Research Grants Council

Interim Report of the Working Group on the Review of the Research Grants Council (Phase II)

May 2019

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1. Preamble

1.1   As pointed out in the Review Report of the Task Force on Review of Research Policy and Funding (TFRPF) published in September 2018, Hong Kong has made great strides in academic excellence over the past decade.   As a way forward, Hong Kong, as a knowledge-based economy, has to maintain and expand as appropriate, a critical mass of researchers who propel relentlessly the frontier of knowledge in various disciplines spanning from science to arts, and crossing the spectrum from technology to social sciences and humanities. In this connection, consideration should be given to tapping on the advancement of knowledge beyond the academia.

1.2   It is a common belief that high quality research with social impact is crucial to the future development of Hong Kong.   This is also one of the issues highlighted in the first phase review (Phase I review) of the Research Grants Council (RGC).   The major recommendations of the Phase I review included:

- Continuation of the provision of a portfolio of funding and awards
- Enhancement of communication and engagement activities
- Inclusion of impact in the assessment criteria of funding application
- Increase of amount and diversity of research funding
- Review and streamlining of RGC processes with a view to maintaining fairness and efficiency

1.3   The RGC has developed an action plan to take forward the recommendations of the Phase I review.   With the concerted efforts of the University Grants Committee (UGC), RGC and research community, a number of measures have already been implemented or have started after the Phase I review report was released in late 2017.   These measures include implementation of an annual communication and engagement plan, inclusion of research impact in the assessment criteria of research funding schemes, introduction of a new competitive research funding scheme called the Research Impact Fund.   Review and streamlining of RGC processes are carried forward to the second phase review (Phase II review) for study.

The Phase II Review

1.4   The Working Group on the Review of RGC (Phase II) (the Working Group) was set up in January 2018 under the RGC to undertake the review.   The Phase II review focuses on operational issues such as the quality of 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.   It also takes into consideration the related findings and recommendations in the Review Report of the TFRPF which receive widespread support from the research community and have been fully accepted by the Government.   The TFRPF recommends, in particular, that the Phase II review should cover technical aspects such as time / commitment of Principal Investigators, quality of assessment, monitoring processes, and project renewal.   The Phase II review also includes a study of open data policy in the light of the latest policy development of the Government.   The   terms   of   reference   and

membership of the Working Group are at **Appendix**.

1.5 The Phase II review started in late February 2018. An external consultant, Research Consulting Limited led by Dr Michael Jubb, was engaged to conduct an in-depth study on the operation of the RGC. The consultant has conducted comprehensive document review on the RGC, comparison of the RGC's operation with nine comparator jurisdictions and wide consultation with stakeholders to collect their views and suggestions.

1.6 Consultation with stakeholders started in mid-June 2018. 18 interviews and focus group meetings for stakeholders, including RGC Chairman and Members, committee / panel members, senior management of universities / institutions, researchers in the UGC and Local Self-financing Degree sectors, research support personnel, research postgraduate students and research administrators. In addition, the consultant held a dedicated focus group meeting in September 2018 with the eight Heads of Universities to seek their views on the work of the RGC. Four questionnaire surveys were launched from 3 July 2018 to 13 August 2018 after a trial run with some focus group participants in late June 2018.

1.7 The Working Group held four meetings with the consultant to steer the review, monitor progress and ensure timely delivery of the final consultancy report. The consultancy report, covering the progress of the data collection, in-depth analysis of the data collected from stakeholders and preliminary conclusions and recommendations, was prepared and submitted by the consultant. It sets out the sources of evidence, key conditions and constraints that affect the RGC's operations, the RGC's relationship with the academic sector, and examines seven main groups of

issues as follows:

(a) Strategies and objectives

(b) Application processes

(c) Assessment processes

(d) Awards management and monitoring

(e) Research outputs: publications and data

(f) Research ethics, conflicts of interest, and misconduct

(g) Communications and engagement

1.8 The consultant submitted the consultancy report covering detailed findings and observations in early 2019. The consultancy report concludes that there is much to approve of and appreciate the work of the RGC. It handles increasing numbers of schemes, applications and awards each year with great efficiency; and strong majorities of the senior overseas academics who serve on its panels and committees confirm that it operates to rigorous standards in line with good practice in other countries, and that its administration is highly effective. There is also almost unanimous satisfaction with the support from the Secretariat and the arrangements for meetings, which experience suggests that would not always be replicated for other funders. Most panel members endorse both the rigour and fairness of the RGC's processes compared with those adopted elsewhere. But the RGC is under strain, most notably as a result of the unsustainable number of applications now being received. Moreover, while the increases in funding and the new schemes announced by the Chief Executive in October 2018 are very much to be welcomed, they will add to the operational pressures. The full consultancy report is in Part 4 of this report.

1.9   This Working Group report is based substantially on the consultancy report, and in certain cases, extracted verbatim from that.   As an independent body that collectively has expertise on international funding schemes, the Working Group has added its own observations and recommendations.   The Working Group report therefore, as a whole, presents the findings and recommendations of the entire Phase II review.

Consultation

1.10   The observations and preliminary recommendations of the Working Group are summarized in Parts 2 and 3 of this interim report. The Working Group welcomes views from stakeholders on this report, in particular the preliminary recommendations as set out in Part 3, by 15 August 2019. The Working Group will consider the consultation results and finalize its review report later in the year.

2. Observations

2.1   The Working Group's observations are grouped under the following major areas -

    (a)   portfolio of funding schemes;

    (b)   application, assessment and monitoring processes;

    (c)   transparency in operation;

    (d)   open access; and

    (e)   staffing.

Portfolio of Funding Schemes

2.2   The Review Report of the TFRPF includes a recommendation to review three existing collaborative research funding schemes, namely the Collaborative Research Fund (CRF), Areas of Excellence Scheme (AoE) and Theme-based Research Scheme (TRS), with a view to organizing them under the aegis of a single new scheme. Another TFRPF recommendation is to lift the ring-fencing restriction of resources and allow re-deployment of surplus resources to meet other research needs within the ambit of the Research Endowment Fund (REF) after full fulfilment of their respective original purposes.   While it is prudent to consider the relative balance of funds allocated to each scheme, there is justification to keep the schemes separate.   CRF and AoE are bottom-up projects with the topics and emphasis determined by the applicants.   CRF may be viewed as a smaller version of AoE and is the basis for initiating collaboration among researchers who would otherwise work in isolation.   AoE is directed at grand challenges that demand

multi-faceted collaborations. Historically, CRF has been a highly successful scheme not just in stimulating collaborations, but also in producing value-added results due to synergism. Many successful CRF projects have gone on to garner AoE or TRS funding. TRS on the other hand is a top-down approach to fund research along specific themes that are important to Hong Kong. The themes are reviewed regularly to adapt to changing needs and challenges. The most recent review was completed in May 2018, by the Steering Committee on Research Themes and Topics. The RGC will conduct a separate review on the three collaborative research schemes and the review will take these matters into account.

2.3 There is concern that the collection of small projects in General Research Fund (GRF) dominates the RGC research budget. GRF involves individual investigators and often constitutes the only source of external research funding for an academic to remain research active. These single-investigator grants allow the development of unique expertise, the testing of preliminary research ideas, and the training of students and post-doctorals, similar to the corresponding schemes at major funding agencies overseas. The importance of GRF to the development of research talent and to foster academic research in Hong Kong should not be underestimated. There is general agreement that the sizes of these grants are presently too small. The recent injection of funds into the Research Endowment Fund (REF) will lessen these concerns, but with the growing pressure from the number of submitted proposals and the ever-increasing cost of research, the small sizes of GRF grants will remain an issue. It has been suggested that grant sizes can be increased by reducing the success rate of proposals.

There are discipline-specific views on such an approach. It is best to leave the decision to the separate GRF panels in consultation with the panel chairs and with the local academics. Along the same lines, it will be appropriate to revisit the allocation formula used in GRF to divide the funds among the various topical panels.

2.4   The Review Report of the TFRPF suggests the RGC Phase II Review to include technical aspects including project renewal. The Working Group notices that it is not a common practice in other overseas major funding agencies to establish a separate funding scheme for renewal proposals. Renewal proposals must compete with all other new proposals and should include new research directions. We believe there is insufficient justification to treat renewal proposals differently in the RGC funding schemes.

2.5   The Review Report of the TFRPF also recommends the introduction of new post-doctoral and faculty fellowship schemes to nurture new research talent. We support such a recommendation. Indeed, the framework for these fellowships is already under consideration by the RGC and will likely be implemented in the near future.

Application, Assessment and Monitoring Processes

2.6   As in the Phase I review, some academics raised the issue of the right of reply to the reviewers' comments. This is to address factually incorrect comments included in the external review reports prior to the decision on funding. We note that except for Australian Research

Council (for which "most funding schemes" allow right of reply), major overseas agencies either do not use a right of reply step or only implement that for two-stage reviews. Because of the extremely large number of applications received in GRF and the tight deadlines, it will not be administratively possible to implement given the staffing level of the Secretariat. It will also place undue burden on the panels, especially the readers.

2.7   We therefore propose to run a one-time trial of the right of reply process for the TRS exercise (2019/20). That involves a three-stage evaluation process, i.e., first, preliminary proposals evaluated by TRS panel members in December 2018 and shortlisted for invitation to submit full proposals. Second, full proposals assessed by external reviewers and by TRS panel members in the spring of 2019 and shortlisted for invitation to be interviewed. Finally, interviews by TRS panel members in June 2019 to determine funding priorities. The number of invited full proposals is expected to be around 15. The process will be to send all anonymous external reviewers' comments on the full proposals (but not grades or rankings) received by the Secretariat by a certain date to the Project Coordinator (PC) and to the Research Offices of the universities by email. The PC's reply to all of the comments (but not necessarily addressing each comment) will be limited in length and in scope, and will be due in one week. The TRS panel members will then combine their own evaluations, those of the external reviewers, and the PC's reply to the external reviewers in deciding on shortlisting priorities for interviews. Our suggestion was accepted by the RGC and the trial arrangement is being implemented in the TRS

2019/20 exercise. At the end of this TRS exercise, the RGC will evaluate the effectiveness and feasibility of the right of reply.

2.8 The Review Report of the TFRPF includes a recommendation for consideration by the Working Group on specifying the time commitment of investigators on each funded project when submitting a proposal. This is to ensure that the investigator does spend sufficient time on the project if funded, given the time committed to other funded projects and to teaching duties. The specified time commitment of the investigator on projects also addresses, in part, the suggestion to cap the number of awards an individual can hold at any one time. We agree that this is a reasonable requirement at the proposal stage and recommend that the application forms be revised accordingly.

2.9 Some suggestions were raised in the focus groups and in the consultancy surveys regarding the need to streamline the guidance and the forms used for applications and reports, both in content and in wording. It should be noted, however, that the majority of respondents, including academics, external reviewers and panel members, either have no opinion or are satisfied with the current set of forms. While these forms are regularly reviewed and updated by the RGC, a comprehensive overhaul, particularly standardization across different funding schemes, will require substantial consultation, resources and staff time that are not presently available. We recommend that a consultant be hired to perform a limited overhaul of RGC forms and documents. The draft documents will be referred to the corresponding committee and panel chairs for further input before being accepted.

2.10　　　　As noted in the 2016 Audit Review and the Phase I review of the RGC, a reconfigured electronic system is urgently needed to cover all schemes of awards.　Both focus groups and survey respondents described breakdowns and problems including inability to save applications; difficulties in uploading material; formatting and lack of provision for symbols and graphics; inability to by-pass irrelevant questions; and so on.　The RGC plans to implement a new online system for application cycles beginning in autumn 2019.　It will be important to provide solutions to the above problems in the new platform.

2.11　　　　Some comments were received from focus groups that the annual funding cycle might be modified, for example, to run more than one round each year.　Given the already saturated workload of both the Secretariat and the review panels, such modifications are not practical. Furthermore, GRF results are already available by the end of June so applicants have adequate time to revise their proposals for submission in the subsequent round.　Similar time gaps also exist for CRF, TRS and AoE proposals.　There are suggestions that GRF proposals can only be submitted every other year to lower the burden on the applicants, the Secretariat, and the review panels.　The size of funding per project will then be doubled in such a scenario to maintain the average funding per Principal Investigator (PI) per year.　Views on the frequency of funding exercises are divided and a consensus is yet to be reached.　Nevertheless, we note that annual cycles of applications are largely accepted by researchers.

Transparency in Operation

2.12　　　　There is a family of issues raised by the academics about transparency in all aspects of the operation within RGC.　Indeed, many of the complaints from the community are direct results of the lack of or the misunderstanding of information about the operation of the RGC. As pointed out by the Phase I Review, communication and engagement are not one-way streets.　It is important that universities / institutions and academics themselves commit to and participate in the engagement and understand RGC operations.　We recommend that comprehensive documentation on all aspects of RGC be made available on its website. We recognize that the Secretariat staff and the various committees / panels are already overworked.　Implementation may therefore take some time and may also require additional resources given to the RGC, such as hiring a consultant.　Some of the items include:

(a)　　For the funding schemes of the RGC – clear indications of the strategies, policies, aims and objectives of the complete portfolio as well as for the individual schemes

(b)　　For the organization of the RGC – responsibilities and membership of all committees, panels and subpanels, and how appointments are made

(c)　　For assessment of applications – how panel members and external reviewers are chosen, how applications are assigned to panels and to readers, how panels operate, what guidance is provided to external reviewers and panel

members, what criteria are used, how conflicting evaluations by external reviewers and by readers are resolved, how budgets are determined, how feedback to the applicant is created, how resubmission or continuation proposals are treated, how interdisciplinary proposals are handled, how conflicts of interest of panel members are handled, etc.

(d)   For assessment of progress reports and completion reports – how monitoring is set up, what criteria are used, what supporting information is required, etc.

(e)   For allocation of funding – how allocations are determined, what are the success rates, list of funded projects with titles, awardees, funded amounts, discipline, etc.

(f)   For operation of grants – how revisions in budget and / or scope are processed, what determines the release of funding for subsequent stages, etc.

2.13   The Phase I action plan acknowledges that communications and engagement are vital issues for the RGC, and require much development.   A policy paper was considered by the RGC and the UGC at their meetings in December 2017 and January 2018 respectively. Some of the measures outlined in the paper have been implemented. Evidence from focus groups and surveys shows low levels of understanding of how the RGC operates.   The website is critically important as an information source, and some progress has been made in

improving it. But there are still many gaps in the information provided even if all recommendations above are adopted. Also, site navigation could be enhanced. We recommend, subject to availability of additional Secretariat staff, the establishment of a communications and engagement committee to develop and oversee implementation of strategies, to undertake a fundamental review of the website, its structure, and the information it provides. It is also useful to establish a regular programme of briefing sessions to promote engagement and stakeholder involvement in strategy and decision making. Finally, more frequent press release by the RGC, with perhaps the use of social media, will further enhance engagement of the community.

Open Access

2.14 Like many funders, RGC has a policy to promote open access to publications arising from its funding. The current policy requires PIs to check 'on acceptance of a paper for publication' that the publisher allows open access to the published version or to the accepted manuscript via an institutional repository. If neither is allowed, the PI must seek permission to post a version in an institutional repository with an embargo period of less than 12 months. Many funders overseas have established, or are establishing, policies to promote the responsible management of and access to research data. Policies include requirements to submit data management plans as an integral part of applications, to provide access to data underlying publications, and more recently to ensure that data conform to the FAIR principles that they should be findable, accessible, interoperable and reusable. The RGC has not yet established effective policies in these areas. Guidance for

applicants in the GRF and CRF state that PIs should assess the potential for archiving and data sharing, and that additional weight will be given to applications that do so (though it is not clear how this is carried out in practice). In the AoE and TRS, PIs are encouraged in the guidance notes to 'include in completion reports the data repositories where research data of their projects can be assessed and shared'. We recommend that RGC:

(a) Review and revise the open access policy in the light of current best practice among comparator bodies.

(b) Introduce a requirement to submit a data management plan as part of applications for awards, and guidance for panel members and reviewers on how to assess them.

(c) Require PIs to report on data management and access as part of progress and completion reports.

Staffing

2.15 The RGC, like the UGC, is staffed by civil servants posted to it for a relatively short period. They are highly-skilled and hard-working administrators. They have been extremely effective in carrying out the day-to-day operation of the RGC. Very heavy burdens are placed on some individuals, especially at peak times. Because the local research community is such a small sector, the contribution which local research experts might make to the work of RGC is very limited because of **perceived** conflicts of interest. The number of highly

competent generalist administrators (civil servants) may require to be increased as well as the number of panel and committee members whom they support, in order to increase the capacity of the system as envisaged. We recommend that the Government considers substantially increasing the staffing level of the Secretariat, especially in light of the future increase of funding schemes and projects that is a result of the recent injection of funds into the REF. It may also be appropriate to have sub-groups of RGC members serve as ad-hoc advisors to the Secretariat when policy matters arise that are beyond the normal purview of the staff.

2.16 Currently, panel members are asked to approve many routine project variations (changes in staffing, extensions and the like). Much concern was expressed in focus groups about the length of time taken to secure approval for such changes, and the risks to the viability of projects that can arise as a result. The process also adds substantially to the workload of panel members and reviewers. We recommend that the approval of routine project variations be simplified and streamlined.

3. Recommendations

3.1.   The preliminary recommendations of the Working Group are summarized below.

1.   Establish and define clear strategies, aims and objectives for the operation of RGC

2.   Review the entire RGC funding portfolio with the intent to distribute and rebalance the budget for the various activities, particular in light of the recent injection of $20 billion to the REF

3.   Revisit the formula used to divide the annual GRF budget among the panels

4.   Implement a one-time trial of right of reply for the 2019/20 TRS exercise

5.   Require PIs to specify time commitments to various funded projects as well as for teaching and administrative duties in all applications

6.   Increase substantially the staffing level of the Secretariat in view of the expanding workload

7. Monitor the progress of the new electronic system for handling applications and reviews

8. Review and revise, perhaps with the engagement of a consultant, RGC forms and documents ranging from policy statements, application forms, assessment forms, etc.

9. Make available on the RGC website explanations and descriptions of all aspects of the RGC operations, including forms and documents, budgets and allocations, funding results, procedures and processes, for the sake of transparency

10. Subject to availability of additional Secretariat staff, establish a communications and engagement committee to develop and oversee implementation of relevant strategies, to undertake a fundamental review of the website, its structure, and the information it provides

11. Review and revise the open access policy, including guidance to universities and investigators and defining open access requirements for accepting RGC funding

12. Clarify and remind universities, researchers and reviewers of ethical guidelines and procedures for handling conflicts of interest and misconduct

13. Simplify and streamline approval of routine project variations, such as minor changes in staff and budget

4. Consultancy Report

Research Consulting

Review of the Hong Kong Research Grants Council (Phase II)

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"Review of the Hong Kong Research Grants Council (Phase II)"

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Executive Summary

There is much to approve of and even admire in the workings of the RGC. It handles increasing numbers of schemes, applications and awards each year with great efficiency; and strong majorities of the senior overseas academics who serve on its panels and committees confirm that it operates to rigorous standards in line with good practice in other countries, and that its administration is highly effective. But it is under strain, most notably as a result of the unsustainable number of applications now being received in the General Research Fund (GRF) and Early Career Scheme (ECS) schemes. Moreover, while the increases in funding and the new schemes announced by the Chief Executive of the Government of the Hong Kong Special Administrative Region (SAR) in October 2018 are very much to be welcomed, they will add to the operational pressures.

Now is therefore an opportune time to review the RGC's operations, seeking to identify ways in which they can be enhanced in quality, efficiency and effectiveness. As is to be expected in any review of operations, processes and procedures – and required by our terms of reference – we have identified a significant number of areas for improvement. That should not be taken as detracting from the many aspects of good practice that are already evident. As we have gathered and assessed evidence from the research community, we have of course been conscious that no research funding agency is universally admired across the communities it seeks to serve: inevitable failures to secure grants create disappointment and resentment, and the evidence we have gathered indicates that these are prevalent in Hong Kong. We have also identified key features of the research environment in Hong Kong which have a profound effect on how the RGC operates. Among these are:

- perceptions of low levels of funding;
- strong levels of competition which set a high bar for assessment processes if they are to be seen as reliable and trustworthy;
- the added complexities, in terms of communication and awareness of local practice, that arise as a result of the necessary reliance on a high proportion of overseas academics in assessing and monitoring applications and awards; and
- an RGC staffing structure based around civil servants who are highly-skilled but have little or no direct experience of the workings of the research and higher education sectors.

In responding to our terms of reference, and the large number of issues we were asked to examine, we have identified in the main body of this report more than seventy topics and areas where improvements might be sought. And as a result of our analysis of the evidence we have gathered, we make observations of varying scope, scale and importance in relation to each of them.

Transparency and better communications are at the heart of our findings and hence of our suggestions for improvement. Together they imply the need for clear strategic objectives and criteria for decision-making; greater transparency about assessment and awards management procedures; and significantly more attention to all forms of communications and engagement with the research community.

The major sections of our report are presented in a tabular format showing:
- the issues set out in our terms of reference, plus some additional issues that arose in the course of our work;
- our findings based on our analysis of the evidence we have gathered on each of those issues; and
- observations based on those findings: actions that the RGC may wish to consider.

Our aim is therefore to show how our findings and observations relate directly to each of the issues we have been asked to examine. Action is already taking place on some of them, but addressing others will take a longer time, and will require additional resources for the hard-pressed Secretariat. Accordingly, it will be for the Working Group established to oversee the review, and more particularly for the Secretariat, to determine an order of priorities, and an implementation plan.

