

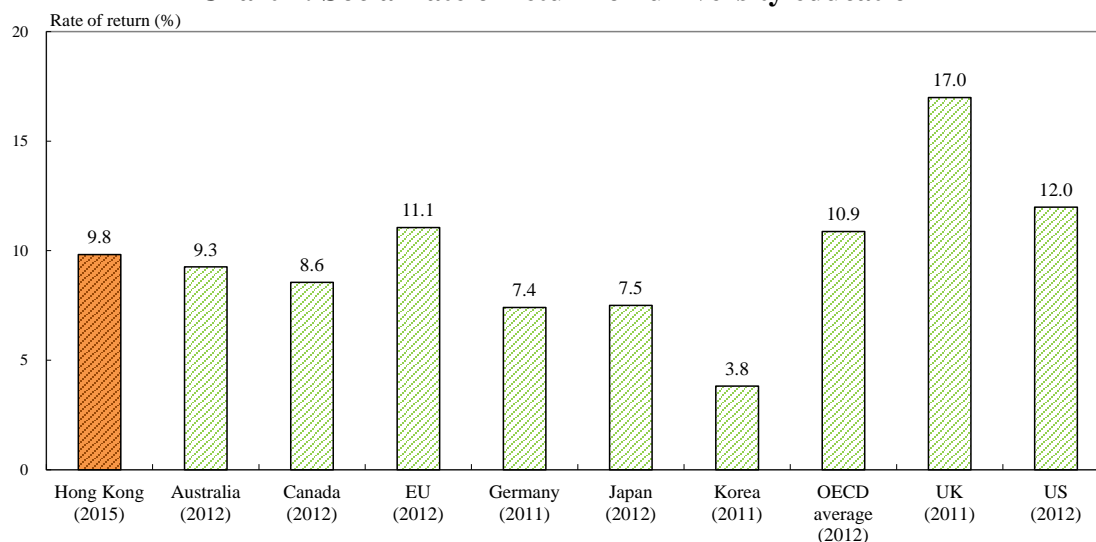
Box 5.1**Returns on attaining university education⁽¹⁾**

Investment in education is essential to upgrading our human capital. The quality of our workforce is ever more important in laying the foundation for Hong Kong's development as a knowledge-based economy, as well as for sustaining economic vitality through productivity enhancement when the size of our labour force is expected to dwindle amid an ageing population. This note focuses on the returns on attaining university education, as an update to an earlier article published in 2006⁽²⁾.

Drawing reference to the Organisation for Economic Co-operation and Development (OECD)'s "Education at a Glance" report, the returns on education are estimated by the internal rate of return (IRR) approach, where the IRR is the break-even rate of return that equates the future stream of benefits with the upfront costs invested in university education after discounting for time. The social and private IRR⁽³⁾ of Hong Kong are analysed below and benchmarked against other advanced economies⁽⁴⁾ to help gauge the returns on university education for our society as a whole and for private individuals.

Social return on university education

Under the IRR approach, Hong Kong's real social return on 3-year university education is estimated at 9.8% in 2015. This figure, which captures financial returns only, is generally in line with international norms as proxied by the OECD average for tertiary education (at 10.9% in 2012). When viewed across individual economies, Hong Kong's figure was somewhat lower than those of the US and the EU (at 11.1% to 12.0%), while notably ahead of those of Canada, Japan, Germany and Korea (at 3.8% to 8.6%) (*Chart 1*).

Chart 1: Social rate of return on university education

Notes: As the estimated returns from OECD (2016) are by sex, the above return for each selected economy and the OECD average is the simple average of the respective estimated returns to males and females.

