

**For discussion on
9 May 2016**

Legislative Council Panel on Education

**Policy on Research Funding from the University Grants Committee and
the Research Grants Council**

Purpose

This paper briefs Members on the policy on research funding from the University Grants Committee (UGC) and the Research Grants Council (RGC).

Background

2. Teaching and research are considered two principal missions of the higher education sector. Across the world, different countries and regions rely increasingly on their higher education sector to carry out research, in order to enable industry to flourish, innovate and meet social needs, and thus enhance the long-term competitiveness of the economy. Furthermore, teaching is closely linked to, and should be informed by, research. All academics should be at the forefront of knowledge in their fields through research, so that they can transmit the latest thinking and developments, and engender a sense of enquiry. There is a strong need for Hong Kong to nurture and develop capable academics who are recognised internationally in both teaching and research terms as equals.

3. The Government attaches great importance to supporting the research work conducted by the higher education sector. In 2014/15, the reported aggregate expenditure on research of the UGC-funded institutions amounted to \$8,632 million, representing 0.37% of Hong Kong's GDP and an 8% increase as compared with the previous year. Of this amount, the grants from the Government (including those through the UGC, the RGC and other Government sources) constituted the majority of research expenditure for the institutions. Funding commitment from the Government has been increasing since 2004/05. In 2014/15, about 83% of the total research expenditure of the institutions came from the Government, which sum amounted to \$7,186 million, representing 10% growth over the previous year. The table below shows the

research expenditure of the UGC-funded institutions by source of funds from 2008/09 to 2014/15:

Source of funds (\$ million)	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
HKSAR Government	5,486.2 (82%)	5,599.0 (82%)	5,660.3 (81%)	5,916.2 (83%)	6,192.1 (82%)	6,558.8 (82%)	7,186.1 (83%)
<i>UGC</i>	4,510.5 (68%)	4,500.4 (66%)	4,491.6 (65%)	4,754.0 (66%)	4,962.0 (65%)	5,175.2 (65%)	5,618.2 (65%)
<i>RGC</i>	582.4 (9%)	644.7 (9%)	632.5 (9%)	660.4 (9%)	702.1 (9%)	755.9 (9%)	843.4 (10%)
<i>Other Government sources</i>	393.3 (6%)	453.9 (7%)	536.2 (8%)	501.8 (7%)	528.0 (7%)	627.7 (8%)	724.5 (8%)
Other sources	1,163.8 (18%)	1,236.1 (18%)	1,288.1 (18%)	1,238.6 (17%)	1,384.2 (18%)	1,425.3 (18%)	1,445.6 (17%)
Total	6,650.0 (100%)	6,835.1 (100%)	6,948.3 (100%)	7,154.9 (100%)	7,576.3 (100%)	7,984.2 (100%)	8,631.8 (100%)

4. As shown above, the majority of research funding for the UGC-funded institutions currently comes from the UGC and the RGC. The UGC advises the Government on the funding and strategic development of higher education in Hong Kong; and seeks to preserve institutional autonomy and academic freedom, in the context of appropriate financial and public accountability. The RGC operates under the aegis of the UGC. It advises the Government, through the UGC, on institutions' needs in the field of academic research. It invites and receives applications for research grants from academic staff and for the award of fellowships, approves awards and monitors the implementation of grants.

University Grants Committee

Block Grant

5. The UGC provides research funding for UGC-funded institutions by means of a Block Grant, which comprises three components: the Teaching element, which supports general teaching and learning activities; the Research element and the Professional Activity element. The Research element, i.e. the Research Portion (R-portion), constituting 23% of the Block Grant, is disbursed to the institutions notionally as infrastructure funding to enable institutions to provide both the staffing and facilities (e.g. accommodation and equipment) necessary to carry out research, and to fund a certain level of research. As set out in the Legislative Council Brief discussed at the Panel on Education on 1 February 2016, the R-portion provision for the 2016/17 to 2018/19 triennium is about \$4.3 billion per annum. In the spirit of the Block Grant, the actual disbursement of funds against the research mission is a matter for the

institutions to decide. On top of the R-portion, the UGC at present provides funding under the Block Grant to support the provision of 5 595 research postgraduate (RPg) places at about \$1.8 billion per annum.

