

Lifelong Learning and Human Capital

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Introduction

The world of work has seen enormous change over the past couple of decades. Manufacturing jobs account for an ever smaller percentage of the workforce in most developed economies. Indeed, salaries in manufacturing have generally fallen behind those of other sectors. Today, “knowledge workers” – a category covering everything from call-centre workers to architects, teachers and financial employees – are increasingly pivotal to economic success in developed countries.

The potential for individuals and countries to benefit from this emerging knowledge economy depends largely on their education, skills, talents and abilities, that is, their human capital. As a result, governments are increasingly concerned with raising levels of human capital, chiefly through education and training, which today are seen as ever more critical to fuelling economic growth.

However, formal education, which usually runs from about the age of 4 or 5 to the late teens or early 20s, is only one part of forming human capital. In many ways it is more useful to think of human capital formation as a life-long *learning* process rather than as education.

From an economic and employment perspective, this human potential for lifelong learning is assuming ever greater importance. Old jobs are migrating to places where labour is cheaper. Meanwhile, fast-changing technologies are creating new jobs unheard of only recently or radically altering what workers need to know to perform their existing jobs. Consequently, people now need to continue developing their skills and abilities throughout their working lives.

This *Policy Brief* looks at the concept of human capital, its increasing importance to economic growth, and how governments and societies can work to develop it during early childhood, the years of formal education and adulthood. ■

What is human capital?

The idea of human capital can be traced back at least as far as the work of the 18th century Scottish economist Adam Smith, but it was only in the late 1950s and 1960s that it began to emerge as an important economic concept. At that time, economists such as Theodore Schultz began using the metaphor of “capital” – a longstanding concept in economics – to explain the role of education and expertise in generating prosperity and economic growth.

They argued that people invest in their education and training to build up a stock of skills and abilities (a capital) that can bring a long-term return. This investment can also benefit national economies and help fuel economic growth.

Typically, then, human capital is broadly defined as a combination of individuals’ own innate talents and abilities and the skills and learning they acquire through education and training (health is also frequently counted among these). It is worth noting that the business world, which has eagerly embraced the concept of human capital, tends to define it more narrowly as workforce skills and talents directly relevant to the success of a company or specific industry. ■

Does it bring returns?

Human capital is associated with a wide range of both economic and non-economic benefits. Indeed, some of the biggest benefits may be non-economic; these include improved health, longer life spans and a greater likelihood of involvement in community life.

Economically, the returns to human capital can be understood in terms of the prosperity, both the individual’s and that of the national economy. At the individual level, earnings tend to increase quite sharply as an individual’s level of education rises. In some OECD countries such as Denmark and New Zealand, earnings for workers with a university education are about a quarter higher than for those who only finished secondary school. In others, this differential is even more noticeable, and rises to as much as 120%. Economies also benefit, and over time may experience a 3% to 6% rise in output for every additional year that individuals spend in education. ■

Why is it becoming more important?

In recent years, a number of converging factors have focussed attention on the economic role of human capital. One of the most important is the rise of the so-called knowledge economy, which relies less on manufacturing and more on producing and managing data and information. This trend has resulted in companies such as Google and caused a gradual shift in the sort of jobs people do. In 1995, just over 28% of workers in OECD countries were in industry and about 63% in services; 10 years later, the figure for industry was below 25% against more than 69% in services.

Globalisation, too, is changing the way people work and the jobs they do. Today, companies rely on long chains of producers and outsourcers

spread around the globe and depend on advanced communications for coordination. Equally, the availability of cheaper labour in developing countries is seeing some manufacturing jobs – and even some higher-end jobs in, for example, software programming – shift away from developed economies.

One final factor is the ageing of societies. Demographic changes are increasing the average age in many developed countries. As a result, there will be more retirees relying on fewer active workers in coming years. In consequence, many countries are looking to encourage people to stay in the workforce longer. To do this, they will probably need to update their skills and learning. ■

Why is early childhood important?