Strategies and objectives (Section 4)

The evidence we have gathered confirms widespread concerns expressed in the Phase I Review, published in 2017. Administering the RGC's extensive portfolio of funding schemes necessarily requires it to develop and implement a wide range of policies and strategies. But structures, policies and processes have grown in ad hoc fashion over the past two decades, and the RGC does not at present display to the research community a clear set of strategies and objectives across the full range of its schemes. The additional funding and the new schemes recently announced provide an opportunity to rethink and communicate clear messages about the RGC's role, purposes and strategic direction. Clearly-defined aims and objectives then need to be reflected in assessment criteria and in monitoring and evaluation; and schemes need to be subject to regular review to ensure that they are meeting their objectives.

Application processes (Section 5)

Researchers have largely accepted the constraints of an annual cycle for applications, though there are concerns about the time taken before results are announced. They rely heavily on Research Offices for advice relating to applications, and are broadly content with the guidance they receive. Most academics find the application forms straightforward to navigate; but a minority express reservations about their length, format and tone, and about irrelevant or inappropriate questions. Just under half of academics, but more than three-quarters of panel members, believe that the forms enable applicants to make the best case they can. There are some concerns about the rules of eligibility for awards, and about allowable costs. Above all, there is widespread agreement on the need to renew the current online system, and extend it to cover all schemes.

Assessment processes (Section 6)

The RGC seeks to operate to the highest international standards of peer review in assessing applications for all its schemes. A majority of panel members are from overseas, and/or have experience of working with other funding agencies; but in our surveys many academics expressed a need for more information about how they are appointed. Many panel members are concerned about the heavy workload; but most of them believe that the RGC's processes are at least as rigorous and fair as those of other agencies (if not more so), and that they are administered efficiently. The views from academics, however, are not so sanguine. There is widespread misunderstanding but also disquiet about the effectiveness and fairness of the assessment process as a whole: about unclear assessment criteria and grading schemes; about unfair external reviews; about the processes and criteria that lead to the cutting of project budgets; and about how final grades are determined. Many panel members as well as academics would welcome further guidance on costings and budgets. And there is a widespread desire among academics for more feedback both on their individual applications and on the overall outcomes of competitions.

Awards management and monitoring (Section 7)

The RGC publishes comprehensive terms and conditions for universities and PIs holding awards, but both researchers and administrators complain of complex bureaucratic processes and delays relating to variations for awards. The varying forms and requirements for reporting on progress are widely regarded as a necessary chore. Most panel members believe that assessing the reports enables them to provide useful feedback, and only 20% of academics disagree.

Research outputs: publications and data (Section 8)

Like other funding bodies, the RGC is keen to see the work it funds made as widely accessible as possible. But its policies on open access to publications have fallen behind what is becoming widespread practice among other funders; and they are not fully implemented. It has not yet established effective policies to promote responsible management of and access to data gathered or generated in the course of research projects.

Research ethics, conflicts of interest, and misconduct (Section 9)

The RGC makes considerable efforts to avoid conflicts of interest; but such conflicts remain a significant concern in the research community. There is scope for improvements in the documentation and in the procedures for handling potential conflicts. There is scope also for enhancing the RGC's, the UGC's and individual universities' policies and procedures for ensuring that research is conducted to high ethical standards. The RGC has established elaborate procedures for handling allegations of misconduct*.*

Communications and engagement (Section 10)

The RGC has acknowledged that it must improve its communications and engagement with the research community in order to address low levels of understanding and negative perceptions of its operations in the research community. Action to date has been limited by staffing constraints, and much still needs to be done to ensure active consultation and engagement with the community, and to ensure that all its activities and operations are fully transparent. Much more remains to be done similarly to ensure that the public has proper access to information about the results of funding competitions; the research that the RGC is supporting; and the results of that research*.*

Conclusion

No research funding agency is universally admired across the communities it seeks to serve: inevitable failures to secure grants create disappointment and resentment. Nevertheless, there is much to approve of in the workings of the RGC: strong majorities of the senior overseas academics who serve on its panels and committees confirm that the RGC operates to rigorous standards in line with good practice in other countries. Nevertheless, a number of key themes run through our reporting:

- First, a need to articulate clear strategies, aims and objectives both for the RGC's portfolio of schemes as a whole (taking account of UGC block grant and other sources of support for research), and for individual schemes; and to ensure that these are reflected in assessment criteria and in monitoring and evaluation.

- Second, a need to secure greater engagement from the research community in the development of those strategies, aims and objectives; and to consult the community on changes relating to individual schemes and as part of the reviews we propose.

- Third, a need to clarify and simplify application, assessment and monitoring processes; and also, the guidance, the forms and other documentation relating to them, ensuring that they are both clear and consistent within and across schemes.

- Fourth, a need to counter mistrust and misunderstandings by radically increasing the amounts of information about processes and procedures made publicly available; by enhancing the reporting of competition outcomes; and by ensuring that such information is readily findable on the website.

We recognise that addressing these needs will require extra work from a highly-skilled and hard-pressed Secretariat. We are also aware that the Secretariat faces major new pressures in handling the additional funding and setting up the new schemes announced in October 2018. We have no doubt that additional staffing and related resources are needed urgently to address these twin challenges to best effect.

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1. Introduction

This part of the report provides background on the RGC and its role in the funding of research in Hong Kong and sets out the context for the review and its terms of reference. It also provides an account of our methodology, and the limitations of our study.

1.1 Background: the Research Grants Council (RGC)

The RGC was established by the University Grants Committee (UGC) in 1991. Its terms of reference are:

- To advise the Government, through the UGC, on the needs of the institutions of higher education in Hong Kong in the field of academic research, including the identification of priority areas, in order that a research base adequate for the maintenance of academic vigour and pertinent to the needs of Hong Kong may be developed; and
- To invite and receive, through the institutions of higher education, applications for research grants from academic staff and for the award of studentships and postdoctoral fellowships; to approve awards and other disbursements from funds made available by the Government through the UGC for research; to monitor the implementation of such grants and to report at least annually to the Government through the UGC.

Its main source of funding is the investment income from the $26billion Research Endowment Fund (REF), supplemented by additional funds provided by the UGC. The budget for its 17 competitive grant schemes in the academic year 2018/19 is c. $1.2billion. As we set out in Section 4.4, the SAR Government announced in October 2018 significant increases in funding for the RGC. The RGC's schemes must be set in the context of other sources of funding for research in the academic sector in Hong Kong, including:

- block grant provided to universities by the UGC (mainly the R-portion, which is designed to enable universities to fund staff and facilities for research, and a certain level of research activity); it amounted to c$6.5bn in 2016/17, some six times greater than RGC funding;
- other Government sources including the Food and Health Bureau (FHB), the Innovation and Technology Commission (ITC) and the Policy Innovation and Co-ordination Office (PICO), which collectively amounted in 2016/17 to $940m, roughly the same level as RGC funding; and
- non-Government sources including the Croucher Foundation and private businesses, which collectively amounted in 2016/17 to c$1.6bn, around 60% more than RGC funding.

The RGC is governed by a Council comprising local and overseas members, with a complex array of committees and panels similarly constituted. Its Secretariat operates alongside that for the UGC, and comprises civil servants appointed to the RGC as part of the normal development of their careers in the Government of the Hong Kong Special Administrative Region (SAR).

The RGC's schemes range from support for research students, through high-volume schemes of small grants for individually-driven research projects, to funding for large strategically-driven collaborative projects. It handles over 4,500 applications, and makes over 1,500 awards, each year.

1.2 Terms of Reference

Our work constitutes Phase II of a review that was initiated in 2016, when the UGC's Research Group (RG) established a Task Force to oversee Phase I, assisted by RAND Europe as an external consultant, to examine 'macro' issues. The findings and conclusions were published in May 2017 in the *Report of the Task Force on the Review of the Research Grants Council (Phase I),* henceforth referred to as the Phase I Review[1]. On the basis of the consultant's findings, the Task Force summarised its conclusions in nine wide-ranging groups of challenges and a related but distinct set of eleven recommendations. Each of the challenges and recommendations identified a number of areas for action in areas including communications and engagement, levels of funding both overall and for individual grants, data collection for planning and strategy, categories of research, research impact, the balance of the portfolio of funding schemes, the articulation of RGC aims and objectives, the relationships between support for research in the UGC-supported and self-financing sectors, assessment processes and criteria, and the relationship between success in securing RGC grants and the value of the R-portion of block grant.

We were commissioned by the UGC at the end of February 2018 to provide consultancy services for Phase II of the review, focusing on the RGC's operations, with the aim of "enhancing its quality, efficiency and effectiveness, identifying areas where improvement is required, and providing recommendations on the related enhancement measures". In addition to the findings and recommendations of the Phase I Review, we were asked to take full account of the results of the wide-ranging *Review of Research Policy and Funding* established in October 2017, the interim report of which was published in June 2018, followed by a final report in September 2018.[2] The report makes four sets of recommendations, for a substantial increase in research funding, for sustainable strategies and support for research talent, for support for research infrastructure, and for strengthening the effectiveness of the R-portion.

The detailed brief for our work drew on the Phase I Review to identify more than fifty issues to be examined under the following main heads:

1. The quality and effectiveness of the processes of:
   a. application
   b. assessment
   c. monitoring and awards management
2. Strategies and objectives
3. Communications and engagement
4. Conflicts of interest and misconduct

During the course of our study we were also asked to report specifically on issues relating to open science, including open access (OA) to the published outputs of research, and open research data.

1.3 Report structure

The structure of our report reflects the grouping of the issues we were asked to examine as set out in the brief. Following this introduction, we outline the methodology followed, and then present our key findings in eight main sections:

❑ the key conditions and constraints within which the RGC operates (Section 3);

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[1] University Grants Committee, *Report of the Task Force on the Review of the Research Grants Council (Phase I)* May 2017
[2] Task Force on Review of Research Policy and Funding, *Review Report*, September 2018

❑ RGC strategies and objectives (Section 4);

❑ application processes (Section 5);

❑ assessment processes (Section 6);

❑ awards management and monitoring processes (Section 7);

❑ research outputs, including open access and open research data (Section 8);

❑ research ethics, conflicts of interest and misconduct (Section 9); and

❑ communications and engagement (Section 10).

In all but the first of these sections, we use a tabular format based around the issues as set out in the brief, plus some additional issues that arose in the course of our work; our findings and conclusions based on our analysis of the evidence we have gathered on each of those issues; and observations based on those findings. Our aim is therefore to show how our conclusions and observations relate directly to each of the issues we have been asked to examine.

The report also includes a series of annexes with details of some of the RGC's schemes, and procedures; and information about the surveys we conducted. We have also provided some more detailed observations to the Secretariat about some of our findings.

1.4 Acknowledgements

Our work has been overseen by a Working Group of nine members – local and overseas – chaired by Professor Edward Sze-shing Yeung, Distinguished Professor Emeritus in Liberal Arts and Science, Iowa State University. We have benefited greatly from the guidance, constructive ideas and critique that the Working Group members have provided.

We also wish to thank the staff of the RGC, and in particular David Leung, Connie Wong, Daphne Chan and Winaf Fan, who have provided us with support and provided information in answer to our many questions throughout the project.

Finally, our thanks go to three groups of individuals who participated in focus groups or responded to our surveys:

• the staff in UGC-funded universities and self-financing institutions in Hong Kong;

• the members of the RGC's Council, committees and panels; and

• the academics across the world who provide reviews of proposals submitted to the RGC.

2. Methodology

2.1 Approach

Our approach to this study comprised three stages, with related work packages (WPs):

Stage One comprised initial consultations with the Secretariat and the Working Group, and intensive desk-based research and analysis.

WP1. Inception and initial consultation: clarifying the scope, focus and objectives for the study, specific issues to be highlighted; and identifying nine comparator bodies overseas to be examined – the Australian Research Council (ARC); National Natural Science Foundation of China (NSFC); Academy of Finland (AoF); Irish Research Council (IRC); Ministry for Business, Innovation and Employment (MBIE) and Marsden Fund in New Zealand; National Research Foundation (NRF) in Singapore; National Research Foundation (NRF) in South Korea; Biotechnology and Biological Sciences Research Council (BBSRC) in the United Kingdom; and National Science Foundation (NSF) in the USA. See *Table 1* for further information.

WP2. Consultation framework: identifying the groups of stakeholders to be consulted, the samples within them, and the mechanisms for consultation; and drafting the lists of issues and questions to be covered in interviews, focus groups and surveys.

WP3. Examination of documentary sources: desk-based research covering the documentation relating to RGC structures, roles, operational processes; and similarly identifying and examining relevant documentation from comparator bodies.

WP4. Mapping of structures and processes: identifying similarities and differences between the RGC and comparator bodies.

Stage Two comprised gathering and analysing evidence from a range of stakeholders:

WP5. Evidence gathering: face-to-face interviews and focus groups; and survey questionnaires for academic staff, for RGC committee and panel members, and for its external reviewers.

WP6. Evidence analysis and interim conclusions: analysing the qualitative and survey evidence from the previous WPs to draw up initial findings for discussion with the Secretariat and Working Group. At this stage we were also asked to take into account views expressed in the consultation on the preliminary report of the *Review of Research Policy and Funding*.

Stage Three comprised further analysis of all the evidence, consultations with the Secretariat and Working Group, and drafting of this final report.

Table 1. Comparator bodies

Funding Body	Approximate budget (HK$m)*	Subject coverage	Awards*	Number of universities in QS top 1,000 ranking
RGC	1,562	All	1,500	7

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Australian Research Council	4,400	All except health and medical sciences	1346	39
NSFC, China	27,900	Natural sciences	41,184	39
Academy of Finland	2,300	All	1,083	10
Irish Research Council	280	All	398	8
Marsden Fund, New Zealand	420	All	140	8
NRF, Singapore	11,200**	All		3
NRF, South Korea	26,600	All	22,766	29
BBSRC, United Kingdom	5,000	Biological sciences	819	76
NSF, USA	47,000	Natural sciences, except health and medical sciences	19,105	157

Estimates based on figures recorded on websites or in most recent Annual Report
**All university expenditure on research funded by Govt. in 2014 (OECD Research and Development Statistics)*

2.2 Limitations of the study

Our work has involved detailed documentary review, engagement with the RGC and all sectors of the research community in Hong Kong, and analysis of the operations of comparator bodies overseas. We believe that our study is useful in identifying operational and other issues that the RGC needs to address, and in providing recommendations for future action. But the following limitations need to be borne in mind:

- Our study was not an audit, nor has it involved a detailed comparison of efficiency and effectiveness as between the RGC and overseas funders.
- While we benefited from extensive engagement with members of RGC committees and panels, and with representatives of the research community in Hong Kong, that engagement was inevitably partial.
- Participants in focus groups for committee and panel members were drawn from those available at the time. The main body of focus groups for members of the academic community comprised participants from each of the universities and self-financing institutions, but they may not have been representative of the community as a whole. Discussion in the focus groups tended to focus on problems and areas for improvement, with less discussion of aspects of the RGC's operations that were perceived as working well. Rates of response to our surveys varied by committee, panel, and institution. While the overall response rate for our survey of academic staff in universities was 27%, the rate was particularly high for academics in humanities and social sciences, while being much lower for those in engineering.[3] We have taken such differences into account in our analysis of the

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[3] An analysis of the four surveys we undertook is at Annex 6

results, while also noting the possibility that individuals with strong views – either positive or negative – may have been more inclined than others to complete the surveys.

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3. Conditions and constraints affecting RGC operations

Like any other funding body, the RGC operates in a local as well as an international context. Local conditions which cannot be changed in the short-to-medium term set a frame for any examination of the RGC's operational processes and procedures.

3.1 Supporting research in Hong Kong

Bibliometric and other evidence suggests that research in Hong Kong is flourishing. UGC-funded universities feature prominently in the various global ranking exercises, with five of them in the top 100 universities across the world in the most recent QS University Ranking. The RGC, and the support it provides through its portfolio of competitive schemes, have played a significant role in that success. Those schemes, like those of any research funding agency, must be attuned to local circumstances; but the senior academics from across the world who play critical roles in the RGC's work attest that it operates to high international standards. Our report is critical of a number of aspects of the RGC's workings, but that should not detract from this fundamental success. And our examination of its workings must start from the context in which it operates.

3.2 The context: conditions and constraints

The key characteristics of the research funding system in Hong Kong have been set out in many previous reports including most recently those of the Phase I Review and of the *Review of Research Policy and Funding*. Both reports stress the importance of the RGC and its grants alongside the UGC's allocation of block grant (in the form of the 'R-portion') to support research in universities. The two reports make strategic and policy recommendations to improve the effectiveness of research funding generally and of the RGC in particular.

Our brief was to focus more on operations and processes than on strategy; but there are close inter-relationships between operational and strategic issues, and the boundary is fluid. Hence, we have addressed, as set out in our terms of reference, a number of strategic issues. We are also aware that the scope for change in both is constrained by some of the key conditions – themselves interlinked - in which the RGC functions. Taken together, they constitute a frame for our work.

3.3 Levels of funding

UGC-funded universities currently receive a total of c\$10.3bn in research funding from Government and other sources each year. In per capita terms, that represents c\$2,500,000 for each of the c4,000 researchers in Hong Kong eligible to receive RGC grants. International comparisons are far from straightforward, but evidence from the OECD, from the Higher Education Statistics Agency in the UK, and the National Science Board in the USA suggests that such funding for research in universities is broadly comparable, even generous, compared with countries in Europe and North America.

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Table 2. Sources of funds for research in UGC-funded universities, 2016/17.

Source	Amount ($m)	Percentage
UGC	6457.0	64%
RGC	998.3	10%
Government and related organisations	940.5	9%
HKSAR Government total	*8485.8*	*83%*
Hong Kong private	1569.2	15%
Non-Hong Kong	215.9	2%
Grand total	**10,270.9**	**100%**

The community in Hong Kong is very much aware of the strongly rising levels of funding for research in mainland China, as well as South Korea and Singapore; and it is widely accepted that levels of funding for research are by comparison too low. The perceptions of low levels of funding are exacerbated by at least four factors:

- **More than three-quarters of public funding for university research comes in the form of block grant from the UGC,** which itself accounts for 65% of all research funding for universities. In the UK, by contrast, block grant represents only c25% of total research funding; and in the USA, as in many other countries, there is no equivalent system of providing research funding in the form of block grant to be used by universities at their discretion to support research.
- **Success in winning RGC grants is built into the formula that determines the size of the R-portion allocated to each university.** Currently, 26% of the allocation is determined by the number of projects and amounts won in RGC grants; and there are plans to increase that to 50%. Those plans have been put on hold, however, following concerns expressed in the Phase I Review about the increased pressure on academics to apply for RGC grants.
- **Most of the grants provided by the RGC are relatively low in value.** By far the largest schemes operated by the RGC – accounting for over half of total funds awarded and for 87% of awards and 63% of funding in 2017-18 – are the General Research Fund (GRF) and the Early Career Scheme (ECS), which run in parallel, and provide grants that average a little over HK$600k, barely enough to support a research assistant for two or three years.
- **There is a relative lack in Hong Kong, as compared with many other countries, of funding from other sources.** In 2016/17, UGC-funded universities received 11% of their research funding from non-Government sources. By contrast, universities in the USA received 46% of the funding for research from sources other than the federal Government; and OECD figures suggest similarly high proportions in many other countries.[4]

Funding constraints, and the problems associated with them, should be significantly eased following the *Review of Research Policy and Funding*, and the Chief Executive's announcement that $20bn will

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[4] *OECD Main Science and Technology Indicators.* The OECD does not provide figures directly comparable with those cited for the USA, but figures for sources of funding for research and development other than governments or business suggest similarly high rates in many other European countries, and in China and South Korea. https://stats.oecd.org/viewhtml.aspx?datasetcode=MSTI_PUB&lang=en

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be added to the Research Endowment Fund (REF) which supports the bulk of the RGC's work, along with additional funding for new schemes of awards. Ensuring that the new funds are used to best effect is a key priority for the RGC.

3.4   International involvement in the RGC

The relatively small scale of the research community in Hong Kong means that RGC needs support from senior researchers from many other countries who serve on its Council, committees and panels, as well as peer reviewers. They are needed to ensure that the RGC operates at the highest standards of international practice; and local researchers are keen that it should continue to do so.

Reliance on overseas members and reviewers carries with it a number of implications. Senior academics from overseas may be less attracted to working for the RGC than for larger funding agencies such as the NSF in the USA, or the European Research Council, since the reputational and networking rewards are not so great. Other implications are that:

- **The RGC often finds it difficult to secure reviews of proposals from senior academics overseas**, as do many other funding agencies.
- **Communications and processes involving overseas members and reviewers take longer** than those involving local researchers only.
- **Some overseas reviewers and members, as we discuss in Section 6, lack crucial knowledge and understanding** of the higher education and research environment in Hong Kong.
- **Arranging meetings in Hong Kong brings many logistical difficulties**, as well as significant costs, and there is an understandable desire to limit their number. While video conferencing can mitigate such difficulties, many members stress the importance of face-to-face meetings.

3.5   Competitiveness and trust

Higher education and research are characterised by competition across the world, as individual researchers and teams, as well as universities, compete for funds, for prestige, and for the reputational and career rewards that flow from both. National and international research funding agencies play a central role in fostering such competition; and the RGC was established to operate in this way, and to enhance the overall international competitiveness of research in Hong Kong. But comments in interviews, focus groups and our surveys indicate notably high levels of competition between universities and teams in Hong Kong; and in some cases, this appears to be accompanied by lack of trust. This leads to understandable but pervasive worries about conflicts of interest and about the fairness of assessment processes. In this context it is especially important that the processes themselves should be seen in the academic community as both reliable and trustworthy. Many university administrators as well as researchers also detect, however, a sense that *they* are not trusted by the officials responsible for allocating research funds: that bureaucratic procedures with excessive levels of declarations and checks at all stages of the funding process betray a lack of trust and may even be designed to trap the unwary.

