

Improving the incentives for investment in learning by adults: financing lifelong learning

Gerald Burke
Monash University-ACER
Centre for the Economics of Education and Training

INTRODUCTION

This paper is part of a larger study concerned with factors that affect the investment in lifelong learning for adults. That study considers 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. It reviews the adequacy of financing mechanisms that influence the availability of funds for investment in lifelong learning. In this presentation the emphasis is on the financing mechanisms.

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

- 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;
- substantial numbers are underemployed or jobless for much of their adult life;
- there is an ageing population arising from a continuing increase in lifespan and a relatively low level of births.

Realistic assessment of policy and planning require understanding the resource and financing requirements of expanded provision of education and training.

Government intervention

'Other things equal', as economists say in an attempt to simplify their argument, those who benefit from education and training should pay. However, there are a range of reasons for some form of government intervention, which may include:

- government provision of infrastructure and advice;
- regulation;
- government finance; and
- actual provision of training.

Many individuals may lack knowledge of the costs and benefits of education and training, the investment in learning is risky and the benefits are often realised in the distant future. In such a situation those lacking the personal or family resources may be reluctant to borrow - and financial institutions even more reluctant to lend since human capital unlike physical capital is not separable from the individual undertaking the learning. These factors tend to reduce the likelihood of borrowing and lending for learning at interest rates at all comparable to investment in physical capital. For *equity and efficiency* reasons there is a case for some form government intervention.

In the case of employers there may be a lack of information on the benefits of training and of the available types of training and their costs. There may be economies of scale in seeking information about training or providing training, that are not available to small employers.

Providers of training may not necessarily produce the sorts of training desired by individuals and employers; and they might not produce it efficiently. Incentives to efficient production of quality training may not always be present, especially if the provider has a monopoly of the provision.

There will be a tendency for a firm or an individual to underinvest if the benefits are captured by others. In the case of an individual, where learning may yield substantial externalities in social and economic terms there will be a tendency to underinvest. The externalities could include greater social

cohesion, effects on children's learning, effects on other workers' productivity, better health and less crime.

In the case of firms, a large part of the benefits may be captured

- by the employees being trained in the form of higher wages; or
- by other firms who may recruit the trained workers from the firm that undertook the training.

Thirty years ago the response to the likely underinvestment, inefficiency in provision, and inequity in access would have been public sector finance and provision. The widespread restriction in the size of the public sector is a major factor in the ways of considering the financing of lifelong learning. It has led to close attention to the factors affecting private expenditures and to the causes of underinvestment by individuals and firms. It gives added emphasis to the need to reduce failures in the market which are seen to cause underinvestment or inefficient provision. It also increased the attention to other policy instruments including regulation, leverage on private spending through particular forms of intervention and exhortation as well as through public finance and public provision.

This paper concentrates on financing mechanisms. However it first briefly elaborates on two major reasons for government intervention:

1. the inequality in access to education and training among adults; and
2. the recent evidence on investment by firms.

In passing it is important to note that 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 measurable that the important avenues of learning are given too little attention.

INEQUALITIES AMONG ADULTS

If equity is a major concern then attention to lessening the inequalities found fairly consistently across countries needs to be addressed. If raising the productive levels of the whole labour force is important then the neglect of less educated and older persons must be remedied. The following list is a summary of the inequalities among adults in access to education and training based on a number of studies in Australia (especially those drawing on the ABS (1998a) survey of education and training eg Ball 1999) and overseas:

- training and further education tend 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;
- 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 ;
- self employed undertake less training than employees; and
- the unemployed and those not in the labour force receive less education and training than the employed.

FACTORS AFFECTING INCENTIVES TO FIRM-BASED TRAINING

Firms' 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;
- the more cost-effective is the training; and

- the firm's awareness of its benefits.

There is international evidence reviewed by Long et al (2000) that the rewards to firm sponsored training are very high *but that not all of them are captured by the firm providing the training.*

The provision of training leads to wage increases on average of about 8 per cent - a large amount in response to training courses often as short as a week. It does appear, as expected, that general training (training of use to more than one employer) 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 training.

There are benefits to employers over and above the wage increases to their employees - or there would be no incentive to invest. A range of studies are summarised by the OECD (1998a, Table 4.2).

There are a number of reasons why firms reap a substantial proportion of the benefits of *general training* 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;
- that workers and firms face costs when changing jobs; and
- that wage compression caused by industrial arrangement may mean that wage increases are less than the increased productivity of the workers.

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 balance to industries and occupations that appear to require an increased level of skills, at least on average;
- work reorganisation means that within many occupations there is a change in the skills required often to a higher level eg 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.

However, there are also some strong forces working to decrease the incentives to firm-based formal training:

- the growth in part-time and casual work means that an employer (or an individual) has less work or less certainty of employment from which to recoup the investment;
- the continuing relative growth in the private sector which does not provide as much training as the public sector;
- the decline in union membership, since unionised workplaces have been associated with greater levels of training;
- an increase in self employment which is associated with lower levels of training;
- a higher aggregate rate of unemployment, reducing the incentive that a tight market gives to retain workers and train them (Stern 1994); and
- job turnover of the less educated reducing the time to recoup the benefits of training.