The question of care and education for very young children is attracting increasing interest. In part, this is fuelled by the practical consideration of how to care for children at a time when more women are going out to work. Rates vary, but some countries have seen very sharp jumps in recent years. In Spain in 1994, just under a third of women had jobs; 10 years later that had risen to nearly half.

To some extent, these rises are fuelled by women's own desires to remain in the labour force after becoming mothers. But some countries are actively encouraging parents to continue working, especially in the English-speaking world. In part this is because children in families where neither parent or only one parent works are more likely to live in poverty. A lack of resources can seriously inhibit a child's educational and social development, creating problems that can endure into adulthood.

BOX 1 OVERCOMING SOCIAL BACKGROUND

Social background is a major factor in determining human capital development. By and large, children from poorer backgrounds do not do as well in primary school, are more likely to drop out of secondary school, and less likely to go on to study in university. Even in adulthood, lower-paid workers undergo less training than their better-off counterparts.

The OECD's PISA (Programme for International Student Assessment) examines the competencies of 15-year-olds in OECD countries and a number of partner countries and territories, and provides some interesting insights into social background and education. Findings from the 2003 round of tests showed that students from the poorest backgrounds are 3.5 times more likely to score poorly in PISA's maths test compared with those from wealthier backgrounds.

But the extent to which social background affects students' performance varies considerably from country to country. On average, across the OECD, about a fifth of the variation in student performance can be attributed to social background, but in some countries that figure is much lower. For example, the PISA scores of students in Canada, Japan and Finland are relatively high by international standards and comparatively unaffected by students' social backgrounds. These countries may be able to teach some useful lessons on minimising the impact of social background on students.

As a result, with more women working, there is increasing demand for child care. In many OECD countries this is provided by the private sector, with governments providing limited supervision. The quality of such care, and its contribution to early childhood development, gives some grounds for concern, especially when contrasted with the highly developed systems for early child care and education that exist in, for example, the Nordic countries.

Nordic child care generally takes a holistic approach to children, closely integrating care with education and working to ensure that children enjoy a smooth transition into primary school. By contrast, some other child care systems tend to focus only on care or on education. In the latter case, kindergartens may see their role as preparing children for school rather than for life, as does the Nordic approach. Such systems may not be best geared to the playful ways in which very young children learn.

High-quality child care and education benefits all children, but it may be especially important for children from poorer or migrant backgrounds. Indeed, the size of the potential benefits have led many educational economists to argue that governments are not investing enough in this area. ■

How is education responding?

The years of formal education are crucial to human capital formation, and to ensuring that young people develop the skills and knowledge that will enable them to earn a living in later life. Unfortunately, in many OECD countries, around one in five does not complete secondary education, severely limiting job prospects and earning potential. Indeed, with the diminishing availability of reasonably secure and well-paid manufacturing work in most developed countries, the situation of such young people is arguably becoming even more difficult. Young people who leave school early are often considered as having “failed” in the education system, but it is more likely that it is the education system that has failed them.

What can be done to make education more effective? Increasingly, attention is turning to the quality of teaching as a factor in education. This is especially true given the strong international performance of students in countries such as Finland, which educate teachers to a high level and give them considerable autonomy in the classroom. Autonomy is also an issue for schools. OECD evidence suggests that schools with greater freedom to allocate resources and to make teaching appointments turn in stronger results.

Across educational systems, more could also be done in many countries to provide young people with greater opportunities to pursue vocational, as opposed to purely academic, courses, both at the secondary and tertiary level. Vocational education, which provides students with industry-specific skills, has tended to receive fewer resources in many

developed countries amid the race to raise academic standards and to pursue high-level research at tertiary level.

High-quality university education can, of course, bring enormous benefits to national economies by speeding the creation and use of innovative technologies, and also makes a significant contribution to the national stock of human capital. The OECD argues that this is an area where many European countries are slipping behind. Major economies including France and Germany are being overtaken by other countries, such as the Nordics and Korea, in terms of the numbers of young people graduating from universities.

