For discussion
on 17 July 2007

Legislative Council Panel on Commerce and Industry

Improvements to the Small Entrepreneur Research Assistance Programme and the University-Industry Collaboration Programme under the Innovation and Technology Fund

Introduction

This paper sets out the proposals to improve the Small Entrepreneur Research Assistance Programme (SERAP) and the University-Industry Collaboration Programme (UICP) under the Innovation and Technology Fund (ITF).

Background

2. The ITF was established as a statutory fund under the Public Finance Ordinance on 30 June 1999 with a government injection of $5 billion. Officially launched on 1 November 1999, the ITF is administered by the Innovation and Technology Commission (ITC). SERAP and UICP are two of the main programmes of the ITF[1].

3. In establishing the Fund, the Administration undertook to review the ITF periodically to ensure that the ITF meets its mission and operates effectively. In the 2007 Budget, the Financial Secretary announced the Administration's intention to relax the restrictions of the SERAP and the UICP so as to provide further impetus to the development of applied scientific research.

Small Entrepreneur Research Assistance Programme

Current situation

4. SERAP aims to provide pre-venture capital funding to technology

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[1] Prior to the establishment of the ITC on 1 July 2000, the ITF was administered by the former Industry Department. The ITF has four main programmes: (a) Innovation and Technology Support Programme; (b) University-Industry Collaboration Programme; (c) Small Entrepreneur Research Assistance Programme; and (d) General Support Programme.

entrepreneurs and small technology-based companies to undertake projects that have innovative, technological content and have a reasonable chance of successful development of a new product, process or service that can be brought to the market. Local companies with less than 20 employees are eligible to apply. All applications are considered by a Panel of Assessors comprising technology experts, professionals and industrialists. Each approved project will receive funding up to $2 million on a dollar-for-dollar matching basis. As at 31 May 2007, 983 SERAP applications have been received and 261 projects involving a total funding of $260 million have been approved.

5. SERAP funding is usually provided in two phases. Phase I is a trial period of six months or less. If the project is able to demonstrate satisfactory progress and subject to vetting by the Assessment Panel, Phase II funding will be provided for a period of no longer than 18 months. ITC will seek to recoup the government's contribution if the project is able to attract follow-on investment or generate revenue.

6. To follow up on the 2007 Budget Speech and following a recent review of SERAP's funding criteria and operation guidelines, we propose to widen the scope of SERAP to cover companies with 20-99 employees, change the two-phase system to a single-phase system, and modify recoupment from project-based to company-based.

Company size

7. Since the inception of SERAP in 1999, only small companies with less than 20 employees are eligible to apply for SERAP funding. The purpose is to provide direct support to small technology-based companies and start-ups which may not have the necessary funding to develop their technologies or innovative ideas.

8. In recent years, there has been a gradual increase in R&D expenditure in Hong Kong. However, the R&D expenditure by the business sector, which accounted for 52% of the total R&D expenditure in 2005, was still on the low side when compared with the figures in our neighbouring economies[2]. Given its closeness to market, the business sector is best placed to develop products or services based on new technologies. Many economies also provide assistance to enterprises to encourage them to carry out R&D activities. Some examples

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[2] The ratio of R&D expenditure by business sector to total R&D expenditure in some neighbouring economies in 2005 are: Singapore (66.2%), Taiwan (67%), Mainland China (68.3%) and Korea (76.9%).

are set out at Annex.

9. To facilitate the development of a knowledge-based economy and high value-added industries, it is necessary to promote more R&D activities to be undertaken by local enterprises. Having regard to the size of the companies adopted by other economies in their R&D funding programmes and the size distribution of local enterprises, we propose to relax the eligibility criterion so that companies with less than 100 employees may apply for SERAP funding. By so doing, SERAP will cover about 99% of the total number of establishments in Hong Kong[3].