3.6   RGC staffing

Staffing issues are beyond our terms of reference, but they arose repeatedly as an important matter in the course of our work. We make no recommendations, but we note here the issues that arise. The RGC, like the UGC, is staffed by civil servants posted to it for a relatively short period as part of the development of their careers in the SAR Government. They are highly-skilled and hard-working administrators, and as civil servants they are seen as neutral and disinterested in their dealings with the university and research sector. But staff numbers are kept under tight control, and heavy

burdens are placed on some individuals, especially at peak times. The structure also carries other significant implications:

- Staff lack expertise or direct experience in research, in the workings of the university sector, or the local or international contexts in which it operates; and most do not serve for long enough to develop deep levels of understanding. This may explain the inappropriate messages or tone and unrealistic expectations reported to us in focus groups and surveys.
- Many relatively routine decisions have to be referred to panel or committee members, and thus take longer than they might otherwise do.

Some principal investigators (PIs) and universities also complain of delays in responses from the Secretariat, accompanied by its setting unrealistic deadlines for responses in return.

The additional funds and new schemes that the Secretariat is now being expected to administer cannot be implemented effectively without significant additions to current staffing levels. The Secretariat has been heavily involved in the preparation of policy papers relating to research as well as documentation for existing and new research funding schemes, with little inputs from academics. We believe the academics may be in a better position to prepare policy papers and devise forms and guidelines on research funding schemes and the Secretariat can work in conjunction with academics to provide support of the process. Consideration should be given to clarifying the roles and responsibilities of the Secretariat in providing support to the RGC and its committees and panels. We also suggest that the RGC consider whether some of the issues and problems that currently arise might be mitigated by measures such as short two-way periods of secondment between the Secretariat and university Research Offices; and by longer secondments to the Secretariat of people with post-doctoral experience. The latter group would be well-placed to handle matters such as updating the database of external reviewers and handling routine requests for variations in funded projects or issues arising from progress reports.

4. Strategies and objectives

Administering the RGC's extensive portfolio of funding schemes necessarily requires it to develop and implement a wide range of policies and strategies. The additional funding and the new schemes recently announced provide an opportunity to rethink and communicate clear messages about the RGC's role, purposes and strategic direction.

4.1 Policies and strategies, aims and objectives

The RGC's terms of reference require it to advise the Government through the UGC on the needs of higher education institutions in matters relating to research, and to administer schemes of awards. Beyond this statement of functions, the RGC lacks any statement of what it is seeking to achieve, of its mission, strategy or aims.

The RGC's responsibility for administering schemes of awards means that it must necessarily develop and implement policies and strategies. Concerns were expressed in the Phase I Review, however, that the RGC lacks a published strategy; that most strategic decisions were devolved to panels, with consequent differences between them; and that the RGC's overall strategy, aims and objectives were not well understood by the sector. The lack of a published set of aims and objectives, or a published strategy, is in sharp contrast to the position in our comparator bodies. In our current study, concerns were also raised about the effectiveness of the RGC's current portfolio of schemes; and about the strategies underlying specific schemes (especially the GRF/ECS). As some senior university managers, as well as members of the RGC Council told us, the lack of clearly-articulated strategies and objectives underlie many of the negative features of the RGC's relationships with the sector.

Issue	Findings	Observations
Lack of clearly-articulated strategic and policy objectives.	Focus groups showed widespread unease about the lack of clear strategic or policy objectives on key issues such as: • support, in the form of grants, within and across schemes for promoting interdisciplinary research or research collaborations with international partners; • the weight to be given to 'impact' in different schemes; • the levels of funding and length of awards in different schemes; • funding for capacity and infrastructure development; or • levels and kinds of support for research of different kinds in different subject areas. The Action Plan prepared after the Phase I Review noted that the UGC is preparing a strategic plan, and consideration is being given to including the RGC's strategy within it.	■ [1] Develop and consult widely before finalising and publicising a clear set of strategic and policy objectives to cover the portfolio of schemes; and a plan to achieve those objectives.

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4.2 Strategic roles and responsibilities

Issue	Findings	Observations
The RGC has a complex structure of committees and panels.	The RGC has a complex structure of committees, with subsidiary panels responsible for assessing and selecting candidates and proposals, and for monitoring and assessment of funded projects. Some focus groups commented on the complexity of the structure, and the difficulty of knowing where responsibility for policy decisions lay. Most committees and panels meet only once or at most twice a year; and in its twice-yearly meetings the RGC itself has a heavy load of operational business, with relatively little time for strategic decision-making. Revisions to the current portfolio of schemes, and the addition of new ones following the *Review of Research Policy and Funding* and the Chief Executive's announcement in October mean that the current structures will need to be changed. We suggest (see Section 10) the need for a new committee responsible for strategy on the critically-important matter of communications and engagement; and also (see Section 6.1) a new Nominations Committee to take responsibility for recruitment and appointments to all RGC committees and panels.	■ [2] Review and revise, if needed, the current structure of committees and panels.
Not all committees and panels have terms of reference and clearly-delegated powers.	The RGC formally endorses the function of committees and panels, but not all of them have formal, up-to-date terms of reference or documentation on delegation of powers, and none is accessible on the website. For the GRF/ECS and joint schemes with overseas funders, decisions on important matters such as the balance between research of local or international significance, average levels of funding for individual awards, and success rates, are in effect delegated to the five subject panels. Senior university managers and members of the RGC Council commented that there was no effective oversight of the schemes and that panels are in effect given licence to develop policy in the absence of direction from above (though we note that modifications to policy are annually presented to RGC for approval).	■ [3] Establish - and make public - formal terms of reference, with clear reporting lines and delegation of powers, for all committees and panels. ■ [4] Establish a committee to oversee the GRF/ECS and joint schemes.

4.3 The current portfolio of schemes

The RGC currently administers 15 schemes for the UGC-funded universities in four main categories:

- Small grants to support individually-driven research, typically with modest support from research assistants and/or doctoral students;
- Larger grants to support research teams within and across universities;
- Joint research awards administered in collaboration with funding agencies overseas, to support collaborative research across international boundaries; and
- Awards for doctoral students.

The full list of current schemes is given in Annex 1. The General Research Fund (GRF) and Early Career Scheme (ECS) are by far the biggest, accounting for over 90% of awards and more than half

the funding each year. New schemes will be added following the increases in funding announced by the Government in October 2018.

Funding for the current schemes comes in the main from the REF, which is at present divided into four pots to support, respectively, the GRF, ECS and other 'earmarked research grants'; the Theme-based Research Scheme (TRS); schemes for the self-financing sector; and a new scheme to meet tuition fees for research postgraduates.

Issue	Findings	Observations
Small grant schemes predominate.	The vast bulk of the awards made by the RGC are for relatively small sums: in the dominant GRF and ECS schemes the average levels in 2017/18 were c$600k and $550k respectively. As the Phase I Review pointed out, this means that the average value of all RGC awards is significantly lower than the average provided by comparator bodies. In 2017/18 it was $840k, and much fewer than 1% of the RGC's 1,211 awards for academic research staff were in schemes which provide significant sums to support collaborative and team-based research. RGC's perceived strategy - exacerbated by the process under which proposed budgets in the GRF and ECS schemes are reduced (see Section 6.7) - is that it prioritises support for small-scale projects, essentially as a top-up to the funding provided in block grant to universities. A commonly-expressed view among academics, as well as panel members and senior managers, is that the RGC therefore encourages researchers to generate small-scale conservative projects and hinders innovative thinking. These issues are exacerbated by some uncertainties in the Guidance for Applicants in the GRF scheme, noted in our focus groups, about longer projects and the preferred duration, scope and value of awards.	■ [5] Consider, in developing overall strategy, the appropriate balance between support for small-scale and larger team-based projects. ■ [6] Clarify the tensions in guidance for GRF applicants relating to longer projects; and publish consolidated data on the length and value of awards actually made.
The GRF and ECS schemes lack clear objectives.	It is assumed that everyone knows the purposes and objectives of the GRF and ECS schemes; but documentation for applicants, panels and reviewers does not say what they are. The RGC *Annual Report* states that 'the aim is to supplement universities' own research support to those who have achieved or have the potential to achieve excellence'. Guidelines for panels and reviewers in considering project budgets state that 'the RGC's objective is to fund as many worthy projects as possible under the limited budget'. But the lack of clear objectives underpins many of the problems relating to the two schemes: the inexorable rise in numbers of applications; worries about the nature and quality of proposals and about the value of awards; concerns about the assessment process; and variations in success rates. These are also matters of concern for reviewers and panel members when they come to assess applications for awards, as we discuss in Section 6.	■ [7] Define, and make public in all relevant documentation, a clear set of objectives for the two schemes.

The criteria for allocating funds to the five subject panels need to be reviewed and clarified.

The RGC determines in June each year an indicative allocation of funds for each panel, according to a formula that takes account of the number of applications; their quality; and a 'normative' cost factor by broad subject area. The formula provides an indirect incentive to increase the number of applications in each subject area, and to inflate the costs. But the evidence underpinning the cost factor is unclear. It does not seem to be reflected, for instance, in the average amounts actually awarded in each subject area. Evidence from the two most recent rounds of competition shows a ratio of c2.3:1.0 between business studies (with the lowest average grant) and biology and medicine (the highest).

In the Faculty Development Scheme (FDS) for the self-financing sector, which otherwise in many aspects operates as a mirror of the GRF scheme, funds are not further allocated to the different subject areas.

■ [8] Review the formula, taking into account factors such as the size of different disciplinary communities, number of postdocs and PGRs etc.; and make it public.

■ [9] Monitor variations in the patterns of amounts awarded in individual grants in each panel.

Variations in success rates by number of applications between different panels in the GRF and ECS are perceived as unjustified and unfair.

Success rates in the GRF and ECS schemes are high compared with those in similar schemes in other funding agencies, where rates above 20-30% are uncommon. But they vary significantly between panels (see Table 3). There are also significant variations within panels: in engineering, for instance, between 30% for computing and 45% for mechanical and production engineering. These differences are to a significant extent evened out in terms of the amounts awarded: for example, the physical sciences panel achieves a high success rate by effectively cutting the amounts requested by successful applicants by more than half.

Academics in all our focus groups spoke about these differences and their sense of the unfairness involved. They also spoke about directing their applications to specific panels or sub-panels on the basis of perceived chances of success; and there was also comment about the differences in success rates between the GRF and ECS. And as we discuss in Section 6.7, only 35% of UGC-funded academics say that their most recent grant meets the costs of their projects, and half say they do not understand how and why their budgets are cut. Similar issues were raised also at the RGC forum in June.

■ [10] Establish policies and procedures to ensure that there is either consistency or a clear rationale for significant differences in the approach to success rates and to amounts awarded across the different panels.

Table 3. Applications and awards for the GRF scheme 2017/18

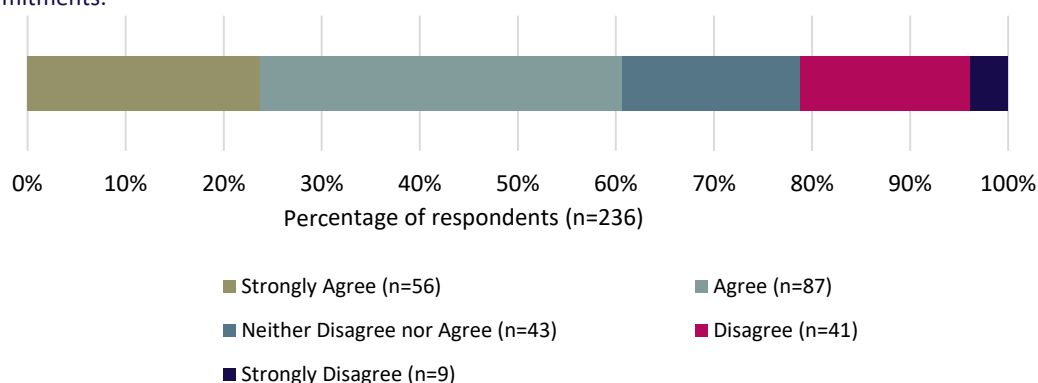| Panel Subject/Discipline	Applications		Supported		success rate by applications	success rate by $
	No	Amount $'000	No	Amount $'000		
Biology and Medicine	660	962,969	171	170,230	26%	18%
Business Studies	342	197,059	116	49,875	33%	25%
Engineering	779	879,481	300	170,510	39%	19%
Humanities and Social Sciences	736	547,842	176	103,202	24%	19%
Physical Sciences	376	457,559	201	99,560	53%	22%
Total	**2893**	**3,044,909**	**964**	**593,377**	33%	19%

Table 4. Applications and awards for the ECS scheme 2017/18

Panel Subject/Discipline	Applications		Supported		success rate by applications	success rate by $
	No	**Amount $'000**	**No**	**Amount $'000**		
Biology and Medicine	69	91,932	18	18,980	26%	21%
Business Studies	82	42,367	32	12,462	39%	29%
Engineering	50	51,314	24	14,310	48%	28%
Humanities and Social Sciences	163	102,323	58	27,415	36%	27%
Physical Sciences	32	42,094	19	11,170	59%	27%
Total	**396**	**330,029**	**151**	**84,336**	**38%**	**26%**

| Issue	Findings	Observations
Increasing numbers of applications for GRF and ECS awards are putting the RGC's operations under strain.	The number of applications for the GRF scheme rose by 14% between 2013/14 and 2018/19, to a total of 2,945: estimated to represent 75% of those eligible to apply. A further 381 applications were received in the ECS scheme. The strain on RGC systems and on the panels is becoming unsustainable. In focus groups we heard repeatedly both of the need to apply for funds in order to remain research-active, but also of pressure from university managers to submit applications each year. This was attributed in part to the link between RGC grants and the R-portion. As in the Phase I Review, however, we were also told that universities use success in winning RGC grants as a key criterion in their decisions on tenure and promotions.	■ [11] Consider and consult on ways in which the rising numbers of applications for GRF and ECS might be limited. These might include some limitations on: - The right to re-submit unsuccessful applications. - The right to apply in every round. - The number of concurrent awards.
	Various forms of 'demand management' have been adopted by funding agencies overseas, though they are often subject to hot debate. The Marsden Fund, for instance, restricts applicants to one proposal as PI per round; and to two proposals in which they are in any way involved. PIs funded in the previous two years can apply only as an associate for up to two proposals, and for up to 0.05 FTE per proposal. Similar restrictions are imposed by other agencies such as the NRF in South Korea. Other measures have been adopted in the UK, where the BBSRC, for example, allows resubmission of unsuccessful applications only at the invitation of the assessment committee. The RGC, by contrast, encourages resubmissions, though it does not gather data on their success rates.	■ [12] Consider requiring applicants to show their current and prospective allocation of working time for both teaching and research commitments in percentage terms.
	Many academics in our focus groups were reluctant to see any form of capping; but others, along with senior managers and panel members, were more sympathetic to such suggestions. More than 59% of UGC-funded academics surveyed agree that there should be a cap on the number of awards held concurrently by an individual researcher, while 35% disagree (the remaining 6% recorded 'don't know'). Those at self-financing institutions are more evenly split; 44% agree while 45% disagree.	

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More than half of panellists (61%) agree that applicants should be required to show their current time commitments for teaching as well as for current research projects. Overseas members are particularly strong in their agreement that they should take careful note of applicants' time commitments when assessing proposals, in order to reduce the risk that researchers might be involved in work on projects to which they cannot realistically devote adequate time.

Figure 1. Panel members' responses on requiring applicants to list their current teaching as well as research commitments.

Percentage of respondents (n=236)

- Strongly Agree (n=56)
- Agree (n=87)
- Neither Disagree nor Agree (n=43)
- Disagree (n=41)
- Strongly Disagree (n=9)

Issue	Findings	Observations
The rationale for the ring-fenced elements within the GRF and ECS is unclear.	There is ring-fenced provision within the GRF and ECS schemes to provide: • research experience for undergraduates: $2m in GRF • the costs of replacement teaching for researchers in the humanities and social sciences (HSS): $10m for the HSS panels, although researchers in other disciplines can also apply for such costs • two clinical research fellowships at HKU and CUHK (though there were no applications in 2017/18) • support for research related to public policy research: $20.3m in GRF and $3.5m in ECS Each of these elements has its own set of guidance notes for applicants, and discrete sections on the application forms. But it is not clear how they are assessed. Moreover, the rationale for these elements within the two schemes is not clear, and how the funds are distributed is not made public.	■ [13] Review the case for each of the ring-fenced elements and consider whether the objectives for each of them could be achieved more effectively by other means.

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Figure 2. Overseas and local panel members' responses on paying careful attention to applicants' time commitments.

Legend: ■ Strongly agree ■ Agree ■ Neither Disagree nor Agree ■ Disagree ■ Strongly Disagree
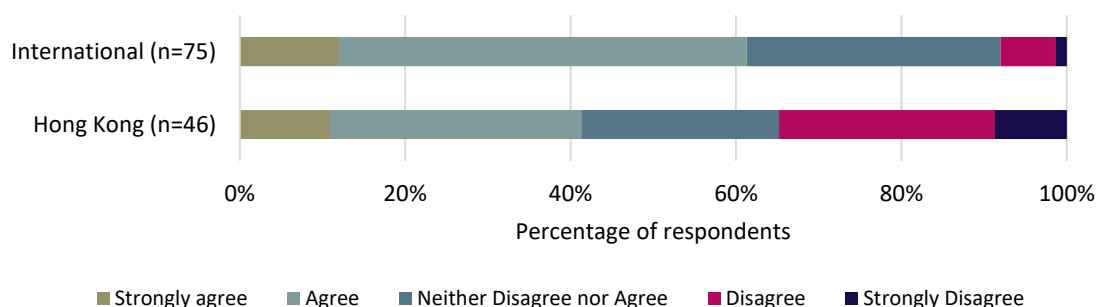
Many grants are seen as too small in value.

In focus groups as well as the surveys there was widespread agreement – from senior managers, RGC Council and panel members, individual academics and research staff – that the value of individual awards is currently too low. Views differ between academics in different disciplines: in the humanities and social sciences, as well as in areas such as pure maths, some suggest that their needs could be met by relatively small grants. Nevertheless, only a third of all academics agree that their most recent grant is meeting all the costs of their project; and in biology and medicine, the proportion is under a quarter.

Views on how best to tackle the value of individual awards vary. In focus groups, many members of the RGC Council and its panels, along with some senior managers, favour making fewer awards at higher value. Only a minority of academics agree. Several suggest that GRF or ECS awards – even if insufficient in value – are their 'bread and butter' without which they risk being unable to remain research-active. When asked about a possible trade-off between the number and the value of awards, most academics favour increasing the number of GRF awards even at the cost of reducing their value. Navigating this tension is of key strategic importance for the future health of research in Hong Kong.

■ [14] Review, in the light of the additional funding now available, the balance between the numbers and the value of awards in the GRF and ECS schemes.

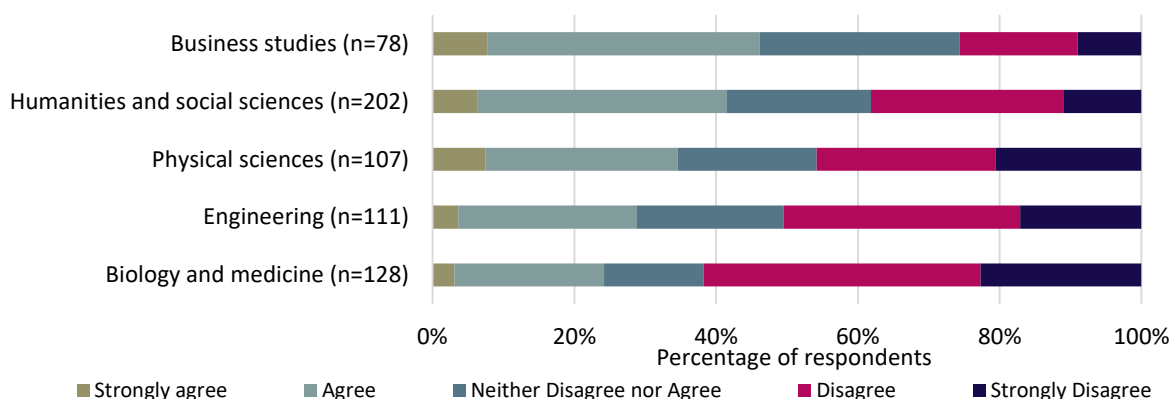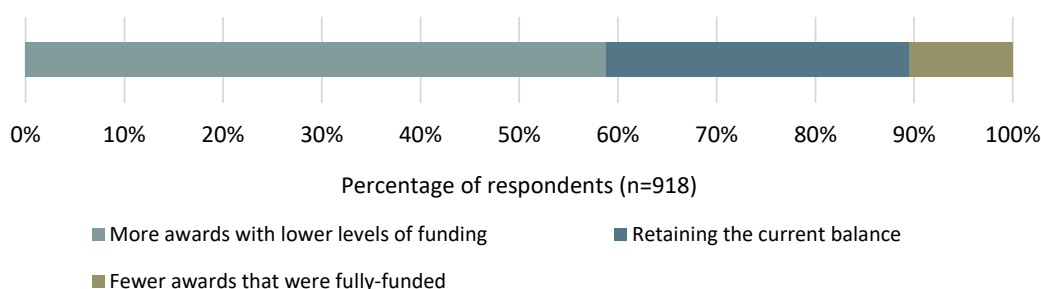Figure 3. 'My most recent award met/is meeting all the costs of my project'.