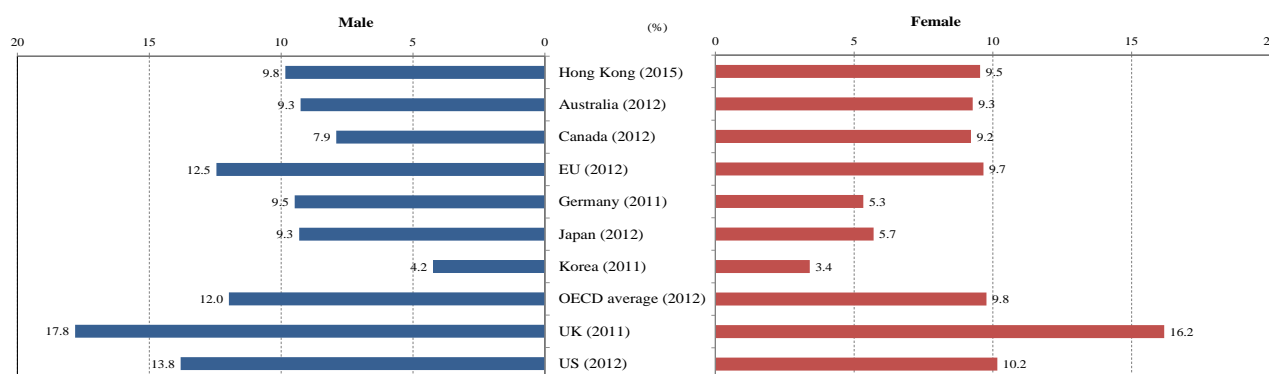
Singapore's returns to tertiary education are not available from OECD; only the private rate of return is available from Singapore's Ministry of Manpower (see Chart 4).

Sources: OECD: Education at a Glance 2016; Hong Kong: General Household Survey, Census and Statistics Department (C&SD), internal staff estimates.

- (1) In this article, "university education" covers publicly-funded 3-year first degree education for Hong Kong, and all levels of tertiary education for OECD economies. Hong Kong's first cohort of university graduates completing 4-year undergraduate programmes had not yet entered the labour force in 2015.
- (2) "Estimating the social rate of return of university education in Hong Kong", November 2006. [http://www.hkeconomy.gov.hk/en/pdf/Rate_ReturnU\(2006\).pdf](http://www.hkeconomy.gov.hk/en/pdf/Rate_ReturnU(2006).pdf)
- (3) In estimating the IRR for Hong Kong, private costs comprise the tuition fees and employment earnings foregone during university study whereas private benefits are the full-time after-tax earnings differential of university graduates over matriculation graduates; social costs include private costs as well as public resources from the University Grants Committee's funding and foregone rental value of campus premises, and social benefits include individuals' higher earnings.
- (4) The OECD no longer published the social return figures after 2005. The social rates of return on tertiary education for the OECD average and individual economies are roughly calculated as the average of the private and public rates of return weighted by the respective private and public costs of education as published by the OECD.

Box 5.1 (Cont'd)

Hong Kong also has a relatively narrow gender gap in its social return on university education, with male workers having a social rate of return on average of just 0.3 percentage point higher than their female counterparts. The corresponding figure for the OECD was 2.2 percentage points. Nevertheless, the situation varied across individual economies: whereas the social return on tertiary education for male workers in Japan, Germany and the US were more than 3 percentage points higher than that of their female peers, the gender gap was virtually non-existent in Australia. In Canada, the rate of return for female workers was even higher than the male rate of return (*Chart 2*).

Chart 2: Social rate of return on university education by gender

Sources: OECD: Education at a Glance 2016; Hong Kong: General Household Survey, C&SD, internal staff estimates.