6. To promote research excellence, the UGC has been gradually allocating the R-portion to its funded institutions on a more competitive basis according to their success in obtaining peer reviewed RGC Earmarked Research Grants (ERG). Over a period of nine years (starting from the 2012/13 academic year), about 50% of the R-portion will be allocated in this manner. The remainder is allocated with regard to the institutions' performance in the Research Assessment Exercise (RAE). For the 2016/17 to 2018/19 triennium, the results of the RAE 2014 have been used.

7. The RAE is part of the UGC's commitment to assessing the performance of the UGC-funded institutions. Using international benchmarks and sharpened measures, the RAE 2014 assessed the research quality of institutions in order to promote world-class research and drive excellence. The exercise was implemented in a fair, transparent and rigorous manner. In summary, the exercise covered 68 cost centres (or research units of assessment) over the assessment period of six years from October 2007 to September 2013. About 16 500 research outputs (which could be publications or other examples such as patents awarded or published patent applications, artefacts, performance recordings and architectural drawings, etc.) submitted by some 4 400 eligible academic staff, about 220 units of submission on external competitive peer reviewed research grants and about 230 units of submission on esteem measures were assessed. The results of the RAE 2014, which were announced to the institutions and the public in January 2015, are most encouraging. Of the research submissions made by the institutions, 12% were judged by international experts as of "world leading" standard, and 34% as achieving "international excellence". The results provide guidance for the institutions' future developments in respect of pursuing research excellence and reveal the areas of strength in their research.

8. To recognise institutions' success in obtaining non-UGC/RGC grants (including grants that cater for midstream research and knowledge transfer), new features were incorporated in the design of the RAE 2014 in terms of both research outputs and inputs. Institutions' success in obtaining research funding from other sources, such as grants from the Innovation and Technology Fund, patent grants, royalties from licensing agreements, etc. was taken into account in the RAE 2014, which would in turn inform the allocation of the part of the R-portion that is driven by the RAE 2014 results.

Research Grants Council

Research Endowment Fund

9. Established in 2009, the Research Endowment Fund (REF) was established with an original endowment of \$18 billion and an injection of \$5 billion. The investment income from \$20 billion is distributed as research grants to the UGC-funded institutions to support competitive funding schemes, whereas the investment income from the remaining \$3 billion provides competitive research funding for the local self-financing degree sector to enhance academic and research development.

10. In the 2008/09 academic year, the year before the setting up of the REF, the UGC/RGC had a budget of about \$640 million for allocation to the UGC-funded institutions through UGC/RGC competitive research funding schemes. With the setting up of the REF, the UGC's/RGC's budget for competitive research funding schemes in the 2016/17 academic year has increased to around \$1.21 billion.

Research Funding Schemes

11. At present, the RGC administers 15 competitive research funding schemes in four categories (namely collaborative research schemes, individual research schemes, fellowship schemes, and joint research schemes with the Mainland and overseas regions) for the UGC-funded institutions. Details of the research funding schemes are set out in **Annex**.

Types of Research

Basic and Applied Research

12. The RGC applies equal support to all types of academic research including basic and applied research. For the two major individual research schemes operated by the RGC, namely the General Research Fund (GRF) and the Early Career Scheme (ECS), applied research represents about 45% of the applications under these two research funding schemes as judged by Panel Members .

13. According to the statistics provided by the Innovation and Technology Commission (ITC) which administers the Innovation and Technology Fund (ITF), out of the total 2 249 applications for the Innovation

and Technology Support Programme (ITSP)¹ during the period of 2012 to 2015, 260 applications were related to the past UGC/RGC-funded projects. Out of these 260 applications, 87 applications were approved by the ITC with a total approved funding of about \$192 million (success rate of 33%).

14. To forge a closer link between the funding programmes of the ITF and the UGC/RGC, applicants of the UGC/RGC collaborative funding schemes are asked to provide an optional technology transfer plan in their funding applications, which serves for the ITC's advance information. Once these applications have been approved by the RGC, the ITC will be invited to keep in view these projects and their progress. For projects with potential to proceed to the applied R&D phase, the project teams will be encouraged to apply for the ITF such that their projects could receive funding support from the ITF on successful completion of the UGC/RGC-funded projects.

Teaching and Research

15. To encourage the academics to leverage their research in an educational context and strengthen the teaching-research integration, the RGC requires applicants to include an education plan in their research proposals in all collaborative and individual research funding schemes suggesting activities that will strengthen the training of students in research.