Legend: ■ Strongly agree ■ Agree ■ Neither Disagree nor Agree ■ Disagree ■ Strongly Disagree

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Research Consulting

Figure 4. Academics' views: more GRF awards with less funding, or fewer awards with full funding.

Percentage of respondents (n=918)

■ More awards with lower levels of funding ■ Retaining the current balance
■ Fewer awards that were fully-funded

Issue	Findings	Observations
The roles of the R-portion and of RGC grants in the support of research need to be clarified.	The dual support system, under which universities receive block grant from the UGC (the R-portion) and individual researchers or teams receive RGC grants to meet the costs of specific projects, is essential to the health of research in Hong Kong. Both sources of funds are provided on a competitive basis. The fundamental difference is that universities have freedom in deciding how to use the R-portion - which is intended to enable them to provide staff and facilities for research, and to fund a certain level of research activity[5] - while RGC grants are ring-fenced for specific projects.	■ [15] UGC and RGC to clarify, as part of the planned review of the R-portion and in consultation with the sector, their expectations on the distinctive roles of R-portion block grant and RGC grants.
	Like comparator bodies in other countries that run a dual support system (such as the ARC in Australia, the BBSRC in the UK, and the Marsden Fund in New Zealand) the RGC finds some difficulty in determining a precise dividing line between costs to be met from its grants, and those it expects universities to meet from other resources, including the R-portion. Difficulties arise in areas such as equipment, where researchers and institutions told us that they are often unclear as to whether or not specific items of equipment can be included in their costings for RGC grants. Boundaries are blurred even more by the increasing requirement for universities to meet a defined proportion of the costs of RGC-funded projects.	
	Clarifying the boundaries between responsibilities on both sides of the dual support system is particularly important in the case of small grants, where issues can also arise in relation to the costs of replacement teaching to allow PIs to spend time on projects. Some researchers told us in focus groups that they do not need GRF or ECS grants to enable them to conduct their research, but that their universities require them to submit applications for other reasons (see below). The RGC[6] states that the aim of the GRF is "to supplement universities' own research support". But in a context where the R-portion is intended to fund not only staff and facilities, but a certain level of research activity, there is an urgent need to clarify the distinctive roles of the two sources of funding.	

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[5] *Review of Research Policy and Funding,* June 2018, para 4.20
[6] RGC *Annual Report 2016/17,* page 8

Support for individually-based research in the form of fellowships is currently meagre.

Although the GRF and ECS are characterised as 'individual' research schemes, they typically provide funds to support research assistants and/or doctoral students who work under the supervision of a PI, along with some relief for the PI from teaching duties.

But aside from the small-scale Humanities and Social Sciences Prestigious Fellowships Scheme (HSSPFS) and a joint scheme with the Fulbright Program, there is currently no large-scale fellowship scheme such as those run by comparator bodies including the ARC in Australia, BBSRC in the UK, the Academy of Finland, the Irish Research Council, the Marsden Fund in New Zealand, the NRF in Singapore, and the NSF in the USA. It is therefore welcome news that the SAR Government has accepted the recommendation of the *Review of Research Policy and Funding* and provided new funds to establish three new fellowship schemes for postdoctoral fellows and researchers at associate professor and professorial levels.

■ [16] Develop and implement the new fellowship schemes in consultation with the research community; and ensure that there is an effective fit between the new schemes and the RGC's current portfolio of awards.

The rationale for the portfolio of joint schemes needs to be clarified.

Like most of the comparator bodies, including those in Finland, Ireland, Singapore, South Korea, the UK and the USA, the RGC runs joint programmes in collaboration with agencies overseas. The current portfolio includes six schemes:

- three joint research schemes with the National Natural Science Foundation of China (NSFC), the French National Research Agency (ANR), and the European Commission;
- a fellowship scheme with the Fulbright Program; and
- two travel or conference grant schemes with the Consulate General of France and with the German Academic Exchange Service (DAAD).

The RGC has guiding principles for establishing joint schemes, though these are not published. They cover issues including the status of the partner body, the size of the likely collaborating community in Hong Kong, and cost-effectiveness in administration. Inevitably, some schemes arise adventitiously from specific circumstances; and some have proved less successful than others and have been closed.

The current schemes vary in scope, scale and popularity amongst researchers, with the NSFC scheme by far the largest. The overall aim is to foster and enhance international collaboration, though it is not clear that the current portfolio of schemes is best designed to achieve that. There may be some scope for enhancing international collaboration further through other schemes. The NSFC scheme may also need to be reviewed in the light of the possible opening up of Mainland grants to Hong Kong researchers; and the RGC will need to consider what role (if any) it might play in relation to Mainland grants.

■ [17] Review the joint schemes as a group, the extent to which they meet the aim of promoting international collaboration, and the scope for promoting international collaboration through other schemes.

■ [18] Keep the NSFC scheme under review in the light of possible opening up of Mainland grants to Hong Kong researchers.

Support for local and international doctoral students may

Several academics spoke in focus groups about the need for more PhD students in Hong Kong. Some students are supported by GRF and other grants, but the RGC's main scheme of support is the PhD Fellowship Scheme, which was launched in 2009 to attract to Hong Kong the best students from across the world. It draws a steady

■ [19] Review the numbers and the overall pattern of support for doctoral students.

need to be rationalised.

number of applicants each year. Some academics question why the RGC should focus its support on overseas students, and the new scheme to meet the tuition fees of local research students should begin to allay such concerns. The third targeted scheme is the small Postgraduate Students Conference/Seminar Grants (PSCSG) scheme that supports the organisation of conferences and seminars aimed at postgraduates (not necessarily PhD students). The rationale for the scheme, which attracted 11 applications in 2017/18, is not entirely clear.

The 'group' research schemes have been developed piecemeal.

Key features of the four current schemes of funding for team-based research are set out in Annex 1. The Collaborative Research Fund (CRF) and Theme-based Research Scheme (TRS) are funded from the REF; the Areas of Excellence (AoE) and Research Impact Fund (RIF) by the UGC. The schemes have been introduced piecemeal, in response to specific issues and circumstances; and there is no clear rationale for the overlaps and differences between them in terms of objectives, eligibility, levels of funding and value of individual awards, requirements for matched funding, criteria for assessment, length of awards, or monitoring arrangements.

The *Review of Research Policy and Funding* has commented on the schemes, and we have noted the lack of an obvious rationale for the current portfolio: all stress collaboration and international excellence, but:

- the reasons for the current balance between the value and length of awards in different schemes is not clear;
- there is no scheme to support the development of research institutes or centres;
- equipment grants sit oddly alongside support for team-based research in the CRF; and
- there is currently no scheme aimed at supporting research in collaboration with business and industry.

The new scheme of Research Matching Grants announced by the SAR Government in October, with dedicated funding, adds a fifth scheme to the portfolio. Together with the additional funding for the REF, this makes it the more important that the current portfolio should be reviewed to make sure that it makes a coherent whole.

■ [20] Review and reconfigure the group schemes to ensure that they provide effective support for:
- strategic research on broad themes determined in consultation with stakeholders
-the purchase of large-scale strategic equipment
-developing and sustaining research centres and institutes
-team-based research on a range of topics determined by open competition in responsive mode.

Schemes for self-financing institutions may not meet the overall aim of developing research capacity and capability.	The three schemes for the self-financing sector aim to promote capacity and capability development in thirteen institutions, most of which focus on business and HSS disciplines. Whether the current portfolio is best designed to meet that aim is not clear. Academics and Heads of Institution both suggest that the RGC does not fully understand the sector and the constraints under which institutions and their staff operate; that panels and reviewers make inappropriate judgements as a result; and that the key requirement is for teaching relief.	■ [21] Consult the self-financing sector and review how best to fulfil the aims of capability and capacity development, taking account of demands focusing on teaching relief.

The biggest scheme is the Faculty Development Scheme (FDS), which operates essentially as a mirror of the GRF/ECS, but with the aim of developing staff research capabilities. Some 200 applications and 50+ awards are made each year. In staff development terms, it is worth noting that >40% of respondents to the survey of academics in self-financing institutions have worked as an academic in Hong Kong for more than nine years.

The number of awards in the Institutional Development Scheme (IDS), which aims to support capacity and infrastructure in each institution, has fallen drastically since 2014-15, and a review was recently completed.

The Inter-Institutional Development Scheme (IIDS) promotes capability development through modest levels of financial support for workshops, seminars, short courses etc.

■ [22] Review guidance for reviewers and panels on the nature of the sector, the schemes and their aims.

There is no regular programme of scheme reviews.	Some changes are made to schemes almost every year in the light of experience and as new issues arise (see Section 5.2); and some schemes are reviewed from time to time (though the results of those reviews are not published). However, as highlighted in focus groups, there is no regular programme of reviews to assess patterns of applications and awards; the extent to which schemes are meeting their objectives; whether those objectives need modification; the volumes and quality of research outcomes; and whether the operational aspects of each scheme (from application through to awards management) are efficient and effective. Many comparator bodies have established programmes of this kind (see, for instance, the NSF's portfolio review for the facilities, science programs, and other activities of the Geospace Section (GS) of the Directorate for Geosciences' Division of Atmospheric and Geospace Sciences, and the assessment of that review[7]), and many more, including the ARC and the Academy of Finland, publish reports of such reviews (still others are undertaken but not placed in the public domain).	■ [23] Establish a programme of, say, quinquennial reviews of the major groups of schemes, to be conducted with the help of external consultants; and publish the results.

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[7] *Assessment of the National Science Foundation's 2015 Geospace Portfolio Review,* National Academies Press, Washington DC 2017

4.4 Financial strategy

Issue	Findings	Observations
Reductions in income and the need for more financial flexibility.	Current financial arrangements take key elements of financial strategy out of the RGC's hands. Moreover, falling income from the REF in recent years has led to reductions in the value of RGC grants, with increased calls for funding contributions from universities. The REF's division into four separate 'pots' has also reduced the RGC's flexibility in managing the resources available to it. Together these issues have led to pressure from the sector and others for increases in research funding overall. Following the *Review of Research Policy and Funding*, the SAR Government announced in October 2018 that it will add $20bn to the REF as well as providing additional funds to launch new schemes of award. It is also asking the UGC to rationalise use of the REF 'pots' to achieve more effective deployment of funds. The RGC will need to develop clear strategies to handle these new funds, and the enhanced flexibility, as productively as possible.	◼ [24] UGC and RGC to develop in tandem strategies for the deployment of the additional funds and the increased flexibility announced in October 2018.
There is a lack of clear public criteria for determining the funding allocations for different schemes.	The RGC determines in December each year the funds to be allocated to each of the earmarked schemes funded from the REF, while the UGC allocates funds for the AoE and HKPFS schemes. Over recent years, the balance of funding between schemes has changed, as the allocations to each of them have risen and fallen (see Annex 1). There seems to be no clear rationale or criteria for these changes.	◼ [25] Establish clear criteria for the allocation of funds to different schemes.

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5. Application processes

Researchers have largely accepted the constraints of an annual cycle for applications, though there are concerns about the time taken before results are announced. There are worries too about the structure and complexity of application forms, and about the inadequacies of the online systems.

5.1 Application cycles and timing

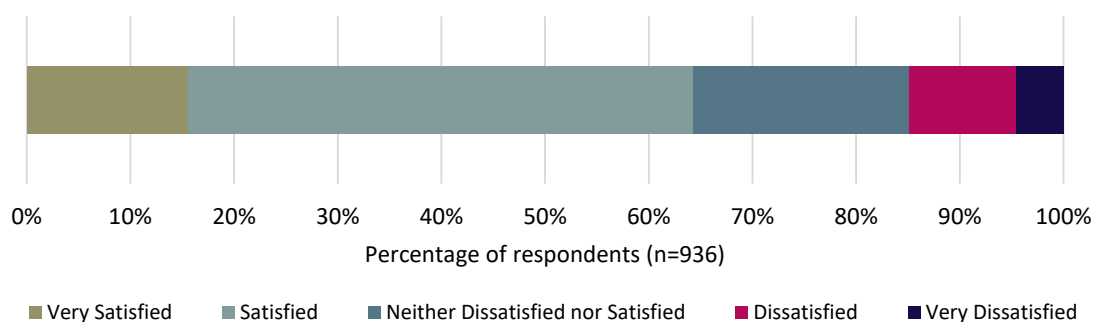| Issue	Findings	Observations
Annual cycles of applications are largely accepted, with some reluctance.	Like many comparator bodies such as the Australian Research Council, the Marsden Fund in New Zealand and the NRF in South Korea, the RGC's schemes operate with a single annual round of applications and awards (except the AoE scheme, which is intended to run biennially). Most of the comparators, however, have many more rounds for different schemes running concurrently through the year; and some, including the BBSRC in the UK and the Academy of Finland, run more than one round each year for their responsive mode schemes. In focus groups researchers largely accepted, somewhat grudgingly, that more frequent cycles were probably impractical, given the predominant use of overseas academics on the panels. Some universities complain, however, that the deadlines for submission of applications in different schemes are too close together and urge that steps should be taken to spread them out.	■ [26] Consider how deadlines for applications in different schemes might be spread across the academic year.
There are concerns about the timing of rounds and the length of time taken before announcing results.	Timing and length of process vary and are driven (except for HKPFS, joint schemes and those for self-financing institutions) by the need to complete assessments before one of the two annual meetings of the RGC, in December and June, at which awards in most schemes are formally approved.	■ [27] Consider the scope for some limited reductions in the time taken between submission of applications and the announcement of results.
	Scope for additional or more flexible cycles is thus limited, but we note that announcing GRF and ECS awards at the end of June brings difficulties in recruiting research assistants and PhD students. The problem is exacerbated in the FDS scheme for self-financing institutions, where awards are announced in late August.	
	Much more generally, there is disquiet about the length of time before results are announced, not least because some universities encourage researchers to prepare next year's applications before the results of previous ones are known. The 8 months between a submission and announcement of results in the GRF and ECS schemes is at the upper end of time taken by comparator bodies, especially for schemes that operate a single stage of assessment. Elapsed time for the joint and the self-financing schemes is significantly shorter, at 5-6 months (except for the NSFC joint	

scheme, which involves a two-stage process). By way of comparison, the average time for decisions for all programmes from the NSF in the USA is 5.5 months, while the NRF in South Korea takes 3-6 months, and BBSRC in the UK 6 months for responsive mode awards. The RGC is unique among comparator bodies in allowing applicants to update their applications five months after submission; and in the most recent GRF and ECS competitions, more than half of applications did so.

The group research schemes have a two-stage process involving preliminary and then full applications. The CRF and AoE take 10-12 months; while the TRS takes 9 months, in line with comparators such as the Marsden Fund, which also takes 9 months for a two-stage process.

5.2 Documentation and guidance for applicants

Issue	Findings	Observations
Researchers are broadly content with the support they receive from their Research Offices.	Over 64% of UGC-funded academics (63% in self-financing institutions) are content with the support they receive from their Research Offices, with researchers especially valuing help from senior academic colleagues and internal reviewers. The minority of researchers who made negative comments expressed concerns over bureaucratic, or overly-critical, processes.	

Figure 5. UGC-funded academics' satisfaction with support from their university when making an application.

Percentage of respondents (n=936)

■ Very Satisfied   ■ Satisfied   ■ Neither Dissatisfied nor Satisfied   ■ Dissatisfied   ■ Very Dissatisfied

Issue	Findings	Observations
Researchers are mostly content with guidance from the RGC, but Research Offices express concerns	Over 68% of researchers in UGC-funded universities, and 78% in self-financing institutions, are content with the guidance for applicants produced by the RGC for each scheme, though there were a number of negative comments about length and format. Many of the long guidance documents we reviewed – some of them 50 pages or more – have no table of contents, nor cross-references or hyperlinks, making them difficult to navigate. Several	■ [28] Review all documentation with help from a professional writer and ensure that: - Contents lists, cross-references and hyperlinks are

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about changes and some inconsistencies.	survey respondents plead for more examples in the guidance notes. It is clear that Research Offices play a significant role in interpreting the guidance and also in framing applications to ensure that they comply with it. Representatives of Research Offices themselves worry about gaps and inconsistencies in the published guidance from the RGC (noted also in comments in the surveys), and about the difficulties in identifying significant changes from year to year. Nearly 20% of UGC-funded academics (26% of those in self-financing institutions) have asked their Research Office to contact the RGC Secretariat about an issue related to their proposals. Most (59%) are satisfied with the response, but there are some differences in different disciplines.	provided wherever possible. - Changes from year to year are highlighted. ■ [29] Consider for the long term creating a single handbook covering all schemes; or comprehensive guidance with short supplementary guidance for each scheme.

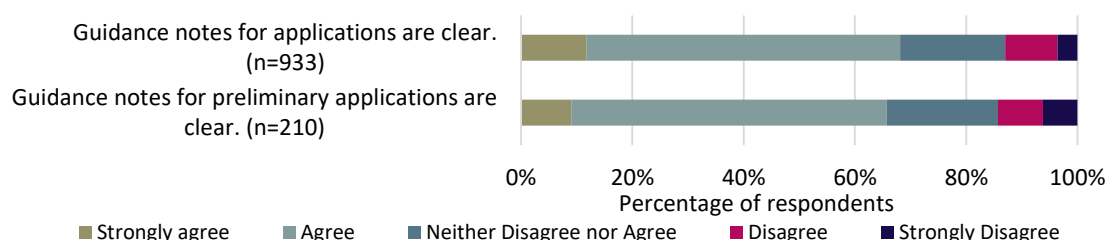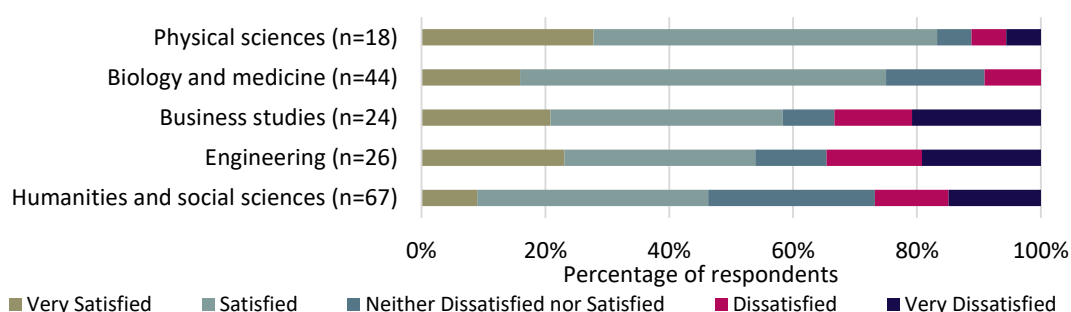Figure 6. UGC-funded academics' satisfaction with RGC guidance notes.

Figure 7. UGC-funded academics' satisfaction with RGC Secretariat responses to Research Office requests for guidance.

5.3 Application forms and the information sought from applicants

Issue	Findings	Observations
Application forms are generally straightforward to navigate, but could be further streamlined.	More than 73% of researchers at UGC-funded universities (70% at self-financing institutions) find it straightforward to understand what information they must provide on application forms. And 56% of UGC-funded academics, along with 62% of panel members, think the forms are easy to navigate; but the figures are slightly lower for both preliminary and full applications in two-stage schemes.	■ [30] Applications could be further streamlined by reviewing: - Their structure, and the information sought; and

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Academics, panel members and reviewers suggested forms could be streamlined by:
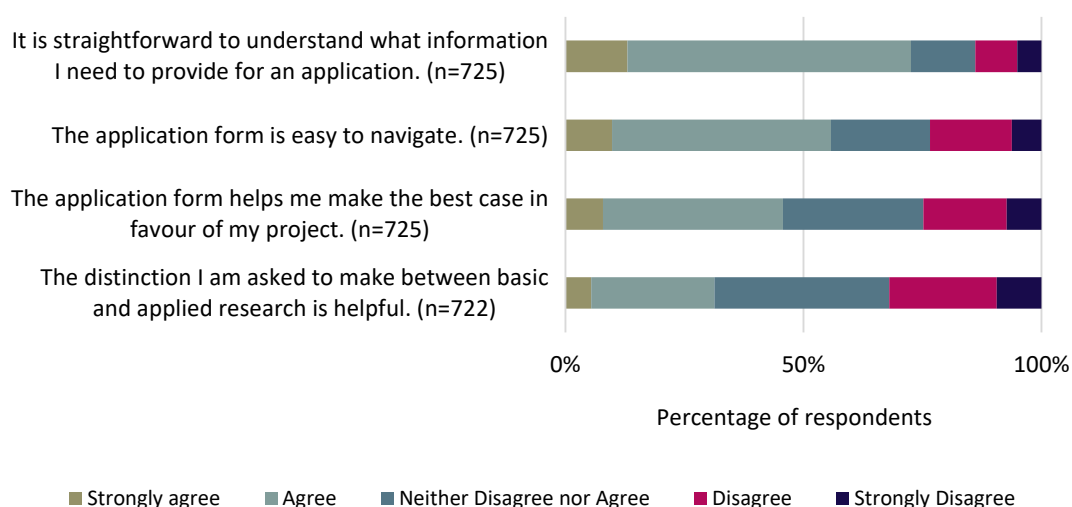
- Ensuring forms are appropriately adapted to the needs of the humanities and social sciences.
- Editing the forms for length, and improving their layout.
- Reviewing the value of requiring applicants to list all past proposals, successful or not – a requirement which attracted significant criticism.
- Reviewing the value of supplements to the main GRF form, such as the misleadingly-titled template for individual research, which deals with provision for PIs' costs for fieldwork and archival research in HSS and business studies.
- Establishing a "a centralized CV database" for researchers to update as needed.