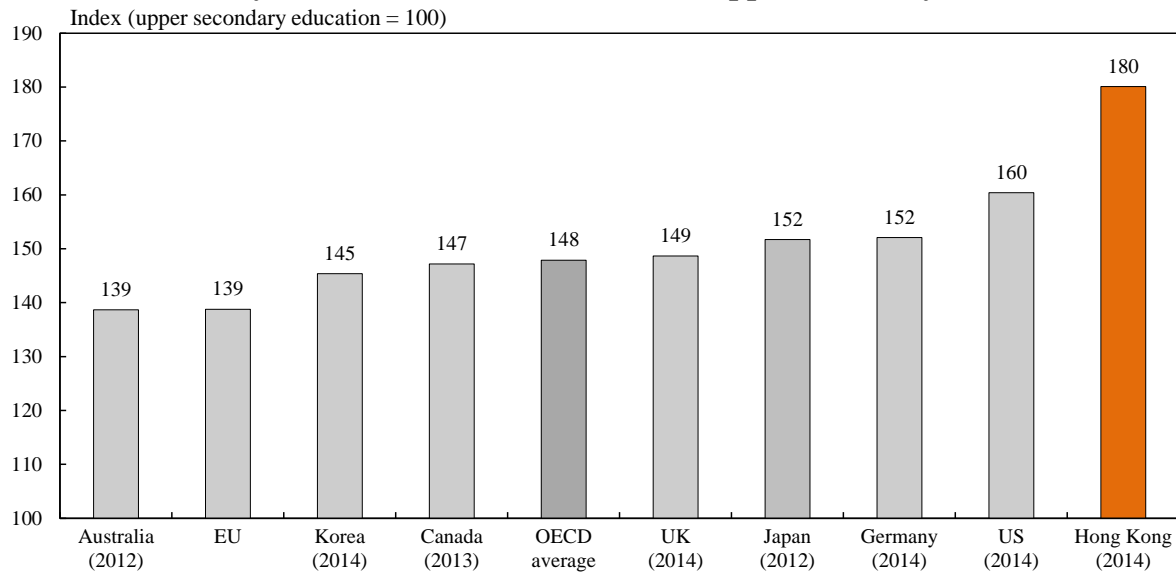
Private return on university education

In addition to the benefits conferred on society as a whole, the economic incentives for private individuals to pursue tertiary education are usually substantial. The earnings advantage for university graduates is especially appreciable in Hong Kong, with their average income being some 80% higher than that of workers with secondary education at the sixth form or above, far exceeding the earnings differentials in many advanced economies and the OECD average of 48% (*Chart 3*). Hong Kong's increasingly high value-added and knowledge-based economic activities could conceivably be a key motivation for employers to put a higher value on the enhanced productivity from workers with degree-level education. This income premium is also manifested in the attractive real private rate of return on university education for workers in Hong Kong, which at 17.7% in 2015 was well ahead of the private return on tertiary education of most of our peers (*Chart 4*).

In response to the alluring economic incentives to pursue higher education, the share of the labour force with a first degree or higher educational attainment increased notably from 11% in 1996 to 20% in 2006 and further to 30% in 2016. Looking ahead, the future trend of the earnings premium of university graduates will hinge on the effects of an increased supply of well-educated labour force; the Statutory Minimum Wage's ripple effect in bolstering the wages for the lower segment of the labour market; prevailing labour market conditions; and the persistent demand for skilled labour alongside the upgrading of the Hong Kong economy.

Box 5.1 (Cont'd)

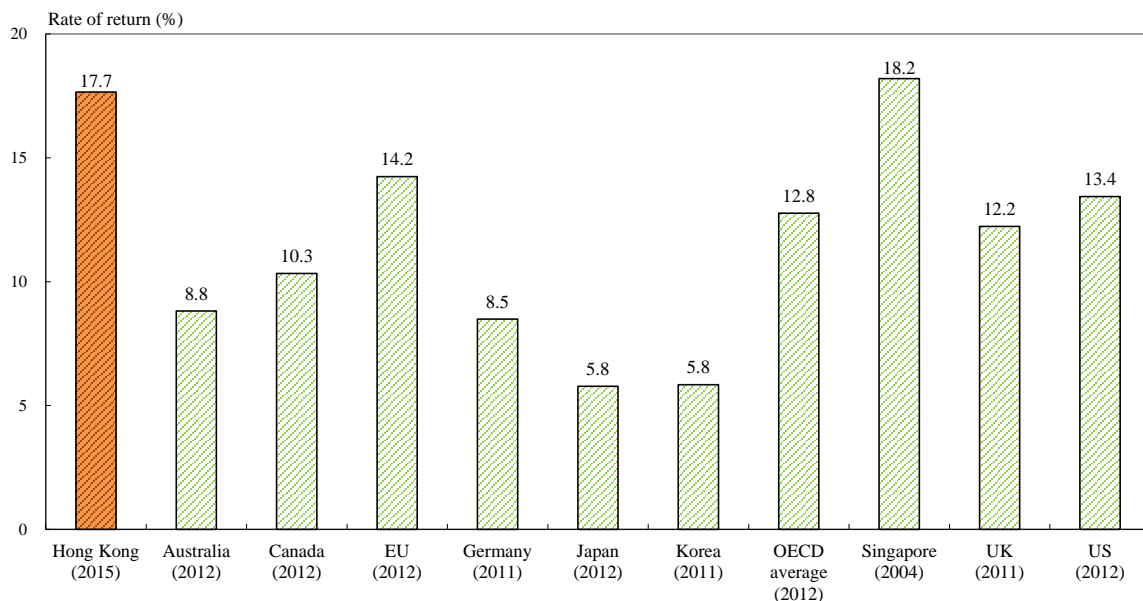
Chart 3: Full-time employment earnings of workers aged 25-64 with first degree university education relative to those with upper secondary education



