OECD Insights

Human Capital: How what you know shapes your life

Summary in English

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, while salaries in manufacturing have generally not kept up with other sectors. Increasingly, it is “knowledge” workers – a category covering everything from call-centre workers to architects and teachers to financial employees – who are key to economic success in developed countries.

The ability of individuals and countries to benefit from this emerging knowledge economy is dependent in large part on their human capital – their education, skills, talents and abilities. As a result, governments are increasingly concerned to raise levels of human capital. One of the most important ways in which they can do this is through education and training, which today are seen as increasingly important factors in fuelling economic growth.

However, formal education – which usually runs from about the age of 4 or 5 to the late teens or early 20s – plays only a part in forming human capital. In many ways it is more useful to think of human capital formation not in terms of education but rather of *learning*, a process that continues throughout life.

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, while fast-changing technologies are creating jobs that scarcely existed not that long ago or are radically altering what workers need to know to do their jobs. The result is that people now need to go on developing their skills and abilities throughout their working lives.

This summary looks at the concept of human capital, its increasing importance to economic growth, and the ways in which governments and societies can work to develop it in early childhood, the years of formal education and in 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 really only in the late 1950s and 60s that it began emerging 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 comprising a mix of individuals' own innate talents and abilities as well as the skills and learning they acquire through education and training. (Health, too, is sometimes included.) It may be worth noting that the business world, which has eagerly embraced the concept of human capital, tends to define it more narrowly, seeing it mainly as the skills and talents in a workforce that are directly relevant to the success of a company or specific industry.

Does it bring returns?

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

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

Why is it becoming more important?

In recent years, a number of factors have come together to focus 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 objects and more on producing and managing data and information. This trend is clear in the emergence of companies like Google and in the gradual shift in the sort of jobs people do: In 1995, just over 28% of workers in OECD countries were in industry and more than 63% in services; 10 years later, the figure for industry was just under 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 that are spread across the globe and which rely 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. Because of demographic changes, the average age in many developed countries is rising, with the result that in future there will be more retirees relying on fewer active workers. In consequence, many countries are looking to get people to stay in the workforce for 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 purely 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 just under half.

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

So, 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 it is contrasted with the highly developed systems for early child care and education that exist in, for example, the Nordic countries.

Nordic childcare 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 either on care or, in some cases, education. In the latter case, kindergartens may see their role as preparing children for school rather than – as in the Nordic approach – for life. Such systems may also 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 scale 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 young people do not complete secondary education, severely limiting their 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 spoken of as having "failed" in the education system, but it might be more accurate to say 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, especially given the strong international performance of students in countries such as Finland that educate teachers to a high level and give them considerable autonomy in the classroom. Autonomy is also an issue for schools. There is some evidence from the OECD's PISA testing 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 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 it is also likely to make a significant contribution to the national stock of human capital. Andreas Schleicher of the OECD argues that this is an area where many European countries are slipping behind. Major economies like 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 – a sign that are "no longer among the world's leaders in developing knowledge and skills".

It is likely that the response of European governments will involve examining how best to allocate resources for education – a constant source of debate around the world. On average, OECD governments spend around 5% of GDP on education, with twice as much going on students 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: 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 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. This is not something that only affects those nearing the end of their career, however. 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 if they lose their jobs.

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 – and between countries: In Denmark, 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, is testing 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, that will mean helping as many people as possible to develop their full range of talents and abilities across the entire course of their lives.

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