We note that the form does not ask for information about the sex, age or ethnicity of applicants, which could be useful for monitoring purposes, while being redacted from the information provided to reviewers and panel members.

- the relationship between the information provided in preliminary and in full applications.

■ [31] Consider, taking account of relevant legal constraints, how to establish within the online system a central registry with profiles of each applicant (as recommended in the *Review of Research Policy and Funding*) and how researchers could check and edit their profiles prior to submission.

Figure 8. UGC-funded academics' views on application forms.

Issue	Findings	Observations
Requests to distinguish between different kinds of research remain problematic.	The distinction that applicants were formerly asked to make between basic and applied research attracted adverse comment in the Phase I Review. It was removed from the application forms and guidance for GRF awards in 2018/19, though the guidance for panel members still states that the RGC aims to ensure a proper balance between basic and applied projects. Only 31% of academics and 29% of panel members (but 62% of external reviewers) believe that the distinction is helpful.	■ [32] Delete the references to distinctions between basic and applied research (and to local and international significance).

Nor do we consider that a crude distinction between research of local and international significance is useful in a context where research excellence is the prime criterion in assessing proposals; but where 'relevance to the needs of Hong Kong' is an explicit secondary criterion for all applications (see Section 6.4).

Most panel members and nearly half of UGC-funded academics, believe that the application forms help them to make the best case for their proposals.

As shown in Figure 8, above, 46% of UGC-funded academics (58% of those in self-financing institutions) agree that application forms help them make the best case for their proposals. It should be noted that a significant proportion neither agreed nor disagreed. Panel members and external reviewers are more positive: 78% and 62% of them respectively agree that the forms enable applicants to make the best case they can. But as Figure 9 shows, there are some differences according to panel members' length of service; while in two-stage schemes 68% of members agree with the statement in relation to full proposals.

82% of panel members and 89% of reviewers also agree that the forms provide the information to enable them to make sound assessments, though again there are some differences according to panel members' length of service.

Figure 9. Panel members' views on whether application forms enable applicants to present the best case they can, by length of service.
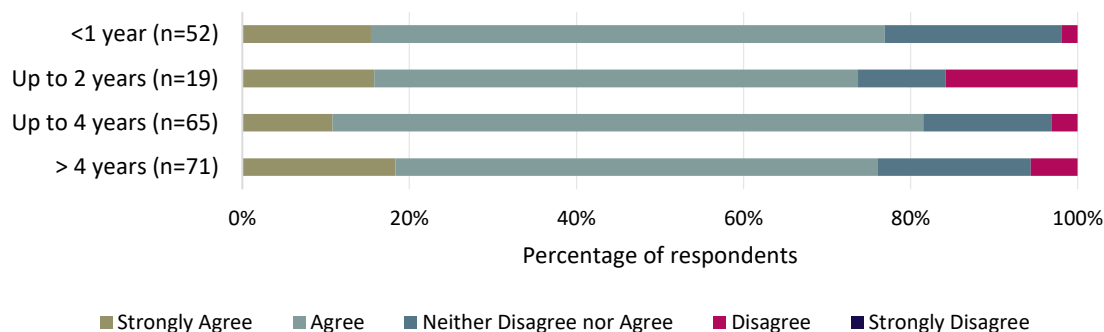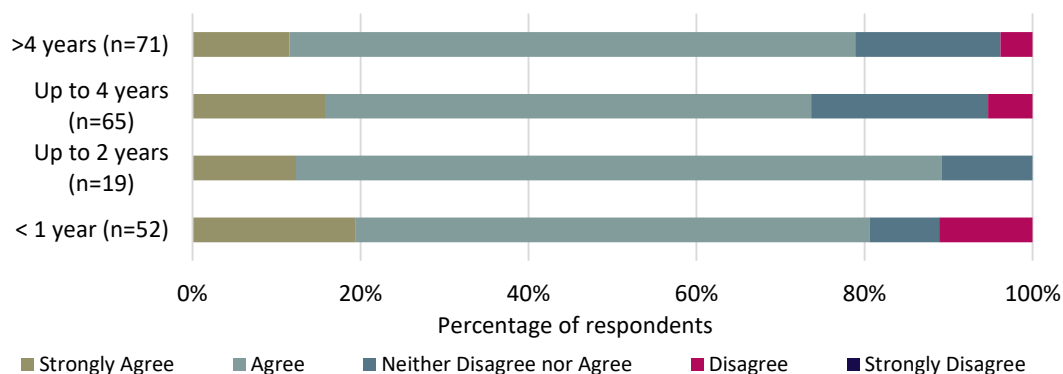

Figure 10. Panel members' views on whether application forms enable them to make sound judgements

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Issue	Findings	Observations
The subject codes used by the RGC are not considered satisfactory for all purposes.	Some academics are uneasy about the subject codes they must use to classify their proposals. Those working in cross-disciplinary areas and in practice-led research are especially worried that the code did not allow them to indicate the subject matter of their research accurately, and that this could lead to their proposals being directed to an inappropriate panel. Coding systems used by other agencies such as the Australian and New Zealand Standard Research Classification (ANZSRC) and the Joint Academic Coding System (JACS) used in the UK offer more fine-grained classifications.	■ [33] Review the subject code list in consultation with the community.

5.4 Eligibility, allowable costs and renewal of awards

Issue	Findings	Observations
Part-time staff are ineligible to apply for awards.	Eligibility for all RGC schemes is restricted to those with a full-time salaried academic appointment, thus excluding (unlike all the comparator bodies for which we have been able to find relevant information) part-time staff, as well as those with emeritus or honorary status. The exclusion of part-time staff may well have a disproportionate effect on women, but the RGC does not gather data on such issues.	■ [34] Consult institutions on the possibility of extending eligibility to cover part-time staff.
There are some confusions over eligibility for the ECS scheme.	The ECS scheme is restricted to PIs within three years of their appointment at Assistant Professor or equivalent level; but complex issues can arise as to the status of both current and past employment. Moreover, some academics point out that newly-appointed staff with business or industrial experience may be graded higher than Assistant Professor. Such new appointees may apply under the Green provision in the GRF scheme, when their applications are printed on green paper for easy identification. They do not, however, gain the full benefit of competing in a separate pool.	■ [35] Review the working of the rules of eligibility for the ECS scheme.
There is lack of clarity, and some inconsistency, in allowable project costs and funding.	Allowable costs in the GRF, ECS and CRF schemes provide for 'one-line vote' items (principally for support staff and equipment, with some provision for conference expenses); and 'earmarked' items (relief teaching, software and database licences, high performance computing (HPC) services and the like). The RGC does not make any contribution towards the salary costs of either PIs or Co-Is (though there is provision for replacement teaching costs in the GRF, ECS and FDS schemes); and it is restrictive in its approach to the costs of consultants working outside Hong Kong. Virement between budget lines is allowed for the 'one-line vote' items, but not for the earmarked items. In the AoE and TRS schemes, no distinction is made between one-line vote and earmarked items, though software and database licences and HPC services are included in the specified budget lines. There is inevitable fuzziness as to the line between general and project-specific equipment costs. But there is also a lack of clarity	■ [36] Review the rationale for the distinction between one-line vote and earmarked items across all schemes. ■ [37] Review (in collaboration with the proposed review of the R-portion) provision for on-costs, indirect costs and funding contributions from universities in order to achieve greater

Issue	Findings	Observations
	and consistency, as compared with agencies such as the Academy of Finland, BBSRC in the UK, or the NSF in the USA as to provision for what are variously described as on-costs and indirect costs; and also differing levels of requirements for university funding contributions (termed 'cost sharing' by the NSF in the USA). All three issues raise matters relating to the respective roles of RGC and UGC funding (see Section 4.3). We understand that these matters will be discussed in the forthcoming review of the R-portion.	consistency (or a clear rationale for differences).
There is no dedicated scheme for renewal or continuation projects.	There is provision for 'continuation' awards in the GRF and CRF schemes; but there is no ring-fenced scheme for such awards. Applicants compete alongside applications for new awards. Over 57% of UGC-funded academics (56% of those at self-financing institutions) favour ring-fenced funds for renewal or continuation awards. Some panel members spoke of the close relationship between previous projects and current proposals, and of the need for greater differentiation between new and continuation awards.	■ [38] Publish relevant data on the success rates for applications for continuation awards; and consider the case for a pilot scheme of continuation funding.

5.5 The online system

Issue	Findings	Observations
The online system urgently needs renewal.	The RGC uses an online system for all aspects of GRF and ECS applications and awards; other schemes are still handled on paper. As noted in the 2016 Audit Review and in the Phase I Review, and echoed strongly in our focus groups and survey, a reconfigured electronic system is urgently needed to cover all schemes of awards. Specific problems include difficulties in uploading files and in copying and pasting text into text boxes, the inability to retrieve information input in the past, and problems with saving part-completed forms. We heard many suggestions that a simple Word template would work more effectively, and many pleas to make the system work in the Firefox browser. Despite all these difficulties, it should be noted that, of those UGC-funded academics who have experience of other systems, 34% say that the RGC's system is more difficult to use; but 46% say it is about the same, and 20% said it is easier.	■ [39] Aim to implement a new online system as planned for application cycles beginning in autumn 2019, taking account of recommendations made elsewhere in this review.

6. Assessment processes

The RGC seeks to operate to the highest international standards in assessing applications in all its schemes. A majority of panel members are from overseas, and most of them believe that the RGC succeeds fully in that aim. Local academics, however, express strong disquiet about the effectiveness and fairness of the assessment process.

6.1 Panels and committees: membership and processes

Issue	Findings	Observations
Academics are uneasy about the make-up of panels.	Some 500 members currently serve on assessment panels for the RGC's different schemes, well over 200 of them on the five panels for the GRF, ECS and HSSPFS, where the workload is heaviest. More than half the members are from overseas, and universities are invited annually to submit nominations for at least some panels. But academics are uneasy about the lack of transparency as to how members are selected, the lack of information about those actually appointed, and the risks of conflicts of interest (with some academics suggesting that only overseas members should be involved as first readers in assessing applications; see Section 9.1). Both academics and panel members are also concerned about gaps in expertise in key areas, with complaints that matching proposals to members' expertise can be difficult; and suggestions that more sub-panels should be created. There are also concerns about the dominance among overseas members of senior academics from North America, Western Europe and Australasia, with relatively few, by contrast, from leading research nations in Asia. A suggestion from one focus group was that a Nominations or Appointments Committee, such as those run by the UK Research Councils, should be established to take responsibility for all appointments and policies relating to them.	■ [40] Provide information on the website about - processes for nomination and appointment of panel members, and terms of appointment. - members' profiles, with links to their websites where possible. ■ [41] Review the balance of local and overseas panel members, by subject, institution and location. ■ [42] Consider setting up a Nomination Committee, to seek nominations, consult Chairs, and oversee appointments.

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| Most panel members are content with the payment they receive, but there are worries about workload. | Overseas panel members receive an honorarium, and 62% of them say they are content with its level (currently $75,150 for GRF panel and $26,145 for joint scheme panel members). But there are many complaints about bureaucracy and delays in making payments. Some local members also commented that it is unfair that they do not receive similar payment. | ■ [43] Consider how the workload can be reduced at all stages of the assessment process, and in monitoring awards. |
| | In focus groups and in the survey, many members commented on their heavy workload, in particular the time taken in identifying relevant reviewers and in securing good reviews; problems with the online system; and the additional work members are asked to do in monitoring awards. As we note in Section 7, panel members undertake work that in other agencies is undertaken by staff members. | ■ [44] Review and consult with panel members and chairs on
- workloads
- any significant gaps in expertise
- the case for establishing more sub-panels. |

6.2 The overall effectiveness of the assessment process

Issue	Findings	Observations
Most panel members believe the assessment processes are rigorous and fair but have suggestions for improvement.	Most panel members endorse both the rigour and fairness of the RGC's processes: 41% of them agree with the strong statement that 'the RGC's processes are more rigorous than those adopted by other funders' (12% disagree); and 36% agree that they are fairer (10% disagree). In both cases, Hong Kong members are more likely to agree than those from overseas, as are those who have served for a longer period, as compared with newer members. Suggestions for improvement include: • Providing more information about specific aspects of the research and higher education context in Hong Kong. • More explicit guidance on issues, including how to handle applicants' track record, renewed support for existing projects, and proposed project budgets. • Guidance for panel members and reviewers should be made accessible to applicants, in line with many comparator funding agencies. Some members suggest more use of online meetings, but 74% agree that face-to-face meetings are always necessary to reach well-considered decisions. Most members are impressed with the RGC's administration, especially with the logistics of setting up meetings. As Figure 13 shows, agreement with the statement that the administration is more effective than that of other funders rises significantly with length of service.	■ [45] Review the guidance to panel members to provide more contextual information about the research and higher education environment in Hong Kong.

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Figure 11. Panel members' views on whether RGC processes are more rigorous than other funders'.
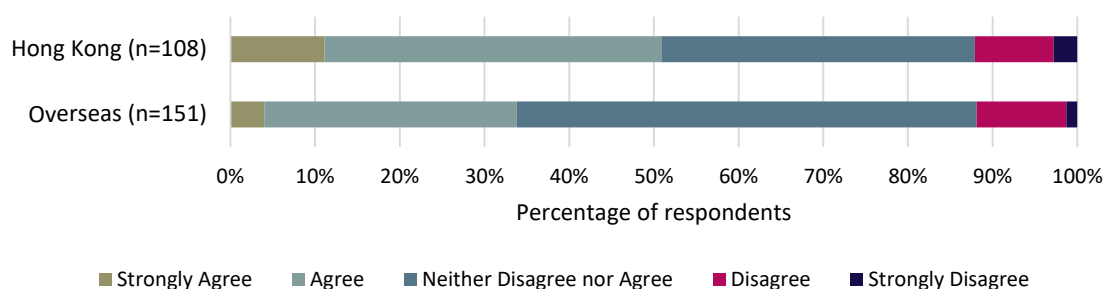

Percentage of respondents

- Strongly Agree
- Agree
- Neither Disagree nor Agree
- Disagree
- Strongly Disagree

Figure 12. Panel members' views on whether RGC processes are fairer than other funders'.

Percentage of respondents

- Strongly Agree
- Agree
- Neither Disagree nor Agree
- Disagree
- Strongly Disagree
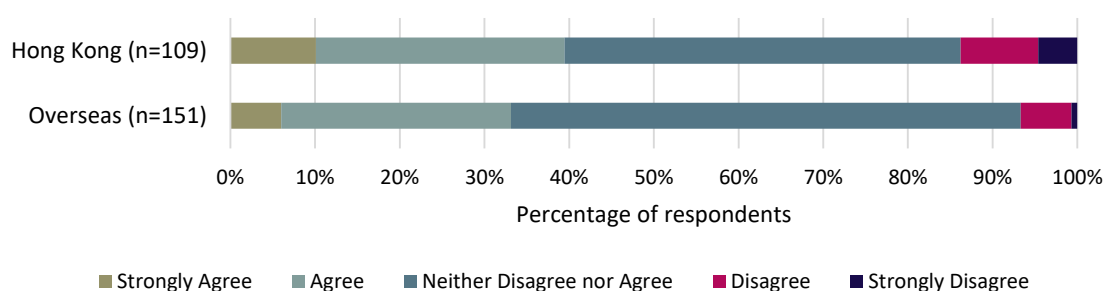
Figure 13. Panel members' views on whether RGC administration is more effective than other funders'.

Percentage of respondents

- Strongly Agree
- Agree
- Neither Disagree nor Agree
- Disagree
- Strongly Disagree

Issue	Findings	Observations
Many researchers do not understand how their applications are assessed, and are sceptical about the fairness of the process.	Researchers have a more jaundiced view. In response to earlier complaints and concerns, the RGC now provides a very brief account of the assessment process on the website. But complaints about lack of transparency are widespread: 48% of UGC-funded academics disagree with the suggestion that they fully understand the processes through which their proposals are assessed, as against 36% who agree. Levels of agreement are higher among academics at self-financing institutions, at 54%. As Figures 14 and 15 show, the levels of disagreement are particularly high in the humanities and social sciences, and in relation to the GRF scheme. Scepticism about the effectiveness and fairness of the assessment process, justified or not, is pervasive. The most sceptical	■ [46] Make all the documentation for reviewers and panel members publicly available. ■ [47] Require panels to report on the procedures they adopt in determining the borderline between success

researchers suggest that assessment results are arbitrary. Such comments may be unreasonable or unfair, but they were surprisingly common among those who attended our focus groups or responded to our surveys. Many researchers complain, for instance, about how panels determine a final score on the basis of the assessments and grades they receive from reviewers; particularly where there are divergent views from reviewers. Hence some suggest that the RGC should indicate clearly in the comments how the final score is determined.

and failure, the overall success rate, and other issues that arose in the course of their discussions.

■ [48] Consider how panels might provide fuller feedback on specific proposals, especially when their decisions differ from reviewers' comments.

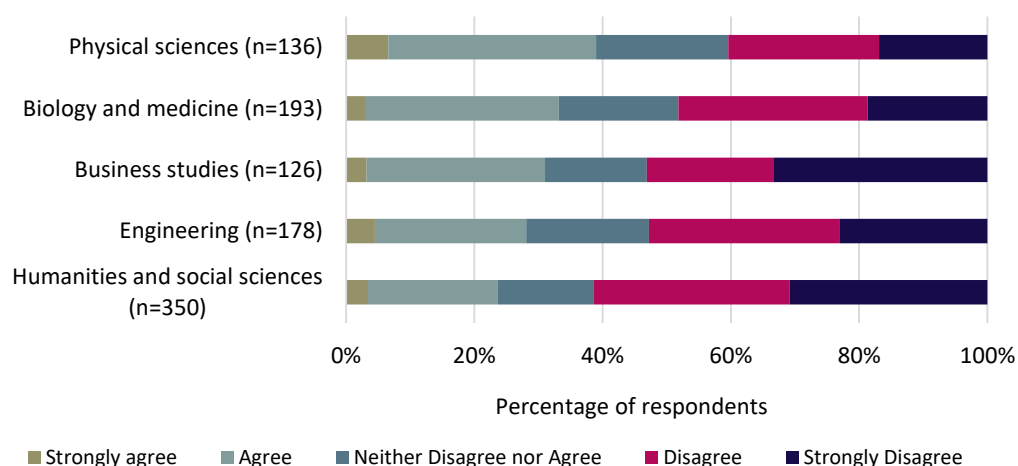Figure 14. UGC-funded academics who fully understand how their proposals are assessed, by subject.

Figure 15. UGC-funded academics who fully understand how their proposals are assessed, by scheme.
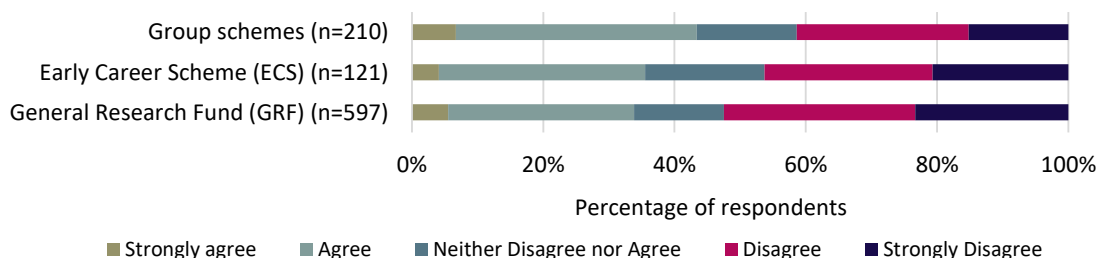
6.3   The quality and fairness of external reviews

Issue	Findings	Observations
Many researchers think that external reviews are not	Many of those who attended our focus groups or responded to our surveys expressed strong reservations about the quality of external reviews, alleging that they showed: • lack of relevant knowledge and understanding of the subject • lack of care in reading the proposal	See below

of appropriate quality.
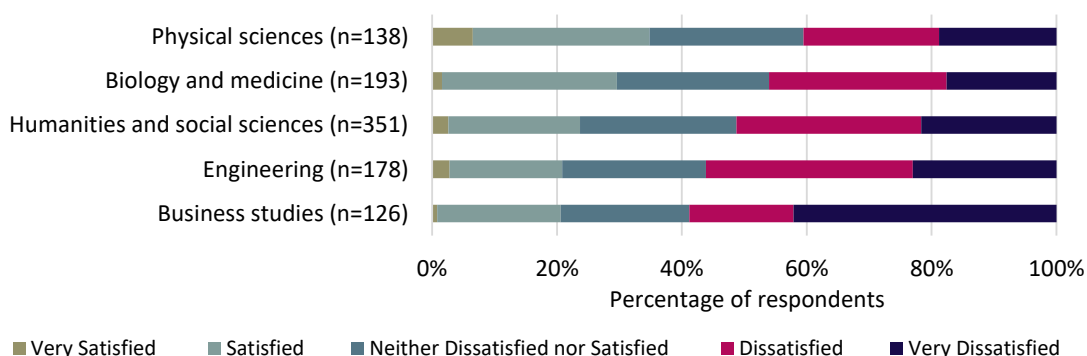
- bias and hostility to certain kinds of research

Overall, only 25% of UGC-funded academics (42% of those at self-financing institutions) were satisfied with the quality of the reviews provided to them at the end of the assessment process. Figure 16 shows significant differences by subject area.

