



## **Promotion of innovation and technology in Hong Kong**

### **1. The role of universities**

In the last few decades, the relationship between innovation and economic growth has been well recognized. Universities are playing an increasingly important role in the regional and national innovation and technology development. World wide universities are undergoing a second academic revolution that combines their traditional role in research and teaching with technology transfer. The transfer of knowledge and technology from universities to the industry and the commercialization of knowledge have led to phenomenal economic growth of their regions and countries, and there are many examples of these. It has been proposed that in a knowledge-based society, the universities, the industry and the government should have equal roles and form a triple helix in stimulating innovation.

#### **1.1 Research funding mechanism of the universities in Hong Kong**

In most developed countries, growing attention has been paid to the economic utilization of publicly funded research. In Hong Kong, almost all the university research fundings are provided by the government and administered through the Research Grants Council (RGC). The research fundings that are given to the universities mainly comes through two routes. The majority of which is through the research portion of the block grant (R-block) which is allocated on a triennium basis. The R-block constitutes twenty five percent of the University Block Grant to the universities sector wide. So the R-block represents a significant portion of the funding that universities cannot ignore. The R-block that allocated to each university is determined by the Research Assessment Exercise (RAE) which is held every six to eight years. A smaller portion of the research funding is allocated competitively through a variety of funding schemes – the main funding scheme is called General Research Fund (GRF). As resources allocation drives behavior, and universities are no exception to the rules, the criteria used in the RAE and the R-block allocation mechanism will significantly affect the research direction of the universities in Hong Kong.

#### **1.2 The changing research funding allocation mechanism**

In the last few years, RGC has introduced sweeping changes to the research funding allocation mechanism that potentially has the unintended consequence of steering universities away from applied research that will drive innovation and technology to pure academic research on basic science.

##### ***1.2.1 General Research Fund (GRF)***

The first measure is the introduction of the ‘on-cost’, or overhead, to successful GRF projects. Spread over nine years, at the end of which, RGC will claw back half of the R-block allocated to the universities and re-distribute them back based on the results of the GRF scheme. At full implementation, every research dollar taken into

a university through a successful GRF project will bring an additional ‘on-cost’ of two dollars. Thus, universities will focus on winning the GRF projects in order to recover the clawed back portion of R-block rather than the applied research projects with the industry. Of course, it is not correct to say that GRF projects do not support innovation and technology, but GRF projects are in general biased towards the academic side of the spectrum. The problem is that GRF projects are peer-reviewed by international experts and focused mostly on academic research, thus they might not have direct relevance to the development of innovation and technology that will benefit Hong Kong.

Re-distribution of half of the R-block through GRF results aims to further enhance research quality in Hong Kong through competition. However, the devil is in the details. The unintended consequence of GRF ‘on-cost’ is that it might steer universities away from applied research that will promote innovation and technology.

### **1.2.2 RAE 2014**

The next RAE will be held in 2014. Deviated from the previous RAEs, which determine the number of active researchers in the university sector, the stated purpose of the next RAE is that it tries to ensure “... *first class research is properly funded.*” The determination of first class research will rely on panels of international experts, who will bring with them the science and technology bias of the countries and regions they come from. It is unclear how local or national relevancy of the research output by Hong Kong universities will be taken into account in the next RAE, if at all. Since the R-block constitutes a significant portion of the block grant to universities, undoubtedly universities will drive their research towards “world leading”, as judged by these international experts, which might or might not be relevant to innovation and technology development that will benefit Hong Kong.

### **1.3 The root of the problem**

Despite the wide recognition of the role of universities in a knowledge based society, the University Grants Committee (UGC) is rather passive in the promotion of innovation and technology in Hong Kong. Unfortunately, in the quest for enhancing research quality through competition and the over-reliance of the judgment of international expert panels, RGC is unwittingly diminishing the roles of universities in the emerging knowledge economy, and at a danger of promoting the research-for-research-sake type of academic research in Hong Kong.

It is high time that Hong Kong should develop a coherent innovation and technology development policy that properly takes into account the role of universities in the triple helix of innovation. The contribution of universities to innovation and technology should be recognized in the research funding allocation to them so as to steer them towards an entrepreneurial institution.

## **2. Increase in R&D investment**

Innovation and technology based businesses are high-risk-high-return investment that require much government support and nurture especially in the initial phase. A simple but critical indicator for government’s commitment to the promotion of innovation and technology is its R&D investment as a percentage of its GDP. It is well-known that R&D

investment by Hong Kong is far below its neighbors. For example, in 2011 Hong Kong R&D investment is only a dismal 0.8% of its GDP compared to 3.47% for Japan, 3.4% for South Korea, 2.6% for Singapore, 2.35% for Taiwan, and 1.55% for mainland China. In the 2010 budget speech of Singapore, it states that “*While we will maintain public sector support for R&D at 1% of GDP, we should grow private sector R&D from 2% of GDP currently to 2.5% over the next five years.*” If it is realized, the R&D spending by Singapore in 2015 will be 3.5% of its GDP.

If Hong Kong is serious about the promotion innovation and technology, the government must increase its R&D spending on applied research, such as through the Innovation and Technology Fund, to match that of our neighbors.

A handwritten signature in black ink that reads "Alexander Wai". The signature is written in a cursive, flowing style.

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7 May 2012