-out phenomenon, considered an irreparable loss in a closed system, is a non-issue here. Everybody drops out all the time and everybody drops back in. The time it takes to graduate does not need to be reduced and becomes irrelevant'. Some aspects of the Van Ravens' model appear to apply in Australia, as indicated in Box 4.1 and a summary of some of the major ways of assisting the financing of adult learning is given in Box 4.2.

Box 4.1. Australian funding for adults in vocational education and training

There are some similarities to the franchise model in the current operations of the Australian vocational education and training system. Over the last decade there has been a promotion of the concept of competency based assessment and the recognition of prior learning including learning in the workplace. The provision of recognised training largely or entirely in the workplace has been promoted. There is no lump sum of finance available but the fee level is low (and waived for low income students) in the very large public vocational education and training system. Courses are available on a part-time and evening basis, sometimes at the weekend or with flexible delivery. The courses range from personal enrichment, remedial and educational preparation for those who did not complete secondary school, entry level vocational training and advanced vocational training.

There are two very positive aspects of the Australian system which may in part be attributed to the aspects just described. First, as Table 3 showed, Australia has the highest level of enrolment by persons aged 30-39 and second highest for persons 40 and over. Second, there is a very high proportion of students who take modules (subjects) successfully but do not bother to complete the whole course. This has been estimated at 50 per cent of all commencers of courses (Foyster, Hon & Shah, 2000). There is a good indication of movement in and out of the system, as need arises, that Van Ravens advocates.

The Australian system does not have the incentive to efficiency, as in the franchise model, that might come from the funds being allocated entirely at the discretion of the student across all forms of potential learning. A scheme for the public funds for the instruction and assessment in apprenticeship training to be allocated by users (employers and apprentices) has been introduced. This can lead to the public funds flowing to private recognised training organisations which include private colleges but also the training arm of many major corporations (e.g. hotels chains). The early experience has been given some endorsement but there are concerns about quality assurance and the need for better monitoring of the system (Schofield 1999).

Encouraging employer expenditure on training: regulations and subsidies

148. Some forms of training in firms are subsidised by governments in several countries. Table 2.14 listed the total expenditure on active labour market programs. It averages about 1.0 per cent of the GDP. Some of the funds for labour market programs are to subsidise employment, or for job creation schemes, which often have a training component to them. However programs directed to the training of adults averaged only about 0.2 per cent of GDP. Denmark stands out in applying over one per cent of GDP to adult training. Much of this training expenditure is for the unemployed to assist them in entry to employment.

149. Some innovative arrangements have been used to encourage small firms to increase their training. In Australia some training authorities are experimenting with vouchers given to small businesses for a specified number of hours of training to be provided by a recognised training organisation – either public or private.

150. Policies for increasing the financial investment of firms include attempts to exhort firms to provide more training e.g. in Germany the concept of the social partnership and the social obligations of employers. There is social pressure to invest irrespective of the costs and benefits. In several countries a range of requirements in relation to education and training are made of employers, usually those with 10 or more employees. These include the provision of paid leave as in France, Belgium and Denmark. With the exception of Denmark it is the more educated workers in full-time employment who benefit most.

151. Several countries including France, Korea, Australia and UK have had schemes requiring minimum levels of employer training expenditure or contributions for collectively funded training as a percentage of wages. It may be noted that Stevens (1999, p.28) argues that conceptually this mandated expenditure is similar to a government subsidy based on a tax on wages; though the political difficulties in implementation may be different.

152. United Kingdom, Korea and Australia have abolished their schemes. The Australian scheme appeared to increase the level of expenditure of medium sized employers but not larger ones whose expenditure usually exceeded the required level prior to the introduction of the scheme. Very small employers were exempt. Arguments against the scheme were its unpopularity with employers and also that it took no account of the way in which the amount of training required could vary with the type of employment.

153. Recent analyses have been made by Hocquet (1999) and Greenlagh (1999) of training in France in comparison with the UK. Greenhalgh (1999, p.109-11) finds that France and Britain have a similar incidence of training but in France the training is markedly longer in duration. There is merit, she therefore finds, in a levy system as a means of offsetting the identified underinvestment in employer provided training. There is, however, a relative concentration on mature age workers in Britain which is worth further analysis. Hocquet (1999, p.248) finds that training is relatively concentrated on lower paid workers in France compared with Britain, 'which is socially fair and equitable'.

