

FUNDING OF ACADEMIC RESEARCH PROJECTS BY RESEARCH GRANTS COUNCIL

Executive Summary

1. In Hong Kong, there are eight universities funded by the University Grants Committee (UGC) (all universities mentioned hereinafter refer to UGC-funded universities). Hong Kong adopts a dual funding system for research at the universities. The Research Portion of the UGC's recurrent grants is disbursed to the universities as infrastructure funding to enable the universities to provide the human capital and the facilities necessary to carry out research, as well as to fund a certain level of research. The universities would also seek funding from the Research Grants Council (RGC) for the conduct of research projects on a competitive basis. In academic year 2015/16 (all years mentioned hereinafter refer to academic years), the amount of funds granted under RGC funding schemes was \$1,288.5 million.

2. The RGC was established in 1991. It operates under the aegis of the UGC and functions as a non-statutory advisory body on research matters. The RGC has established 10 committees and 18 panels to assist its work. The RGC administers 19 funding schemes. Of the 19 schemes, 16 are targeted for the eight universities while three are for the 13 local self-financing degree-awarding institutions. Of the 19 schemes, two schemes are funded by the UGC's recurrent grants and the remaining 17 are funded by the Research Endowment Fund (REF), which was set up by the Government in 2009 to provide stable funding to support research in the universities with an endowment of \$18 billion and a further injection in 2012 of \$5 billion. The Audit Commission (Audit) has recently conducted a review of funding of academic research projects by the RGC.

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3. *Appointment of Council members.* The Government has promulgated the six-year rule to ensure a healthy turnover of members of advisory and statutory bodies. Audit reviewed the tenures of 48 members appointed in the period 2011/12 to 2015/16 and noted that up to the end of their tenures, eight (16.7%) members had served (or would have served) the Council continuously for more than six years (ranging from 7.5 to 12 years) (paras. 2.4 and 2.5).

4. *Matters related to Council/committee/panel meetings.* Audit examination of RGC Council/committee/panel records revealed that: (a) the RGC had not promulgated rules of procedure governing the conduct of meetings for the Council, its 10 committees and 18 panels; (b) due to the tight time schedules between the finalisation of committee/panel reports and the date of Council meetings, committee/panel reports and committee/panel funding recommendation summaries were only issued to Council members shortly before the Council meetings or only issued at the meetings; and (c) in the period 2013/14 to 2015/16, 8 of the 10 committees and 13 of the 18 panels had held meetings. There were no minutes of meetings for 5 of the 8 committees and 10 of the 13 panels (para. 2.10).

5. *Awards of research project grants.* One of the terms of reference of the RGC is to approve awards from funds for research. Audit reviewed the records of processing funding applications for 19 research funding schemes and noted that for eight funding schemes, there was no documentary evidence showing that the Council had reviewed or approved individual projects. When a Council meeting was held to approve the projects, the total number of the projects to be approved and the total amount of funding to be approved were submitted to the Council. For six of the eight schemes, there was no documentary evidence showing that the Council had been provided with any information on individual projects to be approved (paras. 2.16 and 2.17).

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6. ***Management of conflicts of interest.*** The RGC adopts a two-tier reporting system for the declarations of interests. Regarding the first-tier declarations, Audit reviewed the record of submission or update of Register of Interests Forms of Council/committee members in the period 2011/12 to 2015/16 and noted that: (a) a Council member did not submit (or update) the annual Form throughout the period 2011/12 to 2015/16; (b) some Forms for 2011/12 and 2012/13 could not be located; and (c) the ex-officio member of the Steering Committee on Competitive Research Funding for the Self-financing Degree Sector had not been required to submit the Form since his appointment in July 2014. Audit also reviewed the records of the submission (or update) of the Forms by 211 panel members for individual research schemes for 2015/16 and found that 179 (85%) of the 211 panel members submitted (or updated) the Forms late. The delays ranged from 4 to 190 days (averaging 53 days). Audit noted that the panel members for Joint Research Schemes were requested to submit their Forms only upon their appointment but not upon re-appointment and on an annual basis. Audit also noted that 13 (35%) of 37 panel members for the Joint Research Schemes had not submitted the Forms upon their re-appointments in 2016. Regarding the second-tier declarations, Audit reviewed the 3,314 projects of three funding schemes approved in the period 2013/14 to 2015/16 and noted that for six projects, the principal investigators were four Council members. However, no documentation was available showing that declarations of interests had been made before or during the meetings at which funding was awarded (paras. 2.20 to 2.23 and 2.26).