Humanities & Social Sciences Disciplines and Science Disciplines

16. The RGC considers the submission of research proposals in all disciplines, including both the Humanities & Social Sciences (HSS) disciplines and the Science disciplines. That said, it is aware that not all disciplines have the same need in conducting research projects. HSS research projects normally require relief staff support in terms of freeing up the investigators' time for personal research and writing rather than funding for research assistants and research infrastructure (e.g. equipment) as in the projects for the Science disciplines. The UGC/RGC has implemented the following measures to facilitate HSS research:

- (a) ring-fencing 18% of the competitive element in the R-portion of the Block Grant for HSS research. For the rest of the 82%, 50% are disbursed as Principal Investigator (PI)'s costs and 50% as non-PI costs (both to be allocated directly to the institution concerned), to the advantage of HSS projects which have smaller grants on average;

¹ The ITSP supports midstream/downstream R&D projects undertaken mainly by institutions, R&D Centres set up under the ITF, industry support organisations, professional bodies, trade and industry associations.

- (b) additional funding to improve the funding arrangements for HSS academics, through expansion in the scope and duration of teaching relief attached to HSS GRF projects; and
- (c) launch of the Humanities Social Sciences Prestigious Fellowship Scheme from 2012/13 for outstanding investigators of HSS disciplines.

International Significance and Local Relevance

17. The RGC also encourages academics to propose research topics which are of international significance as well as local relevance. It considers that local relevance and internationalisation are not mutually exclusive. Many research projects have long-term / short-term impact on the local as well as international communities, such as research relating to pollution, wireless communication, cancers, social problems, education, etc. Since 2011/12, the Theme-based Research Scheme has been funding longer-term projects which are strategically beneficial to the development of Hong Kong.

18. Academics may also submit proposals with public policy research elements under the existing RGC research funding schemes. In the 2015/16 exercise, there were 387 GRF applications and 57 ECS applications requesting funding for academic research related to public policy development. Of these applications, 119 GRF applications and 19 ECS applications were supported, involving a funding amount of \$20.3 million and \$3.3 million respectively.

Assessment of Research Proposals Submitted by the UGC-funded Institutions

19. The RGC operates through Committees / Panels comprising local and non-local experts. To avoid perceived conflict of interest, Committee / Panel Chairpersons are non-local experts. All research proposals are subject to a rigorous peer review process supported by the RGC's international network of 18 000 external reviewers and assessed by the Committees / Panels based on the academic quality of research proposals. Local academic Members of the Committees / Panels are banned from participating in the assessment of applications under collaborative research funding schemes. For individual research funding schemes, about half of the Panel Members are non-local experts. The RGC Chairman does not participate in the assessment of research proposals.

20. For collaborative research funding schemes, each research proposal is first reviewed by an average of about 4 external reviewers (at least 3 external reviewers for each research proposal) and preliminarily assessed by 3

Committee / Panel Members. For individual research funding schemes, each research proposal is first reviewed by an average of about 4 external reviewers (at least 2 external reviewers for each research proposal) and preliminarily assessed by 2 Committee / Panel Members. The Committee / Panel Members are requested to study the reviews written by the external reviewers and submit independently their preliminary assessments to the concerned Committee / Panel for discussion at meeting. At the meeting, the Committee / Panel Chairperson ensures that any divergent views from the external reviewers and Committee / Panel Members must be fully justified. The funding decision is based on deliberations and agreed judgment of the entire Committee / Panel.

21. A Code of Conduct which sets out the standards of behaviour expected of Members of the RGC / Committees / Panels and external reviewers in handling RGC business is in place. There are provisions requesting them to declare conflict of interest and restricting them to handle research proposals submitted by applicants with affiliation.

Review of the Research Grants Council

22. Twelve new funding schemes offering different levels of research support to both the UGC and the local self-financing degree sectors have been introduced by the RGC since 2012/13. The number of research funding scheme applications handled by the RGC has been increased by 65% from 2 577 applications in the 2008/09 academic year to 4 263 applications in the 2015/16 academic year. To cope with the increase in application numbers and variety of research funding schemes, the RGC started work on a review of RGC in 2014 with the original objective of examining its operation but later expanded the scope to cover the portfolio balance of its research funding schemes and its structure. After taking into consideration the concerns of the institutions, it was decided that the RGC Review would be conducted in two phases thus:

Phase 1

To cover macro issues such as the portfolio balance of the RGC funding schemes, the RGC and assessment panels / committees' structure and good practice in overseas funding agencies.

