Human capital, the universities and microeconomic reform*

Human capital: it's the sort of expression that can glaze the eyes of most people. But for economists, it's a useful way of characterising the productive capacity of an economy's most important resource, its people. We can think in terms of 'stocks' of human capital and about flows, or investment, in human capital — and how these are influenced by institutions and incentives.

Like physical capital, there are many types of human capital. But two broad ones deserve particular attention. These are, firstly, the ability to do things — 'specific' skills — and, secondly, the ability to think about what to do and how — analytical, discovery and communication skills, which we can call 'generic' skills. They're both important, but the second category is becoming increasingly so.

The link to innovation

Human capital is fundamental to the progress of societies and economies over the long term. As the new growth theory has demonstrated formally, knowledge generation and dissemination are inherent (endogenous) to the growth process itself. And human capital drives both the creation and the application of knowledge. In turn, technological change and the rapid obsolescence of specific skills that comes with it, puts a premium on people's receptivity and adaptability to change.

One thing that emerged from the R&D inquiry which the Commission conducted a few years ago, was an increasing recognition of the importance of *tacit* knowledge — knowing how things are done. Codified knowledge, in patents and literature and so on, is of little value without the human spark in applying it.

At the Commission, we also get a close look at the role of human capital in many of the individual firms with which we deal in our various inquiries. It comes through as a key source of competitive advantage in all sorts of ways. To give one example, the Industry Commission's TCF report showed that while only one firm in three

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was involved in technological innovation, those firms accounted for over 80 per cent of that sector's exports. Typically they were also the most conscious of the need for complementary training — human capital investment — within the firm.

Moreover, firms that do their own R&D generally have a much greater capacity to learn or benefit from the technological advances of others. In other words, to again use economists' jargon, they're better at 'absorbing spillovers' than other firms.

But innovation is not just about R&D. As the Business Council of Australia's (BCA) path-breaking Study Commission on Innovation of 1993 found, the key attribute of successful enterprises is an ability to innovate in *all* its dimensions — management and production systems, marketing and other things — not just through improvements in technology. Moreover, the BCA found that the most innovative enterprises have responded to, or been prompted by, a more open Australian economy with 'a great deal of learning and relearning' and were seized by the need to 'unlock the potential of their workforces'. Few enterprises succeeded without first tapping the goodwill and creativity of their employees (Carnegie et al. 1993).

This, of course, is primarily a management responsibility. Our inward-looking economy, our protected economy, was not conducive to human capital development in that area. We have the legacy of that still — although, in more recent years, we've seen a lot more training, retraining and replacement of managers. (If we wanted an illustration of how important that particular category of human capital is for any company, we can find it in the sharp rise in the share price of BHP when it's CEO departed last year.)

Investment in human capital does not just yield benefits to firms and their shareholders, it's obviously also of considerable benefit to the individuals concerned. To the extent that it implies higher productivity, it means higher incomes, more interesting jobs, jobs of choice and less vulnerability to unemployment. The statistics indicate that university graduates have an unemployment rate that is only one-third of that for people who haven't been to university, despite a burgeoning in the number of university graduates in recent years. The same applies for higher-skilled over lower-skilled workers.

To cite the TCF sector again, aggregate employment fell by 12 per cent overall over the past decade. But jobs involving formal training declined by only one per cent, whereas other jobs declined by 26 per cent.

How are we doing?

So, the right investment in human capital is an investment in higher incomes for Australians generally. How are we doing in this respect? The short answer is that we do not really know. This is not really surprising. It is hard enough to measure the physical capital stock, let alone human capital. There are proxy indicators such as the rapid rise in post-secondary education and training. The West Report noted that about 90 per cent of today's teenagers will find themselves in some form of post-secondary education, with about half of them in universities and half in vocational education and training (Higher Education Financing and Policy Review Committee 1998). University participation has increased by over 60 per cent in the past decade, and Australia now ranks seventh in the OECD in terms of participation of 17-34 year olds.

