Computers are everywhere, except in the productivity statistics. This famous, perhaps over-quoted, line from Robert Solow, the US economist, had everyone from MBA students to Nobel wannabes and policymakers scurrying to their databases in search of evidence that a new economy was indeed being fashioned from the emergence of new technology. Some evidence has been uncovered that information and communication technology can, when combined with human capital, drive up firm-level productivity and performance, for instance. But regardless of whether one believes that all of this adds up to a new economy or not, part of Mr Solow’s point remains blatantly true: computers are everywhere. In fact, the development and spread of new technology in the workplace is not a myth, but a reality. Everyone’s skill set requirement has been upgraded as a result.

But this raises another possible myth that demands our attention: that the new economy would lift everyone’s potential, however educated they might be. This is, of course, a contradiction: remember, the improvement in productivity comes from combining technology and human capital, particularly skilled labour. Yet, the world is full of unskilled labour too (anyone educated to secondary level only, with no higher level or specific skills qualification, is defined as unskilled). So, while the frontier of economic possibilities will thankfully always expand, it should come as no surprise that job opportunities for the low-educated are shrinking almost everywhere.
Take employment growth. This has been positive in the last 10 years in OECD countries, yet there has been a marked contraction of jobs that are typically held by low-educated workers (see graph). The cases of Germany and Italy stand out: in these countries net destruction of unskilled jobs has occurred at a rate greater than 1% per year since 1993, despite overall positive employment growth. Even in countries such as the United States, Luxembourg, the Netherlands, New Zealand and Spain, that have experienced fast employment growth (of the order of 1-1.5% a year or more), jobs for low-educated workers have grown much less quickly.

The progressive disappearance of low-skilled jobs may seem like progress, and indeed fewer mundane tasks is part of the promise of a knowledge society, but it makes for rather gloomy employment prospects for the less-educated, who stand to fall behind in terms of employment performance and wealth. In the OECD area as a whole, the employment rate of workers with lower secondary education or less fell by 0.3 percentage points each year during the 1990s, in spite of growing employment rates for the other groups. In effect, to add to a digital divide, there is a skills divide opening up in the OECD area.

The downward trend of the employment rate of the low-educated reflects the pace of technological change, and in fact has been sharper in countries where technological change is faster. For instance, in Sweden, business R&D expenditure soared from less than 1.9% of GDP in...
the late 1980s to about 2.7% by the late 1990s, while the employment rate of the low-educated slumped by 13 percentage points between 1991 and 2001. On other hand, in the Netherlands, a country that recorded a fall in the growth of business R&D intensity in the same period, the employment rate of the low-educated grew by about 10 percentage points, thanks also in part to a boom in part-time jobs.

But overall, low-skilled job opportunities are dwindling. Economists have different views on what to do about this. Some think that nothing should be done, as markets will take care of any problems as people respond to new incentives and upgrade themselves. Others emphasise the need for government to assure better adult-oriented education and training, particularly as fast technological change and rapid turnover of technologies can make skills learned at school become quickly obsolete. Moreover, with the workforce ageing and working life lengthening, education beyond the schooling received in youth will become all the more important. The problem is how to go beyond rhetoric and identify what can be done to improve adult workers’ skills.

Countries still do not appear to invest enough in the education of under-skilled adults, although the extent of the problem is difficult to quantify and may be eased somewhat by the presence of informal training. Still, more needs to be done to encourage a more efficient sharing of the costs and benefits of training between employers and employees, thereby increasing the incentives to invest in human capital.

Another, more intractable problem, is how to get training to those who need it most. As it is, vulnerable workers have fewer opportunities to acquire new skills. On average, only 16% of workers with less than upper secondary education participate in formal adult training, which is less than half of that of workers with tertiary degrees (35%). Similar inequalities are found between older workers and prime-age workers, skilled and unskilled, women and men, and immigrants and natives. Very large gaps are also found between small and large firms; the 2003 OECD Employment Outlook showed that the probability of being offered training was 30% lower for a worker in a small firm than for a similar worker in a large one. Similar gaps emerge as regards involuntary part-time workers (with respect to full-time workers) and temporary workers (with respect to workers in permanent jobs).
Are certain workers unwilling to be trained or could it be that firms find it less profitable to train them? This question is fundamental for policy, since in many countries, particularly in Europe, policies are first and foremost designed to increase the incentives of firms to train. Most of these policies seem to be effective in raising the amount of training provided by firms, but are nevertheless skewed to train workers that are already in a good position in the labour market because of their lower training cost. Experience in some countries, such as the Netherlands, shows that it is very difficult to target incentives to train specific groups, since they can generate undesired substitution between different disadvantaged groups, such as older unskilled workers replacing younger unskilled workers, and the like.

Moreover, while our studies show that older workers do not seem to be willing to do training beyond what is offered by their own employers, mainly because they would have to pay for it themselves and there is not enough time left before retirement to recoup the cost of that training, most other categories of workers wish they could get more training. For instance, in cases where training is not provided by employers, some 5% more women than men say they would pay for their own training, provided they could afford it. Even more striking, the share of workers that do not receive training from their employers but would like to is 20% greater in the case of involuntary part-time or temporary workers than in the case of full-time workers. So, for certain groups of individuals, the supply of training falls short of employee wishes, and sometimes dramatically. And policies to encourage employers to increase their overall training investment would do little to alter this situation.

For this reason, some countries are experimenting with co-financing policies for individual investments in human capital, to help workers pay for training themselves when they are not supported by their employer. For instance, experiments with publicly-funded training vouchers in the Geneva canton of Switzerland have been effective, particularly in increasing training among immigrants. Similarly, many countries have introduced so-called individual learning accounts, which are bank accounts that benefit from special tax treatment or are publicly funded, and which individuals can co-finance and draw on to pay for future training.
Despite these measures, without support from their employer, individuals often find training courses unaffordable, not only because of their direct costs but also because of time constraints. On average about 20% of the workers of OECD countries say they did not do further training because of lack of time. Some training courses may require long breaks from work, sometimes up to several months. Many OECD countries have responded by providing statutory or contractual training leave schemes that guarantee employees the right to return to their jobs after completing the training course, with the study period usually being partially subsidised by the government through loans or grants.

Some countries have also facilitated access to training and education on a part-time basis. For instance, in the Australian technical and further education colleges it is possible to study part-time, at distance and on weekends, and access requirements also take into account previous work experience. As a result, in Australia, 12% of the enrollees in the formal education system are aged 35 and over, which is three times the OECD average.

There is no shortage of initiatives to help improve skills and so the job prospects of less-educated workers. And the returns from training are estimated to be quite high. Most studies find a positive and persistent effect of training on earnings. For instance, one study, by Loewenstein and Spletzer, estimates that for the United States one week of employer-paid training of newly hired workers leads to 1.4 percentage point higher wage growth in the two years after hiring and that 17% of the average wage growth in the same period can be explained by training. And Booth and Bryan estimate that in the United Kingdom, one week of accredited formal training leads to higher wages at subsequent employers.

The effect of continuous training on employment security is less well established, though evidence points to a greater probability of finding a new job quickly in the case of involuntary employment loss if the worker has previously received training.

The key to closing the skills divide seems to be a matter of finance to assure training. By co-financing learning between employees, employers and, where needed, government, and by creating the conditions where such co-financing becomes efficient, the number of unskilled that risk being left behind would be greatly reduced.
References