7. ***Other management issues.*** The REF is expected to generate an annual return at around 5% on a long-term basis at the time of its establishment in 2009. From 2017 to 2019, the average annual return on investment was forecasted in December 2015 to be around 4%. At this lower rate of return, the investment income alone would be insufficient to cover the 2016/17 budget of \$1,251 million of the 17 funding schemes funded by the REF. The UGC Secretariat forecasted that from 2023/24 onwards, the investment income and the reserve would be insufficient to cover the provision of funding. The shortfall would have to be met by depleting the principal of the REF (para. 2.31).

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8. *Administration of RGC funding schemes.* The UGC considers that, to drive excellence, there is a need to aggregate and concentrate funding, collaborate and select according to strength as identified, and pool the resources across disciplines. However, the majority of RGC funding was allocated to a large number of small projects. The General Research Fund accounted for almost half (46.3%) of the 2015/16 funding, with an average funding size of \$0.63 million per project. The normative unit cost for each subject panel is one of the factors in determining the indicative allocation of funding to the five subject panels each year. The same set of normative unit costs had been adopted for ten years since 2006/07. In the past ten years, there had been a lot of changes in the RGC funding schemes which made it necessary to conduct a review of the appropriateness of this fixed set of normative unit costs. The Hong Kong PhD Fellowship Scheme provides each awardee with a conference and research-related travel allowance of \$10,000 per year for a period up to three years. After the completion of the three-year fellowship period, the universities are required to return the unspent travel allowance to the RGC. The UGC Secretariat does not have readily available information on the number of awardees with unspent allowance that should be refunded and the amount involved. Audit reviewed the records relating to six awardees who had completed or withdrawn from the fellowship in the period from 2013/14 to 2015/16 and found that three awardees had unspent balance not yet refunded (paras. 3.4, 3.8, 3.10, 3.12, 3.18 and 3.21).

9. *Monitoring of funded projects.* Universities are required to submit project reports, namely progress reports, and completion reports or concluding reports. The RGC monitors and assesses the progress and performance of funded projects by assessment of project reports. The RGC did not set target completion dates for committee/panel members' assessment for completion and concluding reports. As at 31 May 2016, there had been 973 completion/concluding reports received but not assessed and 678 (69.7%) of these reports had been received for over one year but not yet assessed. In extreme cases, four reports were submitted more than nine years ago but still pending assessment. In the period 2011/12 to 2015/16, 87 projects were terminated before completion (on average 17 terminated projects per year). Audit examined 10 terminated projects approved in the period 2009/10 to 2014/15 and found that, for seven projects, the principal investigators did not submit the concluding reports (paras. 3.26, 3.27, 3.32 to 3.34 and 3.39).

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10. ***Handling of alleged misconduct cases.*** The Disciplinary Committee completed the investigation of five misconduct cases (e.g. plagiarism) discovered during the processing of the funding applications for the 2015/16 exercise and made a recommendation to the RGC for approval in December 2015. However, since the RGC decided in June 2015 to separate the role of investigating allegations from the role of imposing penalties for substantiated cases, the recommendation on penalties for these five substantiated cases was left to the newly formed Disciplinary Committee (Penalty). Consequently, up to August 2016, the five substantiated misconduct cases were still pending determination of the level of penalty. Audit examined 26 alleged misconduct cases and noted that the time taken from the discovery of the suspected misconduct cases to the notification of investigation results and the penalty to the universities concerned ranged from one to four years (averaging 1.5 years). Audit noted that there is room for expediting the process in handling alleged misconduct cases (paras. 3.49, 3.52, 3.54 and 3.55).