Phase 2

To cover micro issues such as quality of the assessment and monitoring processes, means of communication among members of the panels / committees, timeline of funding schemes and arrangement guarding against conflict of interests in the assessment process.

23. In order to safeguard the independence and credibility of the Phase 1 Review, in late April 2016, the UGC agreed to set up the Task Force on the

Review of the Research Grants Council (Phase 1) under the Research Group of the UGC to oversee the implementation of the Phase 1 Review. We are in the process of identifying suitable Task Force members and consultant to support the Task Force. If the process goes smoothly, findings and recommendations of the Phase 1 Review are expected to be available in mid 2017. The Phase 2 Review will be conducted after the Phase 1 Review.

Advice sought

24. Members are invited to note and provide views on the policy on research funding from the UGC and the RGC.

Education Bureau
University Grants Committee Secretariat
May 2016

Research Grants Council

Research Funding Schemes

(1) Collaborative research schemes

The RGC encourages and supports research across all disciplines to build up the research capability in the higher education institutions. Complex problems and high impact projects would often require the participation of talents from multiple disciplines and different organizations. Collaboration both within and among institutions are therefore highly encouraged by the RGC.

There are three collaborative research funding schemes administered by the RGC, namely the Theme-based Research Scheme (TRS), the Areas of Excellence (AoE) Scheme² and the Collaborative Research Fund (CRF). With the exception of the TRS, the RGC does not set any priority areas of research under all funding schemes. More details of the three schemes are provided below.

Theme-based Research Scheme (TRS)

Starting from 2010/11 academic year, the investment income from up to \$4 billion of the REF (around \$200 million per year) is used to finance research projects on specific themes under the TRS. The objective of the TRS is to focus academic research efforts of the UGC-funded institutions on themes of strategic importance to the long-term development of Hong Kong. The current themes of the TRS are:

- (a) Promoting Good Health;
- (b) Developing a Sustainable Environment;
- (c) Enhancing Hong Kong's Strategic Position as a Regional and International Business Centre; and
- (d) Advancing Emerging Research and Innovations Important to Hong Kong.

¹ The funding of the AoE Scheme comes from the UGC. The administration of the scheme was transferred to the RGC in February 2012.

Under these four themes, 16 grand challenge topics have been identified by the RGC in consultation with the academic community. The funding ceiling is \$75 million per project for up to five years. There were five rounds of exercise and 23 projects have been funded totalling \$1,035 million. In the 2015/16 academic year, a total of 28 preliminary applications were received. Five proposals were supported with total amount of about \$203 million.

Areas of Excellence (AoE) Scheme

Established in 1998, the AoE Scheme provides funding support to the UGC-funded institutions to build upon their existing strengths and develop them into areas of excellence. With an annual budget increased from about \$80 million to about \$90 million starting from the 2016/17 academic year, the AoE Scheme supports large-scale research projects of all disciplines. The prevailing funding ceiling is \$60 million per project for up to eight years. There have been six rounds of the AoE Scheme so far and 18 projects have received a total of \$1,086 million. In the 2013/14 academic year, a total of 32 preliminary applications were received. Three proposals were supported with total amount of about \$144 million. The 2016/17 exercise is underway.

Collaborative Research Fund (CRF)

The CRF provides funding for the procurement of major research facilities and/or equipment or library collections to support collaborative research involving two or more institutions, or group research activities that operate across disciplines and/or normal institutional boundaries. It is for medium scale, team projects of three to five years' period. The funding for each project ranges from \$2 million to \$10 million. The budget in 2008/09 was \$50 million. The budget for the 2016/17 exercise is \$110 million, an increase of 120 % over 2008/09. In the 2015/16 academic year, a total of 153 applications were received. 18 proposals were supported with total amount of about \$110 million.