At the same time, we still have a situation in which only a little over half of 25-34 year olds have completed secondary school in Australia. That puts us down at about 19th in the OECD pecking order. This is an important issue not only economically, but also politically and socially. Apart from the other benefits, the ability of an electorate to resist simplistic political nostrums and to be a bit more discerning, is directly related to its level of education. In rural and remote areas, where 'One Nation' has received most support, less than 40 per cent of the community has finished secondary school.

So participation in education is important, but so too is the *quality* of education and training actually received. Data on educational outcomes, or performance, are very poor in Australia. This remains a major gap in what otherwise has been a very successful COAG process of cooperation between the Commonwealth and the states in generating information by which to compare government service provision across different jurisdictions.

We do have data on government expenditure per student, however. Some of this raises questions about the cost effectiveness of public spending on education. For example, the Northern Territory and the ACT both spend substantially more per student than the states. But the Northern Territory has the smallest class sizes in Australia (and a large Indigenous study body) whereas the ACT has the largest.

Simply investing more public money in the education sector will not optimise the benefits from human capital development. We need the right *kinds* of investment and the right *utilisation* of human capital in the workplace. The framework which determines incentives to learn, to teach well, and to employ and use people in productive ways, is the critical thing.

Reforming higher education

This naturally brings me to the role of microeconomic reform. As the Commission noted in its *Stocktake of Microeconomic Reform* report (IC 1996), making the best use of Australia's human potential is fundamental to ensuring progress in a rapidly changing world. It's a huge agenda, but there are two aspects in particular that are important. One relates to our education and training institutions; the second to our workplaces, and the regulatory and institutional environment in which they operate.

I think it should be obvious from my earlier remarks, that I see universities playing an increasingly important role in Australia's human capital development because of their role in building generic skills and attitudes. Critical thought and openness to new ideas are important ingredients in achieving a flexible and innovative economy in a changing world. They also provide the base for building more specific (but ever changing) skills. This suggests an important complementary role for VET in relation to higher education. Many more people who complete a degree are availing themselves of the VET system, as well as the other way around. Clearly what we need is a responsive and diverse educational system in which that kind of movement is logical and productive.

What strikes an economist is the lack of use, or even misuse, of the market in our higher education system. There have been some changes — indeed for some, too many changes — but we still have the legacy of a centrally controlled system designed for a small elite in a relatively stable world. A system which is ill-suited to mass participation in an economy and society with diverse and rapidly changing needs.

This new world that we live in is very hard to optimise from the centre. Information requirements are extreme, involving allocation decisions among different universities, among different courses, and among large numbers of students with different capacities and needs. In the rest of the economy, it's the role of the market to sort all that out. Why not in higher education? The West Review concluded that higher education was too important *not* to make better use of market mechanisms. This was based on a pragmatic judgment about the pressures and challenges of the next 10-20 years, rather than any ideological position.

However, we certainly didn't recommend an 'open slather' approach. As in other areas of policy with important social dimensions, the challenge is to make the most effective use of market forces in order to meet all of our objectives as a society, including both efficiency and equity.

For a start, we supported substantial public funding. That's despite the fact there remain major questions about the nature and extent of the societal 'spillovers',

taking a purely economic perspective, and of the inducement effects of public funding. The pragmatic judgment of the West Committee was that it was better to err on the upside, rather than risk *under*funding in this important area.

The second thing we strongly advocated was a direct financial relationship between universities and students, which we called 'student centred funding' — and the newspapers simply called vouchers! Primarily the intention was to get the universities more focused on satisfying those who in any case are already paying significantly for their education through HECS fees, and who constitute the main source of external benefits that justify public funding in the first place.

We didn't share the views of those who are concerned about the ability of students to be sufficiently discriminating or that they will be out-gunned informationally by the education establishment. Students showed themselves, in our discussions with them, to be discerning about what was in their interests and that of their prospective employers. We did recommend, however, regulated provision of information, as well as the establishment of complaints mechanisms to provide formal protection to students.