154. A social partnership model has been developed in some countries (e.g. Austria, the Netherlands and Norway) though all recognise the need to do more in this area. These are schemes which do involve government funds but also elicit private funds. An example of a partnership is the work foundations in Austria, established to assist redundant workers. The initiative for these comes from employers or employees who seek collaboration with government bodies (OECD 2000d, pp. 48-49).

155. A good example, from outside the OECD, is the skill development centres in Malaysia. These are non-profit private corporations established with funds from State government foundations and contributions from employers. They are governed by boards with a heavy representation of employers. They are usually sited close to industrial parks and support in-plant training in the first instance and training both on and off the job for qualifications where required. The most successful of these, in Penang, is regarded as a model for the efficient and responsive provision of training. They stand in contrast to the expensive and traditional, if good quality, training provided in government owned and operated technical institutions in Malaysia.

156. Contracts of training, as for apprenticeships, are a means of encouraging employers to finance general training on the understanding that they can pay a less than a market wage during the training (Dougherty and Tan 1997). The justification for this is the many studies that show that much of the rewards for training are captured by employees either with the firm that provided the training or on leaving that firm (see Section III and Long et al 2000). In either case the employer providing the training does not take receive the total benefits of the training. In these circumstances there is likely to be an underinvestment in training unless some of the costs are shifted to employees or government.

157. As mentioned in Section III, employer reporting of intellectual capital may have an impact on information about its benefits, the greater planning of training and better use of personnel. One means of promoting this reporting is a requirement on firms for greater disclosure of their intellectual capital. However it seems unlikely that this will occur until schemes seen as useful and usable have been developed and more widely trialed as in Finland and Denmark (Wesphalen 1999, p.27).

Box 4.2. Classification of schemes for additional public and private finance

Additional government support and encouragement for adult education and training:

- schemes to free government funds by reducing subsidies to the advantaged with no or minor effect on their educational participation – e.g. fees and income contingent public or private loans;
- entitlements that ensure that less advantaged have access to the same or more government funds as the more advantaged and encourage complementary private spending

Regulations/subsidies encouraging employer expenditure on training:

- improved disclosure of a firms' human and intellectual resources in capital markets, that makes it easier to demonstrate links between training and profitability, with potential effects on share values;
- promoting social obligation and social partnerships;
- contracts especially apprenticeship that permit below market wages in return for provision of general training;
- legislated training levies requiring a minimum training expenditure by employers; and
- legislated provision of training leave.

Tax incentives:

- tax deductions and/or tax credits for training expenses; and
- changes in tax codes to permit individuals/employers to set aside current pre-tax earnings to finance education and training.

Taxation

158. Employers benefit from the current structure of taxation that treats expenditure on training in the same way as other costs of production. That is, unlike investment in plant and equipment, the full cost of training and grants to employees for training can be allowed against taxation in the year it occurs. This is the arrangement in all the OECD countries recently surveyed (Bruyneel 1999). The option to capitalise and depreciate these expenses is available for training expenses in most countries.

159. The immediate deduction of training expenses provides little incentive for the maintenance of records of the training or accumulated employee intellectual capital. The options to add a premium to the deduction would encourage greater investment (Wurzburg 1998). If the premium had to be treated like fixed capital and deducted over a number of years it would also promote greater knowledge of the extent of the firms investment in training.

160. The Netherlands in 1998 adopted a scheme to provide an extra 20 per cent deduction of training expenditure on company profit liable to corporate taxation. An extra deduction of 40 per cent of the training costs for workers above the age of 40 is allowed (Baaijens 1998, p.105). In Norway on the other hand, until recently, employees who received training paid for by their employer have normally had to pay tax on the value of the training if it can be defined as part of a basic education (OECD1998f, p.40).

161. Tax deductions are available for individuals payments of education expenses in about two thirds of European countries recently surveyed (Bruyneel 1999). However the more disadvantaged would not pay fees for education and training or have an income for which a tax deduction could be claimed. The Swedish system of Individual Learning Accounts discussed earlier are an innovative combination of taxation reductions at the time of placing money in the accounts together with subsidies offsetting part of the taxation which is levied when the accounts are drawn on for education and training.

162. Value added taxes are levied on training expenditures in most countries. Australia in introducing a goods and services tax (GST) for 2000 has exempted education and training in accredited courses and programs that lead to accredited courses. However the GST may apply to non-accredited programs that provide a way into more formal education, programs taken by those reluctant to enter the formal system (ALA 1999).