Researchers thus complain once more of lack of transparency, and fear that the choice of reviewers may reveal conscious or unconscious bias against certain kinds of research, or against new methodologies or disciplines. For all these reasons, there is strong support among researchers for the introduction of a right of reply or rejoinder to reviews as an integral part of the assessment process. Provision for replies and rejoinders of this kind (which should be sharply distinguished from appeals once final decisions have been made), is a feature of assessment in a number of comparator bodies including the Australian Research Council, the ANR in France, and BBSRC in the UK.

Figure 16. UGC-funded academics' satisfaction with reviews of their proposals.

Issue	Findings	Observations
Most panel members are generally satisfied with the quality of the reviews they receive.	Panel members acting as first readers select reviewers from a database maintained by the Secretariat, and they are invited to add names to it both before and during the assessment process. Fewer than half of panel members (46%) say it is easy to find reviewers with relevant expertise, and the Secretariat estimates that only 55% of invitations to review are accepted. But once reviewers have been identified, 57% of members say that they submit reviews in good time; and nearly 63% agree that most of the reviews they receive are of high quality. Several members comment that the pool of reviewers on the database is too small and that more detailed information is needed about them and their expertise. And many pointed to the burdens imposed on them when they have to find reviewers from other sources. Some have called for links to other databases, and for improvements in the search/user interface and in the use of keywords (in proposals as well as the database). Many also urge more active recording of refusals, the deletion of reviewers who	■ [49] Update and improve: - the reviewer database. - the guidance for reviewers. ■ [50] Provide stronger guidance to panels on: - discounting poor-quality reviews. - the need to remove unsatisfactory reviewers from the database. ■ [51] Consider some pilot exercises to test:

are clearly no longer active, and a more active system to monitor and assess reviewers' performance. Despite some negative comments on the quality of reviews, only 31% of members agree with those academics who urge that applicants should be allowed to respond to reviews before final decisions are made. As shown in Figure 17, overseas members are less likely than those from Hong Kong to agree.

Reviewers themselves give lack of time (30%) and lack of expertise (29%) as the key reasons for declining an invitation to review. Some complain of short deadlines, and others of being overloaded with RGC requests. A few are concerned about the quality of the proposals they are asked to review. Once they accept an invitation, however, more than 90% of reviewers are content with the instructions on how to submit their reviews, and with the online system; but some refer to the need for a more user-friendly interface on the online system. As Figure 18 shows, most reviewers say that they spend more than three hours in preparing their reviews, with some significant differences between subject areas. Nearly a quarter (23%) agree that the RGC's forms seeks assessments more rigorous than other funders'; just under a fifth (19%) disagree.

- providing a right of reply procedure.
- providing applicants with full review reports before interviews in stage two of the group schemes.

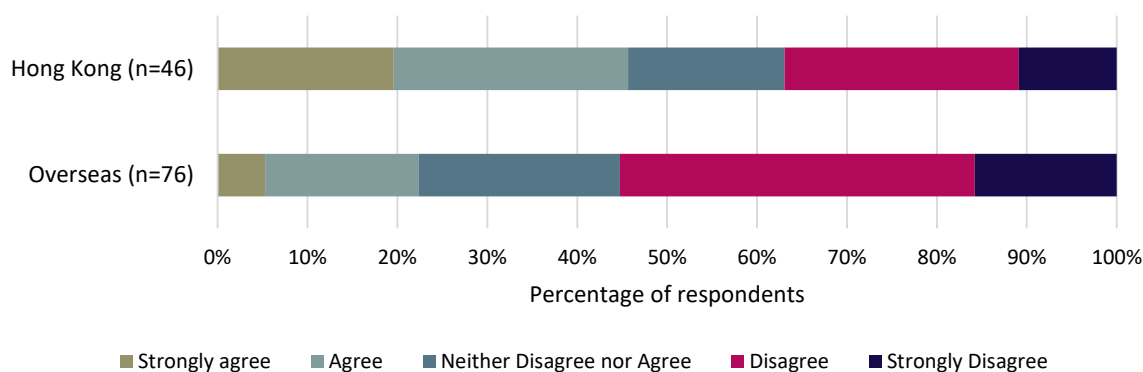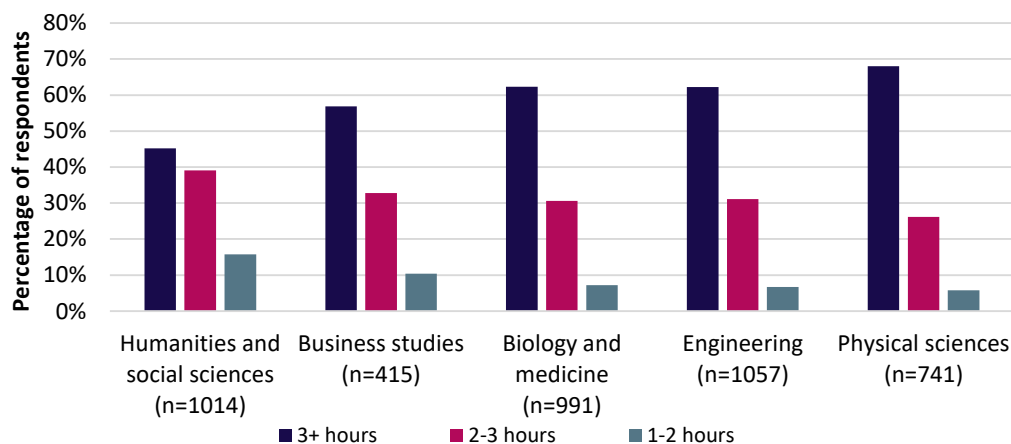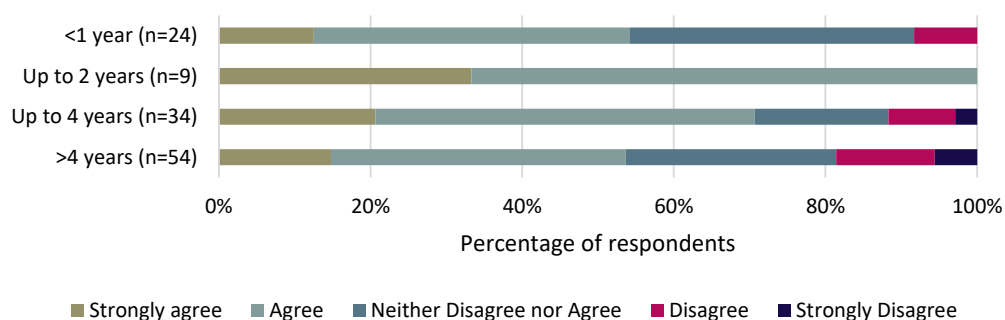Figure 17. Panel members' agreement with a right of reply to reviews.

Figure 18. Time spent by reviewers in preparing their reviews.

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6.4   Criteria and grading scales

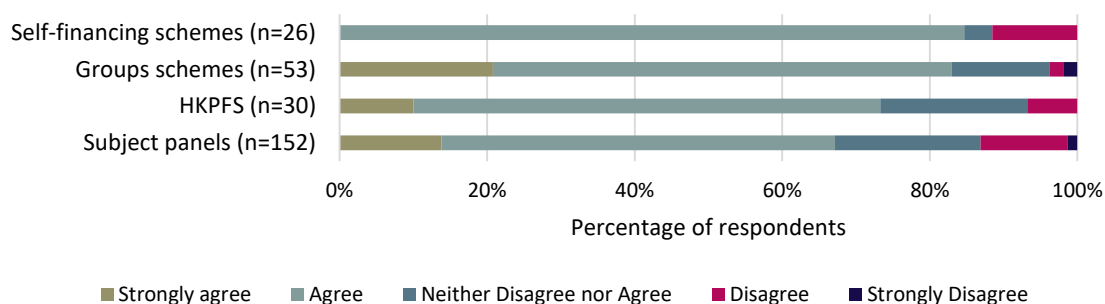| Issue	Findings	Observations
Assessment criteria are not always related to scheme objectives, or transparent; and it is not clear how they are actually used in the assessment process.	Good practice in comparator bodies suggests that assessment criteria are derived from scheme objectives; and that they should be carried forward consistently to the grading framework. Most comparator bodies make clear statements about programme and scheme objectives, and also assessment criteria and how they are used. They also specify criteria that are often absent from RGC schemes, such as value for money (specified for full applications in some schemes, but not in others including the GRF and ECS), the quality of the research environment in which the research is to be conducted, and the feasibility of the research plan. As we have noted in Section 4.3, the GRF and ECS schemes lack any clear statement of objectives. But even for schemes where until recently a statement of objectives was provided on the website, this was not carried forward to the guidance notes and assessment forms for reviewers and panel members. Assessment criteria cannot therefore be related to objectives, and the criteria themselves are not always made widely available to applicants. Nor is it always clear, as we set out in Annex 2, how the different criteria are actually to be used in the assessment process; nor how much weight is given to important issues such as applicants' track record, or the potential scholarly or wider impact of the proposed research. Hence it is perhaps not surprising that fewer than 30% of UGC-funded academics (but 48% of those at self-financing institutions) agree that they understand the criteria against which their proposals are assessed. Even those who are aware of the criteria comment that they need more explanation and exemplification, with more clarity about the weighting of the different criteria and how they are applied in practice. On the other hand, more than 80% of panel members say that the balance in the assessment criteria is appropriate. But 62% of them think that the potential impact of a proposal should play a greater part in the assessment, though there are some differences between them according to length of service (Figure 19). A significant but smaller proportion (48%) think that applicants' track record should be given greater weight, with some suggesting that it should be normalised by the 'academic age' of the PI. Nearly 90% of external reviewers agree that the balance in the assessment criteria is appropriate. Several members make suggestions for improvements, including clearer definitions of their criteria, additional guidance on their weightings and clearer statements of aims and objectives for each scheme.	■ [52] Ensure that for each scheme there is set out in the guidance for applicants as well as reviewers and panel members consistent and clearly defined objectives, with assessment criteria derived from those objectives; and that the specific aspects on which reviewers and panel members comment and grade are consistent with objectives and criteria.

Figure 19. Panel members' views on whether potential impact should be given greater weight.

Percentage of respondents

■ Strongly agree ■ Agree ■ Neither Disagree nor Agree ■ Disagree ■ Strongly Disagree

Issue	Findings	Observations
Most panel members and reviewers are satisfied with the grading scales, but guidance on their use could be improved.	Nearly three-quarters (73%) of panel members believe that the seven-point grading scales (1-5 with two intermediate points at 3.5 and 4.5) work effectively, and as Figure 20 shows, that rises to 85% among members of the self-financing panels. Similarly, 92% of external reviewers think that the grading scale is clear, and 90% think it enables them to make appropriate assessments. A minority point to a tendency towards 'gridlock' in grades between 3.5 and 4.5, and suggest a longer scale; while some call for clearer definitions of each scale point.	■ [53] Monitor patterns of grading across panels and keep the effectiveness of the grading scale under review. ■ [54] Consider eliminating the process of reducing scores of 'fundable but not funded' proposals from 4 to 3.5 in the current grading system.
	More generally, many reviewers would value more information about how the gradings are interpreted and 'how they translate into funding decisions'. As one put it, 'I have no averages or baselines to calibrate my score'. Similarly, it is not clear to some panel members and reviewers how the (mostly) five-point verbal scales used to grade specific aspects of each proposal are intended to relate to the seven-point scale for summary assessments. Finally, there is a problem from the perspective of many researchers at the end of the assessment process: they do not understand the process under which applications which fall below the funding line have their final scores reduced from 4.0 (the effective cut-off point, defined as 'worthy of consideration for funding') to 3.5 (defined as 'in a competitive context… not of sufficient priority to recommend for funding').	

Figure 20. Panel members' views on the effectiveness of the grading scales.

Percentage of respondents

■ Strongly agree ■ Agree ■ Neither Disagree nor Agree ■ Disagree ■ Strongly Disagree

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6.5 Guidance and training for panel members and reviewers

Issue	Findings	Observations
While most panel members and reviewers are content, some point to the need for more guidance and training.	The great majority (89%) of panel members agree that the guidance provided enables them to fulfil their roles effectively, with some small differences by length of service (Figure 21). As we have seen in Sections 6.3 and 6.4, reviewers are for the most part also content with the guidance they receive; but they would welcome more advice on the research and higher education context in Hong Kong (particularly when it comes to making judgements about costs), and also on the comparative standards that underlie the effective use of the grading system. Some funding agencies such as the Social Sciences and Humanities Research Council (SSHRC) in Canada have developed helpful online training materials for reviewers.	■ [55] Enhance the guidance to reviewers and panel members, as well as assessment forms, with more detailed guidance on costs. ■ [56] Consider the development of online training materials to supplement and exemplify the guidance.

Figure 21. Panel members' views on whether the guidance enables them to fulfil their role effectively, by length of service.
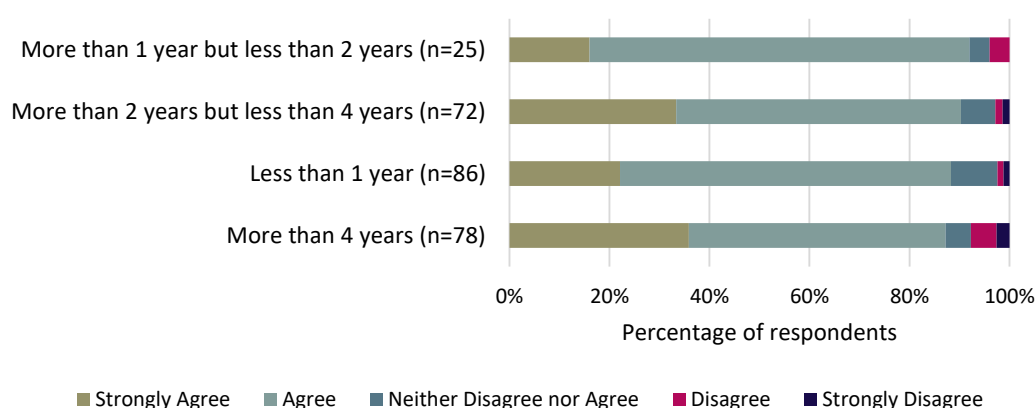
6.6 Disciplinary differences and interdisciplinary research

Issue	Findings	Observations
Many academics and others suggest that generic assessment criteria and processes do not take proper account of disciplinary differences and	The RGC shares with funding agencies in small nations the need to cover all disciplines. Some panel members suggest strongly that the five subject panels cover far too wide a range. And other focus group participants noted that some agencies in small countries have adopted approaches different from the RGC's in handling the full range of subjects and disciplines. Thus, the Marsden Fund in New Zealand has established twelve (as compared to the RGC's five) subject panels to assess applications; while the Academy of Finland has established three Research Councils under its overall remit, to develop and administer schemes and programmes of awards appropriate to their groups of disciplines.	■ [57] Review the scope for more discipline-specific approaches to defining criteria and how they are used by different subject panels; and the scope for developing subject-specific application forms.

different kinds of research.	The RGC does not appear to keep detailed records of the numbers of applications and awards different subject areas in schemes other than the GRF and ECS, and so it is not clear whether some subjects are favoured at the expense of others. In this context, some academics, senior managers, panel members and reviewers suggest that the assessment criteria and processes are inappropriate for specific disciplines or types of research. In humanities and social sciences, and to a lesser extent in mathematics, many believe that the criteria, and the structures of information that researchers are asked to provide (in the GRF and ECS, as well as in other schemes), are too science-based. There are related worries about the handling of applications in newer and emerging disciplines, and whether they are directed to the right reviewers, or even to the right panel (where different policies and processes may lead to different outcomes). Both panel members and academics express some unease about the processes by which applications can be moved from one panel to another. There is similar unease about the balance of expertise on panels: about inherent biases towards specific disciplines, areas, or approaches to research (theoretical and experimental, qualitative and quantitative, computational and so on).	■ [58] Establish procedures for keeping records of applications and awards by broad subject area in all schemes. ■ [59] Review the arrangements for moving applications from one panel to another, and record the numbers involved.
Some academics fear that inter-disciplinary applications may not be fairly treated.	Some researchers worry that interdisciplinary applications in the GRF and related schemes may suffer a kind of 'double jeopardy', having to compete with applications across two or more relevant disciplines. Such applications are assessed by the panel in the primary field indicated by the applicant, but the first reader may solicit reviewers from other subject areas. The RGC does not appear to keep records of the numbers of applications involved. Just over 41% of panel members think the arrangements work well, though slightly more are non-committal; and some researchers are not convinced about the selection and quality of referees for interdisciplinary proposals.	■ [60] Consult panel chairs and representatives of the sector on ways to ensure that proposals for interdisciplinary research in the GRF and related schemes do not suffer 'double jeopardy'; and record the numbers of applications and awards involved.
Similar worries relate to the handling of proposals for translational and practice-based research.	Some researchers are concerned about the handling of proposals for translational research, or for practice-based research in areas such as design and technology, or the creative industries including music and the performing arts. In both cases, we heard suggestions that panels lack the expertise to assess such proposals. Two-thirds of panel members agree that a separate panel should be established to handle translational research proposals.	■ [61] Review panel membership and guidance to ensure that panels are well-equipped to assess proposals for translational or practice-based research.

6.7 Project budgets

Issue	Findings	Observations

Panel members and reviewers are uncomfortable with the ways in which they are asked to assess budgets.

Concerns about the assessment of project costs arise mainly in relation to the GRF, where maximum amounts awarded are relatively small, and have fallen in recent years. As we note in Section 4.3, the unpublished guidelines for panel members state that the main objective is 'to fund as many worthy projects as possible … within the funds available'. But value for money is not employed as an assessment criterion. Reviewers and panel members are advised that 'budgets of all supported projects may need to be trimmed to include essential items only'; but also, that projects of exceptional merit (graded 5 or 4.5), should be funded more fully than others (though how this is achieved is not clear). There is also reference to ensuring that projects remain viable (though project objectives are frequently revised post-award). Reviewers and panel members are advised on what is allowable and asked to comment on the 'reasonableness' of proposed budgets. Panel members make line-by-line recommendations on the amounts to be awarded.

The basis for such judgements is not clear, and many reviewers and panel members are uncomfortable about them. They worry that 'there is no clear guidance'; and some recommend that scholarly evaluation should be separated from decisions on funding levels. They also point to the difficulty for overseas scholars in making judgements that depend on detailed knowledge of the local context, salaries, working norms, exchange rates and so on. Some suspect that budgets are inflated, since applicants expect them to be cut. Budgets are cut more severely by some panels than others, with the consequent variations in success rates we note in Section 4.3.

Similar, but slightly different, arrangements are used in other schemes; but in two-stage schemes, costs are not commented on in preliminary applications.

■ [62] Consider introducing value for money as an explicit assessment criterion.

■ [63] Provide more detailed guidance to panels on project costs in Hong Kong.

Researchers believe that budgets are cut unreasonably.

Only 35% of UGC-funded academics say their most recent award is meeting all the costs of their project, though there are significant variations by subject, as shown in Figure 22. And as shown in Figure 23 nearly half of applicants across all schemes fail to understand how or why their proposed budgets are cut. Levels of understanding among academics at self-financing institutions seem to be higher: only 28% say they do not understand the reasons for cuts.

The lack of explanation provided for cuts rankled with many researchers, even when they were allowed to amend the scope of their projects. In the many funding agencies where value for money is an explicit assessment criterion, concerns about excessive requests for funding may be reflected in the overall assessment of the proposal, and in feedback to the applicant.

■ [64] Consider using some additional REF funding to raise the maximum value of GRF and ECS awards.

■ [65] Keep the variations in amounts awarded in each panel under review.

■ [66] Consider limiting the amount by which a budget can be cut, especially where the cut implies reducing the scope or scale of the project.

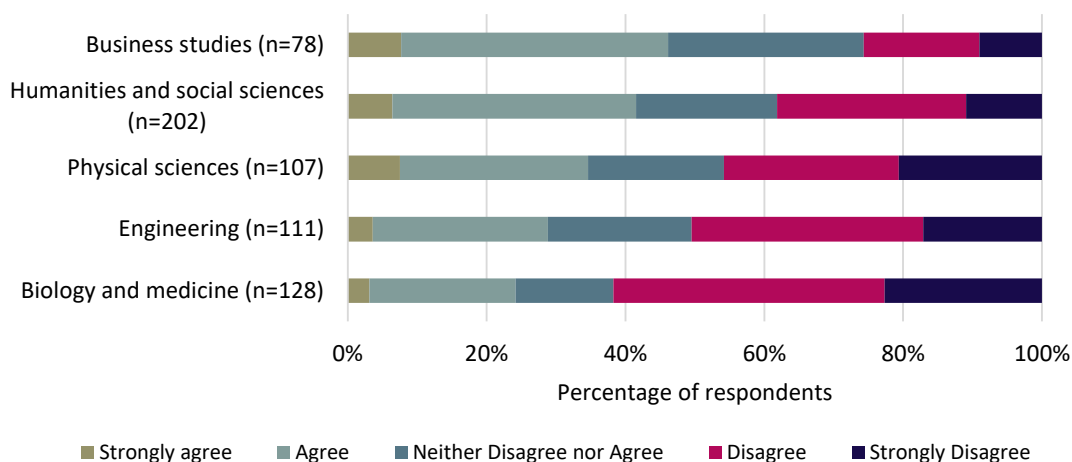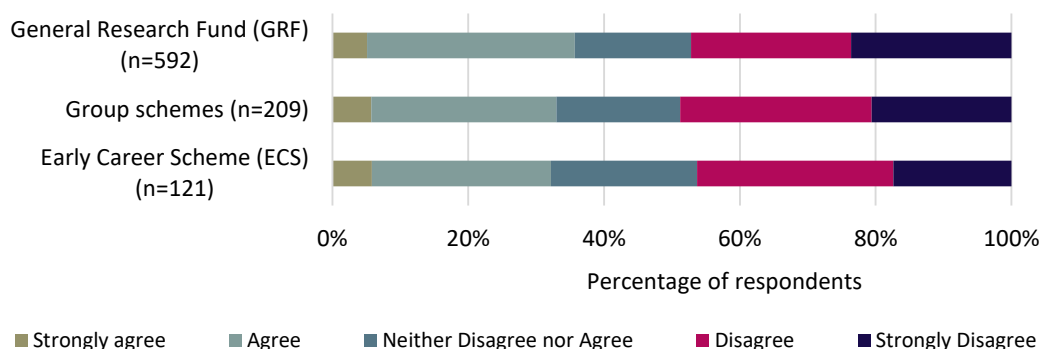Figure 22. UGC-funded academics' views on whether their most recent grant meets all the costs of the project.