Thirdly, we argued for universities to be able to set prices which can reflect choices about the type and cost of courses that they offer. And which allow greater latitude in the remuneration of teaching staff. This provides the only viable mechanism in a future of continuing budgetary parsimony — to use Bruce Chapman's words — if we are to stem the otherwise inevitable brain drain. There aren't all that many choices: if we need to pay people more money to ensure quality, the money has to come from somewhere.

However, we also argued for transitional limits to such price freedoms and strongly endorsed the maintenance of a HECS-type approach, with no requirement for upfront payment of any fees.

We argued that this kind of approach — more market-based, but complemented by good regulation — would achieve a more diverse, innovative and accessible system.

Accessibility became an article of faith within the West Review very early on — almost to the point where I had to ask whether we were going to *force* everybody to go to university. I still harbour some uncertainties as to whether a university education is for everyone. I think the VET system has a valuable, separate contribution to make, which is more suited to many people. But that's against my general point that increasingly over time what universities have to offer is going to be needed by many more people.

Accessibility is not an issue confined to the design and funding of the higher education system alone. The under-representation of students from lower socioeconomic, indigenous or remote region groups, is reflected very much in the point I made earlier about the low completion levels for secondary school in those areas.

There's a big issue here of the respective roles of universities and the TAFE colleges. The long term vision reflected in the West Report was of a seamless funding system in which students could move between the two areas, bringing the same source of public funding with them. VET obviously has to be directly responsive to the needs of firms, but it is questionable how directly responsive the universities should be.

A learning workplace?

This brings me to the second aspect bearing on the payoff from human capital: namely, skill development and utilisation within the workplace.

A learning organisation requires a culture of involvement and common cause from management down. Organisational culture and attitudes are greatly influenced by the market environment and by industrial relations regulation. The Commission has gained useful insights from studies that we've conducted recently at the request of the Government, looking at work arrangements in coal, stevedoring and, meat processing. We found in those areas that both the market environment and workplace regulation had constrained and distorted the development and use of human capital, and in turn had detracted from productivity at the enterprise and industry levels.

For example, we heard in the coal industry inquiry that there was a lack of effective management training and people skills, and it was easy to see why. State regulation had long prescribed the qualification and training required at all levels in a highly detailed way. In stevedoring, we had a set of work arrangements with curious titles, such as 'the order of pick' and 'equalisation' of earnings, which essentially removed managerial discretion in allocating workers to particular tasks. It was hard to believe that these sort of work practices, which people in the industry spoke of as the norm, actually existed. It was not surprising, therefore, that there was little emphasis on training or, as in the case of coal, that industry had a very poor OH&S record.

In the meat processing industry, the 'tally system', as prescribed in awards, was also very heavily pre-emptive of the management function. Of course some managers said that they liked that kind of system. The sort of managers who grew up under a

system which didn't require much management expertise, would obviously have an inclination to stay with such a system.

In each of those three areas, we observed very poor workplace cultures: the antithesis of what the BCA, in that earlier report I spoke of, saw as the essential precondition for innovative and successful firms. In each case, we found strong unions — with almost comprehensive coverage of the workforce — weak management, and muted product competition. In fact, in all three, there was an emphasis on volume over production cost.

Summing up

In sum, human capital is clearly fundamental to economic progress. It's connection with innovation at all levels within firms, and more broadly, is especially important, and even more so in the rapidly changing world in which we live today. Generic skills and the role of universities are looming larger in this situation, with a VET system that is responsive to changing specific skill needs of industry playing a complementary role.

In a complex, diverse and rapidly changing world, we need to enable more decisions about human capital investment and its use to be made by those directly involved. Flexibility and responsiveness are required both in our education institutions and in our workplaces. Policy has been heading in that direction — but not always as effectively as it might. In a highly competitive economy which is increasingly global in its reach, we need to do better; and I think that challenge has never been greater than it is right now.

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