(2) Individual research schemes

General Research Fund (GRF)

The objective of the GRF is to support basic and applied academic research projects normally up to \$2 million per project and last for two to three years. The total funding allocated under the scheme is distributed among five subject panels, viz. Biology & Medicine, Business Studies, Engineering, Humanities & Social Sciences (HSS) and Physical Sciences. The budget in 2008/09 was \$517 million. The budget for the 2016/17 exercise is \$618.2million, an increase of 19.5% over 2008/09. In the 2015/16 academic year, a total of

2 710 applications were received. 948 proposals were supported with total amount of about \$595.8 million

Early Career Scheme (ECS)

The ECS, introduced in 2012/13, is intended to nurture junior academics and to prepare them for a career in education and research. In addition to funding independent research work, two levels of awards are provided under the ECS: (i) Early Career Awards - an honorary title will be awarded plus \$100,000 per project; and (ii) Early Career Grants - an additional amount of \$50,000 per project will be provided to those awardees who have submitted a satisfactory Education Plan for undertaking educational activities. The funding for each project is normally up to \$2 million. The budget for the 2016/17 exercise is \$102.3 million. In the 2015/16 academic year, a total of 378 applications were received. 151 proposals were supported with total amount of about \$91.9 million.

(3) Fellowship schemes

Humanities and Social Sciences Prestigious Fellowship Scheme (HSSPFS)

The HSSPFS, introduced in 2012/13, aims at granting extended time-off and supporting funds to the outstanding investigators with proven track record of research and publication under the HSS disciplines to enable them to focus on research work and writing. The fellowship provides resources for employment of relief teachers to relieve all or part of the awardees' teaching duties and all of the administrative duties, and the costs of travel, subsistence and dissemination of outputs. The funding ceiling for each project is \$1 million. The budget for the 2016/17 exercise was \$10 million. In the 2015/16 academic year, 22 applications were received. Three applications were supported with total amount of about \$1.5 million.

Hong Kong PhD Fellowship Scheme (HKPFS)

The HKPFS, launched in 2009, aims at enhancing the quality of PhD students, strengthening the training of academic researchers and improving the overall research capability of institutions in Hong Kong by attracting research students who demonstrate outstanding qualities of academic performance, research ability or potential, communication and interpersonal skills as well as leadership abilities, to pursue their research-based PhD programmes in Hong Kong's UGC-funded institutions. The Fellowship provides each awardee with a monthly stipend of \$20,000 and a conference and research-related travel allowance of \$10,000 per year for up to three years. In the 2015/16 academic year, the RGC received a total of 10 278 initial applications from 151 countries

and regions around the world. After a rigorous selection process, 231 elite candidates from 39 countries and regions (including Hong Kong) have accepted the scholarship awarded by the RGC.

(4) Joint research schemes

Joint research schemes are established in collaboration with research bodies in the Mainland and overseas and are meant to promote and further encourage research co-operation and exchanges. These joint schemes provide funding for supporting research projects, travels, conferences/workshops or fellowships. The RGC is running eight joint research funding schemes with the Mainland, European countries and the United States. The budget for the Joint Research Schemes in 2008/09 was \$23 million. The budget for the Joint Research Schemes in 2016/17 is \$48.9 million, an increase of about 113% over 2008/09. In the 2015/16 academic year, a total of 317 applications were received for various Joint Research Schemes. 65 proposals were supported with total amount of about \$36.7 million. A list of the eight schemes is as follows –

Project grants

Provide funding for actual research expenses in addition to passage and subsistence:

- (a) National Natural Science Foundation of China (NSFC) / RGC Joint Research Scheme*
- (b) The French National Research Agency (*Agence Nationale de la Recherche*, ANR) / RGC Joint Research Scheme
- (c) Scottish Funding Council (SFC) / RGC Joint Research Scheme
- (d) European Commission (EC) / RGC Collaboration Scheme^

Travel/Conference/Exchange grants

Provide funding for passage and subsistence costs for Hong Kong researchers to visit collaborators, or sponsor passage and subsistence costs of guest speakers and direct organising costs of conferences/workshops held in Hong Kong:

- (e) Germany / Hong Kong Joint Research Scheme
- (f) *PROCORE*-France / Hong Kong Joint Research Scheme

Fellowships

Provide funding to support Hong Kong scholars to undertake research work in the partner region, including passage and subsistence costs:

- (g) Fulbright – RGC Hong Kong Senior Research Scholar / Research Scholar Award Programmes
- (h) Hong Kong – Scotland Partners in Post-Doctoral Research

- * Starting from 2016/17, the NSFC/RGC Joint Research Scheme also supports conference grants.
- ^ Launched in 2016/17, the EC/RGC Collaboration Scheme provides both project grants and exchange grants.