Single-phase System

10. Currently, SERAP projects have to be carried out in two phases. Phase I is fixed to be for a duration of not more than six months with a funding support of not more than $0.4 million. The applicant will need to apply again for Phase II of the project after completion of Phase I. Phase II will have to be carried out for a period of no more than 18 months with a funding support of not more than $1.6 million.

11. Having operated the current system for some seven years now, we have identified a number of problems with the two-phase approach. First, not all projects proposed by the companies are of a two-year duration and it is sometimes difficult to arbitrarily cut a research project into a phase I of 6 months (with $0.4 million funding) and a phase II of 18 months (with $1.6 million funding). In fact many companies would wish to conduct the research in a much faster period to match the fast market demands. Secondly, since a totally separate application is required to be submitted again for phase II after completion of phase I, there is always a time gap between the two phases because of the need for the Assessment Panel to examine the completed phase I report before deciding on whether to support phase II or not. More often than not this would lead to discontinuation of work and possible cash flow problems for the applicant companies, as well as much administrative burden both on the part of the companies and on the ITC to go through two applications and evaluation exercises for a single project.

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[3] According to the Quarterly Report of Employment and Vacancies, September 2006 by the Census and Statistics Department, there were a total of 304,128 establishments in Hong Kong and the breakdown by number of employees is –

1-19 employees	286,850
20- 99 employees	15,301
over 99 employees	1,977

12. With the experience gained, we propose to adopt a single-phase system with well-defined milestones and the required funding at different stages during the project period will be agreed at the outset of the project. Under the new system, the applicant company will have to form a clear view on what its intended achievements are in concrete terms and the pathway to such given achievements, thereby the risks of a project losing track would be reduced. The proposal will also help streamline process and minimise the documentations required. SERAP funding will be provided by instalments on a matching basis up to a maximum of $2 million. ITC will closely monitor the progress of the approved projects and SERAP funding may be withheld if a project is unable to meet the agreed milestones.

Recoupment

13. Currently, SERAP funding will be recouped from the recipient company if the SERAP project is commercially successful, i.e. it is able to attract follow-on investment by other investors or generate revenue. The SERAP recipient companies have to keep track of the follow-on investment and revenue generated until the SERAP funding has been fully recouped.

14. Experience shows that such painstaking tracking of the revenue stream of a SERAP project deliverable is almost impossible to operate. This is because given the rapid pace of technological developments, the market value of a SERAP project deliverable (usually of a relatively minor scale) will likely be diminishing within the first few years after launching, or become only one of the many ingredients of the end product.

15. We therefore propose to simplify the recoupment arrangement from project-based to company-based, i.e. to recoup a certain percentage of the company's profits rather than from the revenue generated by the project. We also propose to introduce a six-year cut-off period for the recoupment, instead of requiring the companies to report any follow-on investments and revenues/profits which can in theory be an infinite obligation until all the SERAP funding is fully recouped.

University-Industry Collaboration Programme

Current situation

16. The purpose of the UICP is to encourage enterprises and local universities to collaborate and undertake applied R&D, with a view to encouraging a stronger culture in both enterprises and local universities to undertake commercial R&D, and to accumulate human capital through the

process. In gist, the current mode of operation of the UICP is as follows –

(a) a private company incorporated in Hong Kong and with substantive connections with Hong Kong, in conjunction with a local university, may apply for UICP grants;

(b) the majority of the R&D to be undertaken has to be conducted by the concerned local university in Hong Kong;

(c) the participating company has to bear no less than 50% of the project cost in cash; and

(d) disbursement of the UICP grant is subject to the applicant company having disbursed its share to the concerned local university.

17. As at 31 May 2007, 255 UICP applications have been received and 164 projects involving a total funding of $186.3 million have been approved. The geographical requirements in paragraphs 16(a) and 16(b) above are to ensure that benefits to be derived from the UICP will accrue to Hong Kong registered companies and the local economy.