Figure 23. UGC-funded academics' views on whether they understand why/how the funding requested was reduced.

6.8   Feedback: reflective reports and evaluations of funding

Issue	Findings	Observations
Researchers would welcome reflective reports after each round of awards.	The Phase I Review suggested that panels should be asked to provide reflective reports on the applications presented to them to identify strengths, weaknesses and gaps (or gluts) in current research. The RGC's Action Plan said that panels would be invited to provide such reports from June 2018; but none is yet available on the website. Researchers are enthusiastic about reports of this kind: 61% of those in UGC-funded universities and 70% of those in self-financing institutions say that they would find such reports helpful. Panel members are slightly less enthusiastic, in part because of reluctance to take on the additional work: 43% agree, while 27% disagree that the results would be helpful.	■ [67] Consider how to mine application data to provide reports on key demographic features of applications and awards for all schemes. ■ [68] Encourage panels wherever possible to produce

Some useful reporting could be produced by mining core data from the online system, especially now that the RGC has agreed to require all applicants to provide a unique ORCID identifier from the 2018/19 cycle onwards.

reflective reviews on each round.

Some researchers would welcome a published analysis of applications and awards for all schemes.

Reports of funding results for each round are posted on the website, though they vary in format. For the GRF and ECS schemes, an analysis is provided of applications and awards by subject and institution; but there is no single list of the large numbers of awards. A similar analysis is provided for the FDS (misleadingly titled on the website as 'summary of grants approved'). For the HKPFS, there is an unsorted list of awards showing only the reference number, and the university where the award was taken up, along with a summary of awards (but not applications or nominations) by institution. For all other schemes, there is a list of awards, with reference numbers, project titles (sometimes, but not always, hyperlinked to fuller details of the project), universities, and amounts awarded. But there is no analysis of applications similar to that provided for the GRF, ECS and FDS. In focus groups, a number of researchers requested that kind of analysis for all schemes.

■ [69] Consider providing for all schemes, in addition to lists of awards, reports in easy- to-use form (not just PDF) on numbers of applications and awards from different universities and subject areas; and consider the feasibility of analysing competition results by equal opportunities criteria.

7. Awards management and monitoring

The RGC publishes comprehensive terms and conditions for universities and PIs holding awards, but both researchers and administrators complain of complex processes and delays relating to variations for awards, and to progress and completion reports.

7.1 Terms and conditions for awards

Issue	Findings	Observations
DAMA and other documents setting out terms and conditions need to be consolidated and updated.	Terms and conditions are set out in a Disbursement, Accounting and Monitoring Arrangements (DAMA) document (last revised in July 2015), along with a Supplementary Note (issued September 2015). There are additional specific notes for the self-financing, AoE and TRS schemes, though there is much repetition between the documents. DAMA needs to be updated to take account of new and discontinued schemes. 63% of UGC-funded academics (65% in self-financing institutions) say that award terms and conditions are easily understood, although in focus groups most academics said that they rely on their research offices for this.	■ [70] Consider updating DAMA and consolidating the subsidiary documents into it.

7.2 Revisions and variations

Issue	Findings	Observations
Researchers and administrators complain of delays in securing approval for project revisions and variations.	Where proposed budgets are reduced (see Section 6.7) award-holders must submit revised objectives and plans for approval by the panel first reader. Some researchers complain that they are not allowed to change earmarked funding items when the scope of the project has to be reduced. Some panel members suggest that the number of referrals could be reduced if PIs and universities were required to confirm they have taken account of panel comments, with approval sought on an exceptions basis. Panel members are also asked to approve many routine project variations (of which there were 909 in the GRF scheme alone in 2017). Many academics, and also Research Office staff, complain about long delays in securing approval for such changes, and the risks to the viability of projects that can arise as a result. Some variation requests could be handled by staff with postdoctoral experience seconded to the Secretariat, reducing workload on panel members, as we suggest in Section 3.6. A form is provided for a change of PI in the GRF scheme, even though that scheme is intended to support individually-driven projects.	■ [71] Reduce the number of projects where approval is needed for revised objectives/plans. ■ [72] Review procedures on variations that require approval, and publish targets for response times. ■ [73] Make specific provision for circumstances such as maternity leave and long-term sickness.

7.3 Progress reports

Issue	Findings	Observations
There are varying requirements across schemes for monitoring awards, and the submission of progress reports.	Like our comparator bodies, the RGC requires regular progress reports for most schemes, either annually or at mid-term, though the rules are not entirely clear for shorter projects. The Audit Report in 2016 expressed concern about delays in submitting and assessing reports, and consequent delays in payments, though the number of reports assessed as problematic in some way is low (33 in 2017). The arrangements for the group schemes are, not surprisingly, more complex than for the GRF, ECS and other schemes with lower-value awards. Thus, for the CRF scheme, review teams assess each project not only via progress reports but also at a symposium. For the TRS, dedicated monitoring panels are established for each project, and in addition to annual reports, projects are visited in the second and fourth year of the project. For the AoE scheme, again there are dedicated monitoring panels and annual reports (which vary in format over time), and the panel visits the project in the fourth year.	■ [74] Review the monitoring arrangements to ensure that variations in approach are appropriate to the nature and scale of projects.
Most academics say progress reports are straightforward to complete, but it is not clear that they find the feedback useful.	Many researchers regard progress reports as at best a necessary chore. As Figure 24 shows, there are some variations by subject, but 62% of UGC-funded academics (73% of those in self-financing institutions) are clear about the information they need to provide in the reports, and 59% (70% in self-financing institutions) say they are straightforward to complete. Most panel members (61%) say that assessing progress reports enables them to provide useful feedback; and 34% of UGC-funded academics (53% in self-financing institutions) agree (Figure 25). Just under half (46%) are indifferent, while 20% disagree, again with some variations between subjects.	See below

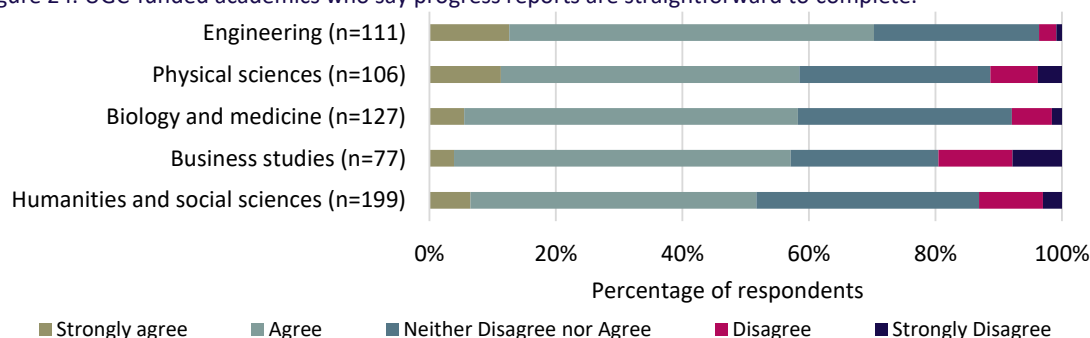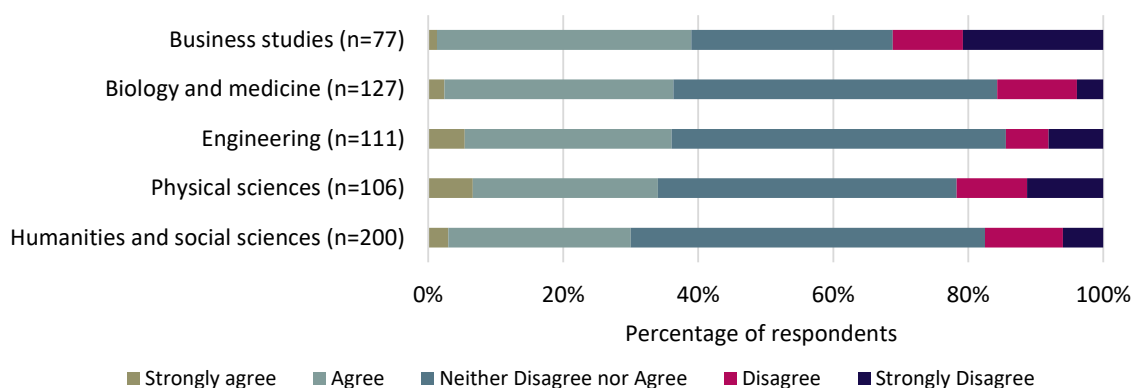Figure 24. UGC-funded academics who say progress reports are straightforward to complete.

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Figure 25. UGC-funded academics who agree that they receive useful feedback from progress reports.

Issue	Findings	Observations
Report forms and assessment forms vary in structure and content.	Many of the forms used by PIs to report on progress, as well as those used by assessors, have not been revised for some time. Some differences between the forms reflect the varying scope and scale of projects funded via different schemes. But there are no obvious reasons for some of the differences in reporting on matters such as changes in project objectives; budgets and expenditure; activities; or technology transfer and impact (reported on in some schemes but not others). Nor is it clear why the forms for GRF, ECS and CRF, but not the TRS, should include a requirement (unrealistic in some disciplines) to report on publication outputs only a short time after the project has started.	■ [75] Review and revise report forms and assessment forms, and guidance to assessors; and ensure that they are included in the online system and accessible on the website.
	The forms used by panel members for assessing progress reports also differ across schemes. The GRF/ECS form asks simply for comments and a grading of satisfactory or 'insufficient' progress, with no guidance on what should be covered in the comments or what the grades mean. For the 'insufficient' grade, the RGC may as an ultimate sanction terminate the project.	
	Following the symposium for CRF projects, a similar but much more detailed form is used, seeking comments and recommendations on aspects such as project management and co-ordination, and potential value, publicity value, and relevance to Hong Kong (information on these may be gathered by assessors at the annual CRF symposium). A grading of insufficient progress means that the second payment instalment will be withheld.	
	The TRS and AoE assessment forms similarly ask for comments on specific aspects of the project as set out in the progress report; but not on others such as impacts and technology transfer, problems encountered, and future challenges. For each scheme there is a three-point grading, leading to the release of the next tranche of funds, release subject to conditions, or withholding, subject to the provision of more information.	
	For the HKPFS, universities are required to report to the RGC each year on the performance of each awardee, with a recommendation on renewal of the fellowship for the following year.	

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7.4   Financial arrangements

Issue	Findings	Observations
Researchers rely on Research Offices and Finance Offices for the financial management of their awards.	In focus groups we were told that researchers rely almost wholly on Research Offices and Finance Offices to manage project finances. The RGC's financial procedures are reasonably generous compared with some comparator bodies, which typically make payments once expenditure has been incurred. In Australia, for example, the ARC provides funding in monthly instalments, and the NRF in Singapore does so quarterly. The Research Councils in the UK provide funds in accordance with expected patterns of expenditure. The RGC provides funds usually in two instalments: 60% shortly after either approval (for GRF and ECS awards, in response to a recommendation in the Phase I Review), or commencement; and 40% on approval of a progress report. For projects of 12 months or less, there is a single payment; but for projects over 36 months, the proportions in the instalments are determined by the RGC. And for the relatively small numbers of awards in the TRS and AoE schemes, funds are released under a timetable proposed by the project team and approved by the head of the Monitoring and Assessment Panel. But across all schemes there are complaints of delays in assessing progress reports, and thus in universities' receiving payments. Universities must set up separate interest-bearing bank accounts to handle RGC grants, with interest repaid to the RGC annually (except in circumstances set out in a supplement to DAMA); and establish reserve accounts to ensure that unspent funds can be carried forward from one year to another. As with our comparator bodies, unspent balances at the end of a project must be returned to the RGC with a Statement of Accounts which is required for all projects within six months of termination or completion.	■ [76] Ensure that progress reports are assessed in good time to avoid delays in payments.
Virement is allowed between budget heads for 'one-line vote' items.	Like most of our comparator bodies, the RGC allows for some changes which require shifts in approved expenditure. Thus, it allows virement between approved budget items under the 'one-line vote' (mainly staff, and equipment, along with conference and some general expenses). But virement into or out of earmarked items, or other items not included in the approved budget, are not allowed. In focus groups, some researchers observed that the RGC was reluctant to amend the proposed budgets for earmarked items even when the scope and scale of projects had to be changed as a result of the cutting of proposed budgets (see Section 6.7).	■ [77] Consider the case for greater flexibility with earmarked items when project scope is amended.

7.5   Completion and concluding reports

Issue	Findings	Observations
Forms for completion and concluding reports, and for assessing them, also vary in structure and content.	Completion reports must be submitted no later than 12 months after the approved completion date for the project; and concluding reports (seeking similar information to completion reports) within 6 months of any premature termination. The number of early terminations is relatively small: 27 for the GRF and 12 for the ECS in 2017; and none have occurred in the group schemes.	See Section 7.3 above.
	It is a condition of award that reports are made accessible on the RGC website. The Audit Report in 2016 commented on the need to chase up projects with no report submitted, and those that had received a non-satisfactory grading. This led to a spike in such work.	
	As with progress reports, the forms for reporting and assessment are inconsistent in format, structure and terminology. The specific aspects of projects which panel members are asked to grade and/or to comment on are in some cases again different from those on which PIs are asked to provide information. The basis on which such judgements can be made is not clear. Thus, for example, for GRF projects, assessors are asked – after awarding a 'final rating' – to grade the potential value of the results, the relevance to Hong Kong, and publicity value. Similarly, the questions asked of assessors in the TRS and AoE schemes about likely additional support from the RGC, industry or elsewhere are not very closely related to the information asked of PIs about sustainability. Nor is it clear why in most schemes assessors (but not PIs) are asked about the relevance to Hong Kong, whereas the AoE forms ask about relevance to 'local and regional economic and societal well-being'.	
	Assessors' summary grading for completion reports for the GRF and many other schemes is on a three-point scale: satisfactory, barely satisfactory and unsatisfactory. But for others, including AoE only two summary grades are used.	
	It is a condition of award that completion reports (but not assessors' comments and grades) should be made publicly-accessible on the RGC website (see Section 8.1).	

8. Research outputs: publications and data

Like other funding bodies, the RGC is keen to see the work it funds made as widely accessible as possible. In the course of our project we were asked to examine RGC's policies on open research, open access and open data. We find that they have fallen behind what is becoming widespread practice among other funders.

8.1 Funded projects

Issue	Findings	Observations
Information about funded projects is made available on the RGC website, but it is not always easy to find.	As noted in Section 6.8, information about the results of each funding round are made available on the RGC website. For many schemes this takes the form of a list of awards, often with hyperlinks to basic details of the project. For the large numbers of awards in the GRF, ECS and FDS schemes, an analysis of applications and awards by broad subject is provided instead. But for those who know where to look, information about recently-funded ongoing projects – including a project abstract - can be found via a complex search interface under the 'Completion Reports' tab on the website.	See Section 6.8 above.
Publications based on RGC-funded work are not always easy to find.	The DAMA document prescribes that publications arising from work funded by the RGC should acknowledge its funding; and in guidance for AoE award-holders and their institutions, a form of acknowledgement is suggested. But our testing suggests that the requirement to acknowledge is by no means universally implemented in practice. This means that RGC-funded publications are not easily traceable via databases such as CrossRef and its Metadata Search. Moreover, while PIs are required under the terms of their awards to include URL links alongside the details of their publications provided in completion reports, there is in practice no place on the report forms for them to do so. Hence no links are provided when completion reports are made available on the website. Moreover, the RGC has not followed the example of other funders including the Research Councils in the United Kingdom, the European Research Council and the National Institutes of Health in the USA by promoting the deposit of pre-prints as well as published articles in institutional repositories.	■ [78] Strengthen implementation of the requirement to acknowledge RGC funding; and revise completion report forms to prompt PIs to provide URL links to publications.

8.2   Open access

Issue	Findings	Observations
The RGC's open access policy has fallen behind those of many other agencies.	Like many funders, RGC has a policy to promote open access (OA) to publications arising from its funding. But its policy is much looser than those of, for example, the ARC in Australia, the Academy of Finland or the BBSRC and other Research Councils in the UK, which require publications to be made openly accessible within six months (12 months for the humanities and social sciences); and which make funds available to meet the costs of article publishing charges (APCs) for publication in OA or hybrid journals. The ARC, the NRF in Singapore and the NSF in the USA all prescribe a 12-month embargo and provide detailed guidance on matters relating to OA; the use of appropriate or prescribed repositories for 'Green' OA; Gold OA and publication in fully-OA and hybrid journals, licensing and so on. Many funding bodies across Europe and globally, including the UK, are now considering policies to accelerate the transition to OA[8], and extending such policies to cover books and book chapters as well as journal articles and conference proceedings.	■ [79] Review and revise the OA policy and provide detailed guidance in the light of current best practice among comparator bodies, including - arrangements for both Green and Gold OA; - licensing; - payment of APCs; - the use of subject-based as well as institutional repositories; and - coverage of outputs such as monographs and book chapters.
	The RGC's current policy simply requires PIs to check 'on acceptance of a paper for publication' that the publisher allows OA to the published version of record, or to the accepted manuscript via an institutional repository. If neither is allowed, the PI must seek permission to post a version in an institutional repository with an embargo period of up to 12 months. Deposit is required no later than six months after publication 'or the embargo period, if any'.	■ [80] Establish arrangements to monitor implementation of the policy (at least on a sample basis) across all schemes.
	The policy thus requires that:	

The policy thus requires that:

- PIs check on OA only after a manuscript has been accepted for publication, not when deciding where to publish;
- embargoes can be up to 12 months (whereas many funders specify 6 months, at least in STM areas);
- deposit is required only in an institutional repository, not subject-based repositories such as PubMed Central;
- deposit (and therefore access) can be delayed until 18 months after publication; and
- implementation of the policy is subject to publishers' agreement in each individual case.

There is no mention of licensing, or of sources of support for the payment of article publishing charges (APCs) in OA or hybrid journals, and it is unclear whether the policy applies to books and book chapters as well as journal articles. Nowhere is any guidance given on the different mechanisms to achieve OA for publications, the payment of APCs, copyright and licensing, and so on.

Monitoring of implementation is meagre. The AoE and TRS (but not the GRF and CRF) progress report forms include a question about whether publications are accessible in the relevant institutional

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[8] See https://www.scienceeurope.org/coalition-s/

repository (with no prior question as to whether they have been deposited, but subject to an embargo). The repository question is asked in the completion reports for all four schemes. But no question is asked anywhere about publications in OA or hybrid journals.

8.3 Open data

Issue	Findings	Observations
The RGC has not yet established effective policies to promote responsible management of and access to research data.	Many funders overseas, including the ARC in Australia, the Academy of Finland, the Irish Research Council, the NRF in Singapore, BBSRC and other Research Councils in the UK, and the NSF in the USA have established, or are establishing, policies to promote the responsible management of and access to research data, along with the related material including software and algorithms. Policies include requirements to submit data management plans as an integral part of applications, to provide access to data underlying publications, and more recently to ensure that data conform to the FAIR principles that they should be findable, accessible, interoperable and re-usable. Such policies fully recognise the restrictions on access that must apply to data relating to individual, or which is sensitive on a range of other grounds. Many funders have played key roles in supporting the establishment of data repositories and related services; and the policies are accompanied by copious advice and guidance on the complex issues involved in research data management and open data[9]. The RGC has not yet established effective policies in these areas. Guidance documents for applicants in the GRF and CRF state that PIs should assess the potential for archiving and data sharing, and that additional weight will be given to applications that do so (though it is not clear how this is carried out in practice). In the AoE and TRS, PIs are encouraged in the guidance notes to 'include in completion reports the data repositories where research data of their projects can be assessed and shared'. But the completion report forms themselves do not include any reference to data.	■ [81] Develop, with the help of external expertise and in consultation with the sector, policies and procedures on data management and open data, including: - Guidance to researchers and universities on data management and access to data. - Support for universities in providing data management support services. - The submission of data management plans (DMPs as part of applications for awards, along with guidance for reviewers on how to assess them. - Reporting on data management and access as part of progress and completion reports.

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[9] See, for instance, The World Academy of Science report Open Data in a Big Data World
https://twas.org/sites/default/files/open-data-in-big-data-world_short_en.pdf

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9. Research ethics, conflicts of interest and misconduct

The RGC makes considerable efforts to avoid conflicts of interest; but conflicts remain a significant concern in the research community. The RGC has also established elaborate procedures for handling allegations of misconduct and breaches of research ethics.

9.1 Conflicts of interest

The handling of conflicts of interest in the peer review process was discussed extensively in the Phase I Review; and we were asked to consider it in more detail in the current review. It remains a matter of concern in the research community, raised repeatedly in focus groups and in comments submitted in our surveys.