It is hard to sum up the net effects of these changes. Thurow's view for 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, 132).

In Australia there is evidence of a decline in the quantity of firm based training in recent years (eg ABS 1997, 1998a).

Summing up, there is good evidence that the total returns are high but not all are captured by the firm doing the training. The balance of changes in the economy may be reducing the incentives to firms to invest. On top of this, there are the continuing problem of small firms who miss out on economies of scale in training, the lack of knowledge of the availability, costs and benefits of training; and questions concerning the efficiency of the provision of the types of education and training needed.

FINANCING MECHANISMS

In attempting to raise the levels of investment in lifelong learning it will be important to improve information to both individuals and firms on the costs and benefits of education and training. It will be important to encourage forms of management or competition that provide incentives to cost-effective provision of education and training including the use of new technologies. It is also important for firms or groups of firms, to find ways of retaining workers they have trained. These issues are considered in the larger study but are not discussed further in this paper.

Here attention is given to a range of methods of reducing the financial cost to individuals and firms of undertaking education and training. In some cases they imply considerable government outlay. In other cases they imply government leverage or partial support to private outlay.

The means for reducing the cost of capital to individuals/employers are varied including:

- direct governmental grants or subsidies to individuals/employers;
- government loans usually with subsidy;
- grants and subsidies to education and training institutions allowing low or zero tuition fees;
- interest rate subsidies that make it easier to finance training out of future benefits/earning;
- the reallocation of public spending across sectors of education and training and across different socio-economic and age groups;
- legislated training levies requiring a minimum expenditure by employers;
- changes in tax codes to permit individuals/employers to set aside pre-tax earnings to finance future training out of past earnings;
- changes in tax codes to improve tax deductions and/or tax credits for training expenses;
- improved disclosure in capital markets, that makes it easier to link to training benefits to value creation process with potential effects on share values.

The size of the problem and government spending

A major addition to educational expenditures would be required to lift the levels of participation or attainment for example of those adults who have eg less than IALS level 3 or who have not completed secondary education. Some estimates of this are provided in OECD (1999). Estimates are made for a range of countries of the numbers of adults who would need to participate to meet the median or best practice (Germany). In many countries the number of adults to be provided for exceeds the total current enrolments in the secondary school system. Another set of estimates shows the increase in the volume of education and training for adults if those with less than secondary education received the levels of those who completed secondary education. This is a less striking set of figures, averaging around 20 per cent increase in the volume of training but it assumes that the less advantaged need only the same as the more advantaged. They may need more and different training.

Several of the mechanisms listed above 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 1998b). Hence expenditures for education and training face strong competition with other priorities.

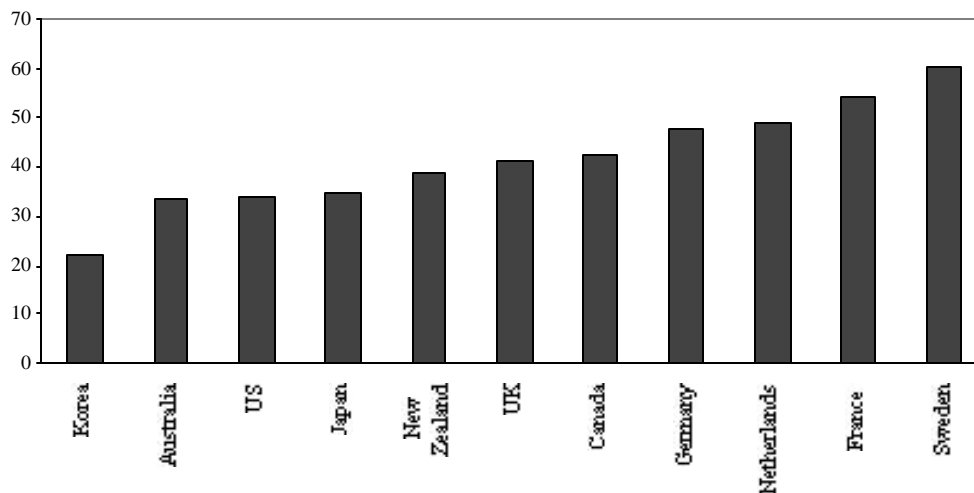
It is though, worth considering the variation in capacity and commitment to public and to educational spending. Figure 1 illustrates the range of general government outlays as a percentage of nominal GDP. Korea, with the lowest income per head of less than US\$15,000 has the lowest levels of government outlay. All the other countries have per capita GDP in excess of US\$20,000 per head yet have general government outlays ranging from less than 35 per cent to over 60 per cent of GDP. There does not appear to be an overall pattern in the 1990s in the changes in the general government

share - several countries have experienced a growth and about as many a decline in the share. New Zealand is notable in the large decline in the size of its public outlays in recent years.