Research output and way forward

11. ***Research output of universities.*** The UGC collates and compiles statistical data from the universities. For each project funded by the RGC, the principal investigator is required to provide in the completion report the research performance (e.g. research outcome and research output) for monitoring and assessment. Audit observed that the RGC did not use the research performance reported in the completion reports submitted under individual funding schemes to monitor the effectiveness of the respective funding schemes. Audit analysed the information on the research outputs of research projects and noted that: (a) the total number of research outputs of the universities dropped slightly by 2.6% from 27,019 in 2010/11 to 26,317 in 2014/15 whereas research funding provided by the UGC and the RGC increased by 26% in the same period; and (b) the overall research output per academic staff for the eight universities decreased by 9% from 5.91 in 2010/11 to 5.40 in 2014/15. Audit also analysed two categories of research outputs relating to commercialisation, and noted the relatively small percentage of research outputs relating to commercialisation versus that relating to publication as well as the decreasing number of research outputs relating to commercialisation (paras. 4.3 to 4.5, 4.7, 4.8, 4.12 and 4.15).

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12. **Way forward.** To facilitate the commercialisation of research and development results and technology transfer, efforts should be stepped up to strengthen the linkages among various stakeholders (i.e. Government, industry, academic and research sectors). Audit noted that: (a) in the period 2010/11 to 2014/15, the industry sector only financed 3% of the total research expenditure of the universities, as compared to 11% in Korea, 9% in Taiwan and 7% in Singapore; and (b) measures for forging a closer link between the funding programmes of the Innovation and Technology Fund and the RGC were only applicable to the collaborative funding schemes, but not the individual funding schemes (i.e. General Research Fund and Early Career Scheme) (paras. 4.18 to 4.21 and 4.23).

Audit recommendations

13. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in the Executive Summary. Audit has recommended that the Secretary-General, University Grants Committee, in consultation with the RGC, should:**

Governance and management issues

- (a) **promulgate rules of procedure for Council/committee/panel meetings (para. 2.11(a));**
- (b) **issue meeting papers in advance of Council meetings to ensure that members are provided with all the information that they need to properly consider and discuss well before the meetings (para. 2.11(b));**
- (c) **prepare minutes for those committee/panel meetings which currently do not have minutes (para. 2.11(c));**
- (d) **ensure that applications for project grants are approved by the proper authority and the approvals are properly documented (para. 2.18);**

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- (e) **take measures to ensure that all Council/committee/panel members make the required first-tier declarations of interests in a timely manner and make second-tier declarations of interests when they see a reason to do so (para. 2.27(a) and (d));**
- (f) **take measures to ensure the safe keeping of Register of Interests Forms (para. 2.27(e)) ;**
- (g) **keep in view the decreasing investment return of the REF amidst volatile market conditions, and draw up an action plan to address the issue (para. 2.39(a));**

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- (h) **take measures to improve the portfolio balance of the funding schemes and the calculation of the normative unit costs for the subject panels (para. 3.22(a));**
- (i) **review the records of all the Hong Kong PhD Fellowship Scheme awardees who have completed or withdrawn from their fellowship in the past years to ensure that all unspent allowance had been refunded (para. 3.22(c));**
- (j) **take effective measures to clear as soon as practicable the backlog of the assessment of project reports received (para. 3.47(b));**
- (k) **review the process of handling alleged misconduct cases (para. 3.56(b));**

Research output and way forward

- (l) **collate adequate management information on research output and devise suitable performance measures for the evaluation of the research performance of the universities, and disclose the information on its website (para. 4.16(a));**

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- (m) work with the Innovation and Technology Bureau to facilitate the commercialisation of the universities' research results (para. 4.16(c));
 - (n) enhance measures to foster the university-industry collaboration (para. 4.27(a)); and
 - (o) extend the measures applicable to the collaborative funding schemes to individual funding schemes with a view to enhancing a closer link with the Innovation and Technology Fund (para. 4.27(b)).
14. Audit has also *recommended* that the Secretary for Education should monitor the tenure of the Council members to ensure a healthy turnover as far as practicable in the appointment and re-appointment of Council members (para. 2.8).

Response from the Government

15. The Government agrees with the audit recommendations.