Notes: The OECD (2016) report did not specify the reference years of the EU and the OECD average figures. Japan's data refer to all tertiary earners. In line with the estimation of IRR for Hong Kong in other parts of this article, Hong Kong's figure compares the full-time employment earnings of university graduates against matriculation graduates.

Sources: OECD Education at a Glance 2016; Hong Kong: General Household Survey, C&SD.

Chart 4: Private rate of return on university education



Notes: As the estimated returns from OECD (2016) are by sex, the above return for each selected economy and the OECD average is the simple average of the respective estimated returns to males and females. Singapore's figure is the simple average of the respective returns to Polytechnic diploma and University first degree levels to males and females.

Sources: OECD: Education at a Glance 2016; Singapore: Ministry of Manpower, "Premium on Fields of Study: The Returns to Higher Education in Singapore", January 2007; Hong Kong: General Household Survey, C&SD, internal staff estimates.

These forces consequently would be among the factors determining the private return on university education, the incentives to pursue higher education and the upward mobility for the next generation of talents in Hong Kong. There is a need to closely monitor the relevant developments and their implications for the local labour force.

Box 5.1 (Cont'd)**Policy measures**

In view of the many aspirants for higher education and the increasing need for talents in the economy, the Government continued to invest heavily in education persistently over the past few decades, especially in terms of opening up more diversified pathways to tertiary education for our youths. Such measures include increasing the number of senior-year undergraduate places at University Grants Committee-funded institutions to offer more opportunities for students with sub-degree qualifications to access publicly-funded degree programmes; broadening educational options for youths through the Study Subsidy Scheme for Designated Professions/Sectors (SSSDP) starting from the 2015/16 academic year for designated full-time self-financing undergraduate programmes in selected disciplines to nurture talents for specific industries with keen manpower demand; and providing matching grants to help degree-awarding institutions tap more funding sources. In 2014, the Government launched the Hong Kong Scholarship for Excellence Scheme to support outstanding students wishing to pursue studies in world renowned universities outside Hong Kong; and in the same year, the Government also launched the Mainland University Study Subsidy Scheme to support students in financial need to pursue undergraduate studies in designated Mainland institutions.

The current-term Government has added further impetus to this effort by taking expedited actions to introduce a package of measures involving additional recurrent expenditure of about \$3.6 billion per year and covering different stages of the educational ladder. For tertiary education in particular, the Government has secured approval from the Legislative Council to launch a non-means-tested annual subsidy scheme in the 2017/18 academic year that provides \$30,000 per year for eligible students pursuing full-time locally-accredited local and non-local self-financing undergraduate (including top-up degree) programmes in eligible institutions in Hong Kong⁽⁵⁾ and \$5,000 per year for eligible students pursuing eligible undergraduate (including top-up degree) programmes in the Mainland. This non-means-tested annual subsidy scheme, estimated to immediately benefit about 39 000 students, signifies the Government's recognition of the importance of talent for Hong Kong's continued development.

Concluding remarks

A well-educated workforce is essential to meeting the keen demand for talents and consolidating Hong Kong's role as a world-class international business centre amid fierce global competition. Human capital is also a vital element for the sustainable development and competitiveness of Hong Kong in light of the challenges brought about by population ageing and a shrinking labour force. Hong Kong's generally favourable returns on attaining university education vis-à-vis other advanced economies indicate the significant benefits of investing in education both for society as a whole and for private individuals in pursuit of higher education. The Government will spare no effort on this front, with a view to providing more opportunities for our younger generations to realise their full potential, which will in turn bode well for Hong Kong's social and economic developments.

(5) Students enrolled in places already supported under the SSSDP are excluded.