It is likely that the European response will involve examining how best to allocate resources for education, a constant source of debate around the world. On average, OECD governments devote the equivalent of around 5% of GDP on education, spending twice as much per student at tertiary level than at primary level. But because university students are likely to earn considerably more than other people once they graduate, there have been moves in many countries to make them pay some share of the cost of their education.

Such moves may make sense in terms of social equity as, by and large, young people from poorer backgrounds are heavily underrepresented in tertiary education. It is arguably unfair to ask less well off parents to pay taxes to fund universities that their children will never enter. On the other side of the coin, introducing fees for tertiary education can erect still more barriers to entry for students from poorer backgrounds unless

BOX 2.
MEASURING HUMAN
CAPITAL

The diverse elements that make up human capital – personal attributes, skills, education, talents and even health – make it a difficult concept to measure accurately. As a result, economists generally use proxy measures based on levels of educational attainment such as the length of time adults have spent in education or the percentage of adults with third-level qualifications. On average in the OECD area, adults (i.e. those aged between 25 and 64) have spent just under 12 years in formal education, although this varies from an average of almost 14 years in Norway to just over eight years in Portugal.

Such measures provide a useful tool for economists, especially in drawing up comparisons among countries. However, they do not take into account the informal and useful learning that takes place outside the classroom and lecture theatre. An alternative approach is to directly measure skills and competencies. PISA tests 15-year-olds in more than 40 countries, while the OECD has also measured adult competencies in programmes such as the International Adult Literacy Survey (IALS). However useful, such tests can only measure a limited range of skills and competencies and are open to the drawbacks of any survey, such as inadequate sample size.

Such limitations only underline the difficulties inherent in measuring human capital and the benefits of relying on multiple, rather than single, measures.

adequate provision is made through, for example, subsidies, grants or generous student loans. ■

What is the role of training?

The ageing of populations in most developed countries is putting pressure on people to retire later. As a result, there is a growing need for them to go on updating their skills and education to cope with the fast pace of change in the workplace. Yet, this is not something that only affects those nearing the end of their career. People of all ages in the workforce need to continue raising their skill levels, which, in turn, can improve their earnings prospects and make it easier for them to find new work in the event of job loss.

Unfortunately, adult training is not spread evenly across the workforce. Workers who are younger and have higher levels of existing qualifications are more likely to receive training from their employers. In effect, those who most need training – older workers and those with limited education – are least likely to receive it. There are also differences between the genders. In most OECD countries, men undergo more training than women. Differences also exist among countries. In Denmark, for example, workers receive almost 1 000 hours of non-formal job-related training over the course of their career; in Italy, they receive less than 100 hours.

Governments in many countries have stepped in to try to help workers who are not being trained. Some countries impose a training levy on employers which can end up being spent in a number of different ways, including the creation of central training funds. There is also interest in the idea of co-financing, which involves government, employers and employees, contributing to the funding of training, with the aim of ensuring that everybody has a stake in the success of training programmes. Canada, for instance, has tested a special system of savings accounts to fund adult learning that pays low-income workers up to \$3 for every dollar they save themselves.

Even with the right funding mix, however, motivation remains a major issue for adults. In many cases the pressure of working and raising a family may leave adults feeling that they do not have time for further study. This barrier can be lifted, at least in part, by allowing adults to acquire qualifications over longer periods and at a pace that suits them. In Korea, the Credit Bank System has been in operation since 1998, and in its first five years enabled 25 000 people to build up the credits needed for a formal qualification. ■

What challenges lie ahead?

Mass education expanded dramatically in the 20th century, providing ever more schooling to ever more people. In developed countries today, compulsory education is finally reaching its natural limits in terms of the length of time young people are prepared to spend in school. In the future, then, increases in the supply of human capital will rely less on expanding the quantity of education and more on improving the quality of learning.

For societies, this will mean helping as many people as possible develop their full range of talents and abilities across the entire course of their lives. ■

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For further reading

OECD (2007), *OECD Insights Human Capital: How what you know shapes your life*, ISBN 978-92-64-02908-8, € 15, 148 pages.

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