

# Are our skills perishable?

"What I most fear for the generations to come is not revolutions. [...] I cannot but fear that men may arrive at such a state as to regard every new theory as a peril, every innovation as an irksome toil, every social improvement as a stepping-stone to revolution, and so refuse to move altogether for fear of being moved too far." Tocqueville, *De la Démocratie en Amérique*

The Larousse dictionary tells us that a skill is an ability recognised for the knowledge possessed. Wondering about the perishability of our skills thus means asking ourselves if we can no longer recognise an ability in ourselves that we once mastered. Obviously, if we know how to read, speak English and juggle, it is very unlikely, barring a serious accident, that in ten years' time we will be unable to do one of the three. And yet you don't see many stenographers in the market – not because they no longer have the skills to do their job, but because they are no longer much in demand now that we have mobile phones and emails. But sidestepping the issue emphasises the tension that exists between knowledge taught and knowledge acquired, whether through initial training or continuous learning, and the use that can be made of this knowledge.

We will not go back to the subject covered in the previous talk – namely, how the educational system can adapt to the world of today. Here, we will be focusing on the job market. So the matter in hand is not to define the national education programmes for the *Nth* time, but to outline what skills are necessary in a constantly-changing professional world, and how they develop. This raises various questions. Are there essential skills, a kind of shared base, or have these foundations become obsolete in the age of the smartphone? What are the core skills? Is it better to have a wide range of skills, or be completely specialised? Isn't the most important aspect knowing how to learn new things? How can professional training be organised? Is it the responsibility of businesses to develop the skills they need?

Let's see what academic research can contribute to the discussion. In most macroeconomic models, production depends on the stock of human capital (when it does depend on it), regardless of what this capital contains. Typically, one more year of education will add to the capital, whether or not something useful has been learned. Very few models are sophisticated enough to incorporate the quality of this capital. Among them, we find models of Schumpeterian economics, involving the links between growth and innovation. They are based on three points: long-term growth results from innovation; innovation results from investment, particularly in R&D, motivated by the prospect of income; and further innovations make the previous technologies obsolete. This model of destructive creation conveys a good, though fairly naïve, conception of the economy of the new technologies. In addition, it factors in the idea of the scale of the innovation: certain new technologies revolutionise the market to the point of ensuring a long-term monopoly and destroying an entire sector – for instance, the Windows of Bill Gates, the Apple of Steve Jobs and the Google of Larry Page, which have all grown constantly, moving out of their initial field of skills and gradually causing problems to sectors that in theory had nothing to do with them, like journalism. Is there a kind of hierarchisation of skills that makes the new IT technologies superior to all others, finally making them obsolete, or even automated?

In R&D, we think about inventors replacing others. In the other sectors, we think more easily about robots. We catch ourselves dreaming of an Isaac Asimov-type world, where they will be our servants, and will gradually replace us. Are we finally seeing the end of work, as some politicians and economists are predicting? What would happen about the socialising aspect of work, in that case? What would become of the former workers? It has to be admitted that a title like that is bound to be good for sales. However, some experiments have recently failed – delivery robots have been prohibited in central San Francisco, where a driverless car caused a fatal accident. The future will reveal if these are mere hiccups along the way. But certain skills seem more easily automatable than others. Routine jobs are often talked about, and yet we are seeing more and more robots in highly advanced fields like surgery. Conversely, it seems unlikely that jobs involving considerable social skills (now burgeoning with the ageing population) could be replaced, since the human dimension plays such a crucial role. So which sectors and skills are under threat?

There is a certain distinction between the types of skills that can be qualified as advanced knowledge, facing aggravated competition because of innovations, and another form of knowledge which, although it is being developed, takes longer to be replaced, but could possibly be automated. Can we outline a difference between the sectors where employees have to change jobs to advance their careers, and for whom it is clear that their skills are perishable, and other jobs where the work is more routine and where a certain job security is ensured? As well as the rest, a common skill base is necessary to acquiring others, which by its very essence cannot be perishable – especially because it is on these basic skills that the most flagrant inequalities are built. How can professional training rely on these skills and exploit these differences in order to match workers to their jobs, or jobs to their performers?

To sum up, we must distinguish in our discussion between trades where skills are not perishable (even if they are not necessarily protected from the repercussions of globalisation), and ultra-technical training where self-questioning is part of the post itself. We need to talk about the role of businesses and professional training in assisting these transformations. While it seems unlikely that we will be ousted from our jobs by robots in the near future, it is only by preparing the ground that we can prevent a large number of people from suffering. We cannot impede technical progress; it is up to us to adapt.

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