The variation in the government outlays specifically on education and training are smaller than that in total government outlays. Other activities of government such as social security expenditure vary more than education expenditure. And the countries with lower total government outlays tend to be those with higher private expenditures eg 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.

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. There appear to be more countries increasing education outlays as a share of GDP in the 1990s than reducing it.

Figure 1. General Government outlays, % of GDP, 1997



Grants and subsidies to firms

Some forms of training in firms are subsidised by governments in several countries. The total expenditure on labour market programs averaged about 1.0 per cent of the GDP across OECD countries for which data are available. The main element of these labour market programs in most countries is unemployment compensation which does not involve training. Programs directed to the training for adults averaged 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. 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.

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. The success of this is not yet known.

Grants or loans to individuals

Support for living expenses or for tuition fees in the forms of grants or loans are available in a large number of countries. There is a tendency for these to be available for full-time students for higher education. Those who avail themselves of these are not the most disadvantaged.

In most countries education provided in the formal education system for the less advantaged is either provided with low or no tuition charges though there may be limits to the places available. Extending the available places is a matter for government budget and may be difficult to achieve without cost savings elsewhere in the budget.

These could come through innovative financing mechanisms such as the funding of an increased proportion of higher education via income contingent loans rather than by grants. Such a scheme as HECS in Australia reduces the proportion of the higher education budget carried by the government. Repayment by the student does not occur until earnings reach a level (now) about two thirds of average weekly earnings. Such a scheme, if not accompanied by an overall cut in government outlays, once in operation for a few years can provide funds for the expansion of adult education and training.

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. Levin (1998) reviews 'entitlements' in the light of more recent restrictions on government outlays. A case for a relative increase in the proportion of government support based on loans rather than grants may be seen to follow from this (OECD 1996,243). An alternative scheme is the *franchise* model whereby the government entitlement pays the full costs of lower levels of education but declining percentages at higher levels.

The UK has recently 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 1998). It is expected that many of the account holders will spend their funds at the newly founded University for Industry (Ufi) which will coordinate a network of learning centres in traditional education settings but also in some non-traditional centres like football clubs and churches (DFEE 1998).

Exhortation and compulsion: training levies and partnerships

Policies for increasing the investment of firms include attempts to exhort firms to provide more training eg in Australia the fostering of the notion of a training culture, 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 minimum level of training expenditure by employers has been mandated. These include the provision of paid leave as in Belgium and Denmark, Netherlands and France. With the exception of Denmark it is the more educated workers in full-time employment who benefit most.

France, Korea and Australia have had schemes requiring minimum levels of employer training expenditure as a percentage of wages or contributions for collectively funded training. 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.

A social partnership model has been developed in some countries (eg. 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 1998c, 34).

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.

Taxation

Employers in Australia 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.

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 (Wurzberg 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.

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.

On the other, hand 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).

CONCLUSION

Whatever the costs and 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, by 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.

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.

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.

The tax system can be reformed to provide increased support for the financing of education and training. The methods of company reporting can be used to draw attention to training and its advantages, to promote the planning of training and possibly to enhance the public value of the corporation.

References

- Adult Learning Australia (ALA) (1999), *Newsletter* No 4 August.
- Australian Bureau of Statistics (ABS) (1997) *Employer Training Expenditure*, Australia July-September 1996 Cat No. 6353.0.
- ABS (1998a) *Education and Training Experience Australia 1997*, Cat. No. 6278.0.
- ABS (1998b), *Employer Training Practices Australia February 1997*, Cat. No. 6356.0
- Ball, K. (1999) 'Training and Labour Market Issues', in Smith, A. (Ed.), *Creating a Future, Training, learning and the older person*, NCVER, Adelaide
- Bruyneel, D. (1999) 'Tax and Accounting Treatment of Vocational Training', Draft OECD, Paris DFEE 1998a
- DfEE (1998), University for Industry, London, www.lifelonglearning.co.uk
- Levin, H.M. (1998) 'Financing a system of lifelong learning', *Education Economics* 6, 201-218.
- Long, M. et al (2000 in press), *Enterprise-Based Education and Training: A Literature Review*.
- OECD (1996) *Lifelong Learning for All*, Paris.
- OECD (1998a) *Human Capital Investment, An International Comparison*, Paris.

- OECD (1998b) *Economic Outlook*, June 1998.
- OECD (1998c), 'Synthesis of country reports on alternative approaches to financing lifelong learning', DEELSA/ED(98)9.
- OECD (1999) 'Resources for lifelong learning', *Education Policy Analysis*, Paris
- Thurow, L. (1999), *Creating Wealth, the new rules for individuals, companies and countries in a knowledge-based economy*, Nicholas Brealey, London
- Wurzberg, G. (1998) 'Issues in financing vocational education and training in the EU', *OECD Observer*.

Gerald Burke
Monash University-ACER, Centre for the Economics of Education and Training
PO Box 6, Monash University, Vic 3800
Tel 03 9905 9157, Fax 03 9905 9184
gerald.burke@education.monash.edu.au