V. CONCLUDING COMMENT

163. The necessity of lifelong learning is increasing with the current developments in technology and the world economy and accompanying changes in work organisation. At the same time demographic change is leading to a substantial growth in the average age of the population. In general the changes in employment are increasing and changing the skill levels required. At the same time there remain some jobs that are poorly paid and relatively low skill. And there are a substantial number of persons who are jobless, many of them likely to remain so.

164. There is a need for continuous learning to be available to all persons. There is need for special support to be given to those adults who are disadvantaged because of low levels of initial education and literacy and their relatively low levels of education and training as adults compared with those with higher levels of initial education. The assistance is to help them to compete in the changing job market and/or to assist them with their general capacity to participate in the local community and the larger society. The recent discussions of social capital draw attention to the benefits of education and training for community trust, networks and social cohesion, important in themselves and also contributing to economic improvement.

165. The paper provides an outline of the extent of current expenditures and levels of participation of adults in formal education and training. The data on participation in informal learning activities is sketchy and this contributes to its relative neglect in the discussion.

166. The nature of the costs and benefits of education and training were considered. The data is best for the formal education system, though even here the particular costs and benefits for adults are rarely separately analysed. The data for firms is less comprehensive on both costs and benefits.

167. The evidence on the whole is that both education and training are good economic investments for those who receive them. Whether the private economic returns would be as good if there was a substantial increase in the levels of investment is not so clear.

168. It seems clear there is under-investment in training in firms. Firms capture only part of the benefits of training they support either because they lose the employee to other firms or because part of the benefit is received by the employee in higher wages. Firms may be poorly informed of the possible benefits of training.

169. There are various ways in which the benefits of education and training can be enhanced. These include better information and guidance systems and a qualification frameworks, helping to define the learning needs or competencies for work, assisting with learning and assessment materials, ensuring teachers are trained, and monitoring the development of the system. There is the possibility though that schemes that increase the benefits for individuals may reduce them for employers.

170. Work and compensation arrangements that encourage the retention of trained workers will increase the benefits to firms. Schemes that foster the reporting of training may help encourage the better planning of training and hence its returns.

171. For the less advantaged there is a particular need to recognise that their learning capacity and motivation may vary substantially from the norm. Recent migrants, older people and the younger unemployed adults may have very different attitudes and capacities requiring different settings for their learning. The benefits of education and training for them will be enhanced with methods of learning adapted to their needs.

172. The attractiveness of an investment will be increased by cutting the cost. There are various ways of reducing the cost of formal education including the use of new technologies and flexible learning. Savings will come largely by reducing personnel and capital costs. Cuts in student class time and the increase in the ratio of students to teachers are the main ways of cutting costs. . The potential of new learning technologies to both increase access and to cut costs needs much closer attention than given in this paper.

173. Several organisational changes are being used to realise more efficient use of educational resources and hence reduce costs. These include better co-ordination across government departments, increased devolution of control of educational institutions, with performance monitoring. Increased competition in the delivery of education and training is seen as a way to reduce costs and to focus supply more closely on client needs. The worry, not yet resolved, is whether these changes lead to a decline in quality of education and training

174. Whatever the benefits, the capacity of individuals or firms to undertake education and training will be limited if they do not have access to funds. The government remains crucial in providing funds, in ensuring access to capital, by developing a tax system supportive of education and training, by mandating training expenditures by firms and by its development of social or moral pressure for firms to provide training.

175. Though the financial stringency of governments is well known the capacity for increasing the level of spending on education and training should not be ignored. Governments vary enormously in the total level of their outlays, and it is not clear that the most economically successful are the lowest spenders. Many governments have increased their level of education spending in the 1990s.

176. There is a strong case for increased spending for economic and social reasons on less advantaged adults. These include spending on formal training courses and subsidies to on-the-job-training. These could be funded from increased overall government outlays or from cuts elsewhere in education funding. These cuts might be achieved e.g. by increasing the fees charged in universities backed by income contingent loans. But it could also done by some of the cost saving measures discussed earlier or with increased use of new multi-media technologies.

177. Government has a crucial role to play in ensuring that the institutional arrangements are adapted to reduce distortions in the cost of private capital for adult learning. The tax system can be adjusted to provide increased support for the financing of education and training. The methods of company reporting can be changed to draw attention to the management of training and its impact on company performance, thus strengthening the link between the effectiveness of training the cost to companies of capital to finance it.

178. Nearly all the data on participation and expenditures relate to the education system and structured in plant training. The voluntary adult education sector and the extensive ways of informal learning are neglected in this discussion. There is a danger in concentrating on the more measurable that the most important avenues of learning are given too little attention.

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