

5 Government Spending on Higher Education

5.1 *Education Spending: Why focus on higher education?*

Education serves many key social and private objectives. The benefits of education accrue not only to individuals, in the form of greater employability and higher wages; but also to society at large. Better educated workers are more productive. Societies that have better educated populations tend to have lower crime rates, and enjoy greater social cohesion.

Since independence, we have invested a significant amount in making sure that Singapore's general education system is both accessible and high-quality. However, in recent years, we have been investing increasingly in post-secondary education – including our Institutes of Technical Education (ITE), Polytechnics, and Universities. Several economic and strategic considerations are at stake in this shift in focus.

5.2 *Singapore's Education Spending*

The Singapore Government invests heavily in education. In the past five years alone, our expenditure on education has increased by over 40%, from about \$6.1b in FY2005 to \$8.7b in FY2009. The higher education share of the overall education budget has also been increasing steadily over the same period, from about 36% in FY2005, to about 42% in FY2009. We expect education spending to continue to rise over the next five years, in particular in higher education.

5.3 *Increasing Investments in Higher Education*

A Global Shift In Focus

Singapore is not the only country to increase its investment in higher education. Tertiary education systems have been expanding worldwide, with total enrolment increasing at an estimated 5% annually over the period 1991-2004. Asia, especially China and India, has seen the fastest growth in higher education enrolment, along with an increase in demand for private provision and financing.¹¹ This rise in demand is a result of the recognition that a well-educated labour force is needed for long-term economic development.

In countries where the higher education sector is more developed, there has also been a growing awareness of the need for close links between higher education institutions and industry, and a simultaneous diversification in the range of occupational qualifications provided by these institutions. Several national governments, including France, Japan, and the United Kingdom have supported the development of regional centres of innovation, where small and medium-sized enterprises (SMEs) work closely with higher education institutions on innovation and research ventures.

¹¹ OECD publication, "Higher Education to 2030: Globalisation." Executive summary online at <http://www.oecd.org/dataoecd/55/17/44101074.pdf>.

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Singapore's higher education sector is already recognised as one of the best in the region. Nonetheless, as the emphasis on higher education grows worldwide, we will need to constantly improve our universities, polytechnics, and ITE, to ensure that our higher education sector remains world-class. At the same time, we must move into more complex areas of study and collaboration with Industry, to reap maximum returns from our investment in higher education.

5.4 *Cultivating our Human Capital Resources*

Higher education is a major driver of economic competitiveness in a knowledge-based economy. This is especially so in Singapore, where people are our greatest resource. Government plans to increase the higher education participation rate over the next few years, raising the University Cohort Participation Rate (CPR) from 25% currently to 30% by 2015. Polytechnic CPR is projected to rise to 45% from the current 42%, as the polytechnic sector grows and updates their offerings to ensure that graduates are work-ready and valued by industry. As a result, the educational profile of our resident workforce will improve significantly over time, with 50% of our resident workforce projected to possess at least a diploma by 2020, including 35% holding degrees.

More options will also be provided for our school graduates, who now have higher and more diverse aspirations. The two upcoming additions to the higher education sector in Singapore will provide more pathways to a university degree. The Singapore University of Technology and Design (SUTD), established in close collaboration with the Massachusetts Institute of Technology (MIT) and Zhejiang University, is envisioned to be a world-class, research-intensive university offering design-focused interdisciplinary programmes anchored in science and technology. SUTD will work closely with the economic agencies, such as the Economic Development Board (EDB), as well as the private sector, to ensure that its graduates will be ready to contribute in areas critical to Singapore's economic and social development.

The creation of a second institution, the Singapore Institute of Technology (SIT), will expand the range of degree programmes available to Singaporeans, by partnering overseas universities and working in concert with the five local polytechnics. SIT will leverage on the polytechnic education model to provide an alternative upgrading pathway for polytechnic students and mid-career upgraders alike.

Box 5.1: Why should Government subsidise Higher Education?

People who invest in higher education tend to receive greater private returns in the form of higher wages and higher employability. Unlike primary education, higher education provides individuals with concrete skills and capabilities, which in turn allow them to command a nontrivial wage premium when they enter the labour market.

Nonetheless, there are compelling reasons to heavily subsidize higher education:

1) **Efficiency.** There are social returns to higher education. “Private” returns – such as higher employability and wages – have positive social effects as well, in terms of lowering poverty and crime rates. Many studies have suggested that numerous productivity externalities arise from higher education. For instance, economists hypothesise that a city with more human capital would be able to generate more knowledge capital, and the productivity gains from that would then spill over and raise wages among the rest of society. These effects create a compelling case for higher education subsidies.

2) **Equity.** Even if the returns to higher education were completely private, there is a case for Government to intervene to ensure that there are equal opportunities. While it is generally feasible for individuals to fund their own tertiary education through loan schemes, the lower-income may face credit constraints because of their lack of collateral. Others may have heavy financial responsibilities that compel them to enter the labour market as soon as possible, rather than contemplate further education. Evidence from abroad also suggests that the lower-income tend to underestimate the returns to education, due to lack of information and poor community role models. To encourage this group to take up higher education, the Government provides financial assistance for higher education, as well as student and tuition fee loan schemes for the middle income at low interest rates.

Hence, a key component of Government expenditure on higher education is channelled towards ensuring that higher education remains affordable for the population at large. Currently the Government subsidises up to 75% of the cost of university education, and 85% of the cost of Polytechnic Diploma courses. At the same time, these subsidy ratios are still lower than that provided for primary and secondary education, to reflect the greater private returns to higher education.

5.5 Building Singapore as a Hub for Innovation and Enterprise

Moving ahead, Singapore must be able to compete on the frontier of innovation, rather than on the basis of cost or location. To do so, Singapore requires a strong base of research capabilities to give Singapore an economic edge, and allow it to respond nimbly to national imperatives. Our higher education institutions play an expanded role in this vision.

Our Universities and Polytechnics, together with public research institutions play a central role in new innovations and technologies. We have been building up new research capability in recent years. For instance, NUS’ collaboration with Duke University on the Duke-NUS Graduate Medical School allows advanced clinical research to be conducted and taught in Singapore, thus jumpstarting our capabilities

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in this area more quickly than we would otherwise have. The Polytechnics also work closely with industry players on business innovation and product development through the Centres of Innovation that are hosted at the Polytechnics. The upcoming SUTD will have a strong emphasis on research as well, with the establishment of the International Design Centre (IDC) that will gather the best minds to seek solutions around modern-day challenges.

5.6 Conclusion

The Singapore government has always invested heavily in education, and will continue to do so in future, with greater emphasis on developing higher education. This requires a careful balancing between strategic considerations, equity, and efficiency.