Proposed relaxation measures

18. To encourage competition and industry stakeholders to engage in R&D, we have reviewed the operation of the UICP and propose that the geographical requirement in paragraph 16(b) above may be relaxed by -

(a) allowing a non-local university to undertake the major part or the whole of the R&D work of a project; and

(b) allowing a major part or the whole of the R&D work of a project to be conducted outside Hong Kong.

19. Under the proposal, local private companies will have a wider choice of their collaborating partners, including universities in the Mainland and overseas, which may own background IPs and technical expertise not available locally. A major or the whole of the R&D work may also be conducted outside Hong Kong. This will give more flexibility to the local companies to leverage on the cost advantages of non-local universities. The companies may benefit from competition between the local and non-local universities.

20. Local universities will remain eligible to apply under the UICP. With their knowledge of and proximity to the local industry, we believe that they would continue to play an important role in collaborating with the companies as their research partners. In addition, we encourage that the knowledge

developed from the UICP projects be applied to our industry in Hong Kong and the PRD region. When considering project applications, we will take into account, among other factors, whether the applicant companies have plans to deploy the technologies developed in Hong Kong and the PRD region.

Financial Implications

21. The above proposals are expected to encourage more companies to apply for SERAP and UICP funding. However, it is difficult to have an accurate estimate of the financial implication of the above proposals because the amount of actual funds approved would depend on the response of the industry and quality of the proposals.

22. The average funding approved under SERAP for the past seven years is $35 million per year. As for UICP, for the period 2000-2005 (excluding 2006 the figure of which is exceptionally low), the average funding approved is $30.45 million per year. If we take the past yearly figures as the basis and assume that funding approval would increase by 50%, the estimated financial implication for the next five years will be around $163.6 million (i.e. $65.45 million x 50% x 5 years). We estimate that the ITF should have sufficient funds to cover additional funding in this order in the next five years.

Way Forward

23. We plan to implement the above proposals within 2007. Members are invited to note the contents of this paper.

Commerce and Economic Development Bureau
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Annex

Funding programmes in other economies to support R&D activities by enterprises

- The US Small Business Innovation Research Program (SBIR) supports small business concerns (i.e. with 500 or fewer employees and 51% US owned and independently operated) to engage in R&D with potential for commercialization, whilst the Small Business Technology Transfer Program (SBTT) encourages small business concerns to cooperate with research institutions (e.g. universities). Funds are provided in phases up to a maximum of US$850,000. No matching fund or repayment is required.

- The UK Grant for Research & Development provides four types of grants on a matching basis to support: (a) micro projects of a duration up to 12 months by companies with less than 10 employees, covering 50% project cost up to a maximum of £20,000; (b) research projects of 6 to 18 months by companies with less than 50 employees, covering 60% project cost up to a maximum of £75,000; (c) development projects of 6 to 36 months by companies with less than 250 employees, covering 35% project cost up to a maximum of £200,000; and (d) exceptional development projects which are similar to (c) except that the maximum grant is £500,000 per project;

- The Netherlands operates a voucher system under which the government issues vouchers to SMEs to encourage them to acquire technology know-how or engage R&D institutions to conduct R&D projects for them.

- Singapore operates a number of funding schemes in the form of matching grants to support technology upgrade, product development and innovation. These include: (a) Innovation Commercialization Scheme which aims to help inventors develop and commercialize their ideas by providing up to 50% of qualifying costs for approved projects, up to a maximum of S$75,000; (b) Technology Innovation Programme which supports SMEs (i.e. with less than 200 employees and fixed assets below S$15 million) to build up their technology innovation capability through hiring technical experts from R&D institutions. It subsidizes up to 70% of the qualifying costs related to the hiring of the experts; and (c) Innovation for Environmental Sustainability Fund which aims to encourage businesses to develop new products, services and technologies that help businesses be more environmentally-friendly. It subsidizes 30-100% of the qualifying costs up to S$2 million.