Issue	Findings	Observations
There is scope for some improvements in the RGC's documentation on the handling of conflicts.	The RGC, like comparator bodies such the ARC in Australia and the NSF in the USA, provides detailed documentation on the handling of conflicts of interest. The RGC's definitions and procedures are set out in three documents: the *RGC Code of Conduct, the UGC Rules of Procedures* (both public documents available on the website) and *Guidelines on Handling Conflict of Interests During Proposal Evaluation Process* (which is made available to reviewers but is not accessible via the website). There are some inconsistencies between the three documents, which lack cross references; and neither the Code nor the Rules refer to the Guidelines. The RGC distinguishes between major and minor conflicts, and its definitions appear to be more detailed than those provided by some comparator bodies such as the ARC in Australia or the Academy of Finland, though the NSF in the USA, for example, provides more detailed examples of financial interests. The Guidelines provide a list of major and minor conflicts in the assessment process (though the list is not wholly consistent with the Rules, excluding, for instance, financial interests such as shareholdings). Lists of major (but not minor) conflicts are included on report forms for reviewers; but there are inconsistencies across schemes (some, for instance, unlike the Guidelines, include service on an editorial board 'with an appointer/appointee relationship' as a major conflict).	■ [82] Review the documentation relating to conflicts, including the assessment forms, to ensure consistency, and make the Guidelines available via the website.

There is also some scope for improvements in the procedures for handling of potential conflicts.

The RGC's procedures on conflicts for committee and panel members, as set out in the Phase I Review, involve two stages. First, they require members to identify their interests when they are appointed, when their circumstances change, and annually. These interests are recorded in a register maintained by the RGC (though the register is not made openly accessible like similar registers for members of the Research Councils in the UK). Second, they must declare any conflicts when applications are being assigned to them, and subsequently if any conflicts are revealed. Members must confirm that they have no major conflict and must not play any part in assessing an application if they do so; and they must be excused from meetings when such applications are discussed. As set out in Annex 4, major conflicts are defined in two categories.

- Institution-related, such as employment or consultancy
- Application-related, such as work-related or personal relationships

Examples of minor conflicts listed in the Guidelines essentially cover working relationships with applicants from three to seven years ago. If members declare such an interest, the Chair must decide whether they should be allowed to participate in the assessment. But the extent to which they can participate in discussion of competing applications is not clear.

Neither the Code nor the Guidelines includes a requirement – like those adopted by the ARC in Australia, the Research Councils in the UK and other agencies - to record declarations of interest made in the course of a meeting, and the action that followed.

As part of the assessment process, reviewers must confirm that they have no conflict of the kind listed on the assessment form and in the guidance they receive. In the *Guidelines on Handling Conflict of Interests,* panel members are asked to decide whether a minor conflict of interest has any material impact on a reviewer's assessment. But since there is no mention on the assessment forms for the GRF and ECS, for example, of the minor conflicts set out in the *Guidelines* it is not clear how this is achieved. The assessment form for the TRS scheme, on the other hand, does include a list of minor conflicts (though slightly different from that set out in the *Guidelines)*.

It is not clear whether panel members who themselves submit applications can participate in discussions on competing applications.

Committee and panel members are allowed to submit applications in their own name; and they may be Co-Is or otherwise involved in applications submitted by others. The *Code* requires that they be excused from the discussion when their applications are considered; while the *Guidelines* require that they 'excuse themselves from panel meetings'. It is not clear whether this means that they are barred from the meeting as a whole, and from participating at any stage in the assessment of applications competing with those in which they are directly involved.

■ [83] Review and consult committee and panel chairs on the extent to which members can participate in discussions on competing applications when they have a major conflict.

■ [84] Revise reviewer assessment forms ensure consistency.

■ [85] Consider whether members who submit or are actively involved in an application should be allowed to participate in assessing competing applications.

9.2 Confidentiality

Issue	Findings	Observations
Some researchers worry that applications are not treated as confidential.	A duty of confidentiality is set out in the *Code* and the *Rules of Procedures*, and in guidance for panel members and reviewers, though not in precisely the same terms. In some guidance documents, but not all, there is reference to passing on the duty when consulting colleagues.	

9.3 Research ethics and integrity

Issue	Findings	Observations
The RGC and UGC have not established requirements for university policies and procedures on research ethics, and the provision of training appears to be uneven across the sector.	Most of our comparator bodies have research integrity and ethics policies, and also require universities and other research organisations to have their own policies and procedures in place. Some, such as the ARC in Australia, the Academy of Finland, and BBSRC in the UK, require universities' procedures to conform to national codes; and the ARC requires universities also to comply with its own research integrity policy. The RGC has not established any such policies or requirements. A review of UGC-funded universities' websites indicates that most but not all have publicly-available research integrity and ethics policies and procedures. Among the self-financing institutions, publicly-available policies and procedures are less evident. 54% of survey respondents in UGC-funded universities, and 52% in self-financing institutions, say they are satisfied with the training they have received on research integrity and ethics. Several say they have received no such training, however, or none since they were doctoral students, which a minority suggest that what is provided is of poor quality, or insufficiently aimed at their areas of research.	■ [86] UGC and RGC to consider: - Establishing policies and guidelines of research integrity and ethics. - Requiring all universities to establish policies and procedures in line with international codes. - Requiring all universities to ensure that researchers receive training.
The requirement to secure ethical approval before applications are assessed may involve needless work.	Applicants and their institutions are required to confirm before their applications are assessed that they have secured relevant ethics approval for research involving human or animal subjects; and to ensure that proposals comply with relevant legal and regulatory requirements, including health and safety. In addition, institutions are asked also to confirm (unlike any other funder we are aware of) that applications are 'in line with the role of the university' and that they have been submitted to plagiarism software. Confirmation that ethics approval has been secured is one of the major reasons for the submission of updates some months after proposals have originally been submitted. An exception is made for clinical trials, where approval may be obtained before the project starts. But many researchers suggest that securing ethics approval is in some case complex, and that if their proposal is unsuccessful, the work is wasted. Other funding bodies, such as the Research	■ [87] Review the nature and scope of the confirmations required from universities before they submit applications. ■ [88] Consider whether formal ethics approval is required in all cases before an application is assessed.

Councils in the UK, and the ARC in Australia, do not require approval to be obtained before proposals are assessed. But other funders such as the Academy of Finland and the NSF in the USA require all applicants to set out the ethical issues relating to their proposals and take this into account in their assessments.

■ [89] Consider requiring applicants to set out any ethical issues in their proposals and taking them into account as an assessment criterion.

9.4   Misconduct

Issue	Findings	Observations
The RGC tends to take a more active role in handling allegations of misconduct than some other funding bodies.	As we have noted, the RGC does not have policies or guidelines on research integrity and ethics, beyond a statement in its policy on the handling of misconduct cases that it expects researchers to observe the highest standard of integrity. Its definition of misconduct in that policy focuses, like those of other funding bodies, on falsification, fabrication and plagiarism, along with 'double-dipping' for funding, and non-disclosure of related projects. An earlier category of non-disclosure of relationships with nominated reviewers (which until recently accounted for the majority of misconduct cases) no longer applies, since applicants have not been allowed since 2017/18 to nominate any reviewers. Like other funding bodies, the RGC makes clear that the primary responsibility for preventing, detecting and investigating misconduct rests with universities, which are required to report suspected cases to the RGC as soon as they are discovered. If cases are discovered by the RGC, universities are required to initiate a formal investigation and submit a report within 30 days. Cases are then followed up by the RGC's Disciplinary Committee (Investigation) (see below). Among the comparator bodies for which we have relevant information, only the NRF in South Korea and the NSF in the USA have established formal structures for handling allegations of misconduct. In Finland, cases are handled by the Finnish National Board on Research Integrity. Other funding bodies require institutions to have policies and procedures in place to handle allegations of misconduct; and rely on them to do so, though some such as the BBSRC in the UK may seek observer status in any inquiry.	■ [90] Clarify the criteria under which cases reported and investigated by universities are investigated by the RGC.
Researchers and administrators worry about the definitions of 'double-dipping' and of 'related' projects.	The main category of suspected cases now relates to non-disclosure on application forms of similar or related projects or proposals, and the related suspicion that funds may be sought for projects which have already received funding from the RGC or other sources. We found in focus groups many concerns about the definition of 'similar or related' projects, and the risk that some projects might be inadvertently omitted from an application form, especially when guidance indicates that the definition covers projects and proposals not restricted to the previous 5 years.	■ [91] Clarify and exemplify what counts as a related or similar project or (especially) proposal, and the length of time for which it remains relevant.

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The RGC's procedures for handling misconduct cases are complex and time-consuming.

The RGC's procedures are set out in detail in its policy on the Handling of Misconduct Cases, summarised in Annex 5. They involve three committees, DC(I), DC(P) and DC(A), which oversee respectively investigations, the imposition of penalties, and appeals. The committees establish ad hoc working groups for each alleged case, which then report back to the committee, which itself then reports to Council. The process in each case is lengthy and complex, not least because it necessarily involves several overseas members. This in turn imposes significant burdens on the Secretariat; and, more important, undue strain on researchers who are subject to allegations which may be unfounded. Where cases are substantiated by DC(I) and endorsed by the RGC Council, they are referred onwards to the DC(P) to determine an appropriate penalty. This may range, in accordance with guiding principles established by the committee, from a warning letter to debarring the offender from all RGC or UGC funding schemes for up to five years. The rationale for establishing a separate committee and process to determine the penalty in each case substantiated by the Investigations Committee, particularly now that guiding principles on the imposition of penalties have been established, is not clear.

■ [92] Consider combining the processes, and the committees, for investigation and penalties; and giving the RGC Chair power to approve the combined Committee's recommendations.

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10. Communications and engagement

The RGC realises that it must improve its communications and engagement with the research community and has taken some steps in the past year. But action has been limited by staffing constraints, and much still needs to be done to improve transparency, and engagement and consultation with the community at large.

10.1 Communications and engagement strategy

Issue	Findings and conclusions	Observations
The RGC lacks a strategy to address the low levels of understanding and negative perceptions common in the research community.	Communications and engagement emerged as major themes in the Phase 1 Review; and a policy paper was considered by the RGC and the UGC at their meetings in December 2017 and January 2018. Some measures outlined in the paper have been implemented; but the team to develop the work has not yet been appointed. No funding agency can expect to be admired by those whose applications for funding have not succeeded. But our findings indicate that highly-negative perceptions about the RGC remain disturbingly common in the research community. We believe that major efforts are now needed to engage more effectively with all parts of the research community: to consult with them in developing and articulating the kinds of strategies outlined in Section 4; to communicate those strategies effectively; and to ensure that all aspects of RGC operations are made much more transparent. We believe this is so critically-important that a Communications Committee should be established to help develop and oversee strategies to improve all aspects of RGC communications.	■ [93] Establish a communications committee to develop and oversee implementation of strategies.

10.2 Engagement in strategy and decision-making

Issue	Findings and conclusions	Observations
Despite recent improvements, the RGC is still seen as operating in top-down fashion.	Following the Phase 1 Review, the RGC Chair now meets Vice Principals (Research) after each Council meeting, and a brief note of each meeting is posted on the website. The RGC could go further and follow the example of other funders such as the Research Councils in the UK, or the NSF in the USA, by making the non-sensitive parts of minutes and papers of meetings publicly-available.	■ [94] Conduct reviews in consultation with the research community, with consultation papers outlining issues and draft proposals before implementing

More broadly, we believe it is essential that the reviews we propose in this report are undertaken so far as possible in consultation with the research community; with significant changes preceded by consultation informed by the issuing of papers outlining key issues and draft proposals. We recognise the resource implications of consultations of this kind.

significant changes in policies or schemes.

10.3 The RGC website

| Issue	Findings and conclusions	Observations
The website is less effective than many other funding bodies' in providing information about the RGC's policies and schemes.	We have noted in Sections 5, 6 and 7 the need for more and better documentation to make the RGC's policies and processes more transparent. Many researchers as well as administrators say that the website is a critically-important source of information for them. But our review indicates that there are many gaps, and that the site is not easy to navigate. It needs a fundamental review. Issues we noted include confusing tabs and sub-tabs; delays in updating information; and the absence of key documents. The website home page provides little of the news and other information found on the sites of the ARC in Australia, the Academy of Finland, or the NRF in Singapore, let alone the larger agencies such as the NSF in the USA.	■ [95] Review the website's design and structure, and the content it provides, to achieve a radical improvement in transparency.

10.4 Other measures to enhance communications and transparency

Issue	Findings and conclusions	Observations
Universities need help if they are to enhance their dissemination of information.	Following a recommendation of the Phase I Review, universities have been asked to enhance their dissemination of information from the RGC, to ensure that it reaches researchers. That is undoubtedly important. But universities' efforts will have limited effect unless they are underpinned by the radical increase in the publicly-available information about the RGC's operations, processes and scheme outcomes we propose in Sections 5, 6 and 7.	See Section 10.3 above.
Opportunities for two-way communication with researchers remain limited.	The Phase I Review and the policy paper on communications and engagement proposed more regular town-hall meetings, symposia and the like to enhance two-way communication with the research community. A symposium on the results of the Phase I Review was held in November 2017 (though not listed on the Events tab of the website); and a meeting was held at the Chinese University of Hong Kong in June 2018. But no regular programme has yet been established. Nor has the RGC followed the example of an agency such as the Marsden Fund in New Zealand in setting up groups of representatives of different parts of the research community. Nor does it use social media to promote two-way communication.	■ [96] Establish a regular programme of meetings, workshops symposia for researchers and administrators. ■ [97] Consider how social media might be used to enhance communications.

10.5 Internal communications

Issue	Findings and conclusions	Observations
Panel members are broadly satisfied with the support they receive, but some would welcome more briefing sessions.	Less than 20% of panel members find it difficult to make contact with other panel or committee members. There is also almost unanimous satisfaction (90%) with the support from the Secretariat and the arrangements for meetings, which our experience suggests would not always be replicated for other funders. As noted in Sections 6 and 7, there is some unease about the guidance provided for assessing applications and also progress and completion reports. Comments in focus groups and the survey suggest that members would welcome the proposal set out in the policy paper on communications and engagement for briefing sessions in order to facilitate discussion and the sharing of experiences about the RGC as well as overseas.	See Sections 6.5, 6.7, and 7.3 above.

Figure 26. Panel members' views on whether it is easy to make contact with other members (by length of service)
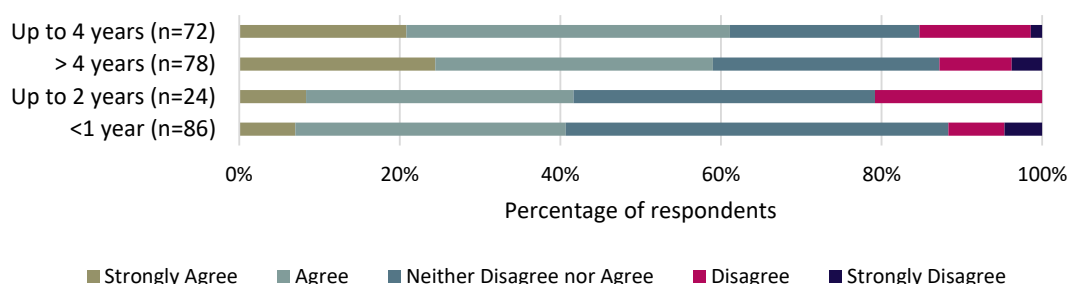
10.6 Public engagement

Like other funding agencies, the RGC seeks to publicise the work that it funds, and in its communications and engagement policy it has identified the users of research and the general public as major stakeholders. But it lacks the resources of larger agencies such as the BBSRC in the UK, or the NSF in the USA, to mount extensive media operations. Nevertheless, the RGC's current measures to publicise its work, and to engage with the public, even in comparison with smaller agencies such as the Marsden Fund in New Zealand and the Academy of Finland, are not as effective as they might be. And we note that some activities, such as the publication of the twice-yearly Research Frontiers newsletter, seem to have been suspended.

Issue	Findings and conclusions	Observations
There are no consistent policies for publicising competition results.	The RGC posts the results of the competitions for most schemes on its website; and sometimes (but not always) flags them on the home page. For the TRS and AoE schemes, but not other schemes, results are also announced in a press statement, and abstracts of the projects are released to the press and posted on the website.	See Section 6.8 above.

The arrangements for providing access to layman summaries are not always effective.

Like many other funding agencies, the RGC requires PIs to produce abstracts of their proposals in non-technical language, and 'layman' summaries of their research, submitted as part of their completion reports. Both are intended for access via the RGC website. But the summaries are sometimes written in highly-technical language, and they are not always easy to find on the website.

Under the 'Layman Summaries' tab on the website, lists of project titles are shown under each competition round (including many recent ones) for the TRS, AoE, CRF and some joint schemes. For completed projects in TRS and AoE, links are provided to the summary. For current projects, not yet completed, links are provided to abstracts; and for the CRS and joint schemes, the links are to abstracts only, not to any summaries.

Under the 'Completion Reports' tab, for the AoE scheme links are provided to layman summaries rather than completion reports. For other schemes, the links are to full completion reports, which include at some point a layman summary. For the GRF, ECS and HSSPFS schemes, a search interface is provided to identify specific projects. But for the CRF, FDS and the joint schemes, project codes only are listed, and so it is not possible to identify the project, its subject matter and other information without clicking on the link.

Given these complexities, it is not clear how effective the current arrangements are in providing information about projects to non-specialists.

■ [98] Ensure that lay summaries are clearly written and easily-findable on the website, and monitor their usage.

Project videos are not readily-findable on the website.

For the group schemes, PIs and their universities are required on completion to produce a video to publicise the project's achievements. These videos are posted on You Tube and made accessible via the RGC website, though they are not especially easy to find under the website's 'highlights of achievements' tab or on the You Tube channel, since they are hidden among the much larger number of videos of presentations at symposia, town hall meetings, and the like.

■ [99] Ensure that videos are clearly labelled and easily findable and monitor their usage.

11. Conclusions

Any review of operations, processes and procedures may be expected to identify a significant number of areas for improvement; and that is indeed and implied in our terms of reference. But the problems and difficulties we have identified should not be taken as detracting from the many aspects of good practice that are clearly evident. There is much to approve of and even admire in the workings of the RGC. It handles increasing numbers of schemes, applications and awards each year with great efficiency; and strong majorities of the senior overseas academics who serve on its panels and committees confirm that it operates to rigorous standards in line with good practice in other countries, and that its administration is highly effective. But it is under strain, most notably as a result of the unsustainable number of applications now being received in the GRF and ECS schemes. Moreover, while the increases in funding and the new schemes announced in October 2018 are very much to be welcomed, they will add to the operational pressures.

No research funding agency is universally admired across the communities it seeks to serve: inevitable failures to secure grants create disappointment and resentment. Nevertheless, there is much to approve of in the workings of the RGC: strong majorities of the senior overseas academics who serve on its panels and committees confirm that the RGC operates to rigorous standards in line with good practice in other countries. Nevertheless, a number of key themes run through our reporting.

- First, a need to articulate clear strategies, aims and objectives both for the RGC's portfolio of schemes as a whole (taking account of UGC block grant and other sources of support for research), and for individual schemes; and to ensure that these are reflected in assessment criteria and in monitoring and evaluation.
- Second, a need to secure greater engagement from the research community in the development of those strategies, aims and objectives; and to consult the community on changes relating to individual schemes and as part of the reviews we propose.
- Third, a need to clarify and simplify application, assessment and monitoring processes; and also, the guidance, the forms and other documentation relating to them, ensuring that they are both clear and consistent within and across schemes.
- Fourth, a need to counter mistrust and misunderstandings by radically increasing the amounts of information about processes and procedures made publicly available; by enhancing the reporting of competition outcomes; and by ensuring that such information is readily findable on the website.

We recognise that addressing these needs will require extra work from a highly-skilled and hard-pressed Secretariat. We are also aware that the Secretariat faces major new pressures in handling the additional funding and setting up the new schemes announced in October 2018. We have no doubt that additional staffing and related resources are needed urgently to address these twin challenges to best effect.

Annex 1 RGC Schemes

Individual Research

General Research Fund (GRF)

The GRF is by far the largest scheme run by the RGC. It is open to all full-time academics in UGC-funded universities who spend at least 80% of their teaching time on degree or postgraduate courses. It meets the costs of research assistants and equipment, specialist software and so on. Most awards are for 2-3 years, but there is provision for up to 5 years. The minimum value is $100k for HSS and Business, $150K in other subjects. The maximum is $1.2m for biology and medicine, though higher amounts may be considered. In 2018/19, universities were initially required to meet 10% of the costs, but this was not in the end implemented, following an improvement in investment returns. Applications are assessed by one of five subject panels. They must be submitted by mid-November, and results are announced at the end of June.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Success rate (by $ applied for)	Average value of awards ($k)
592.6	2,919	964	33%	19%	616

Early Career Scheme (ECS)

The ECS operates alongside the GRF, with rules in parallel. It is open to full-time academics as for the GRF, but restricted to those at Assistant Professor level during their first three years of appointment.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Success rate (by $ applied for)	Average value of awards ($k)
86.7	404	151	37%	26%	559

Humanities and Social Sciences Prestigious Fellowships Scheme (HSSPFS)

This scheme provides outstanding scholars with extended time-off and supporting funds for research work and writing. Awards are for a period of up to 12 months and provide up to $1 million to cover salary costs for relief teachers and staff, travel, subsistence and dissemination costs. Applications are handled to the same timetable as GRF and ECS, and are assessed by the HSS subject panel.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
3.7	21	5	24%	763

Group Schemes

Collaborative Research Fund (CRF)

CRF is the largest of the group schemes in terms of applications and awards, It provides in effect two kinds of grant, for collaborative research across universities or across disciplines; and for the acquisition of major research facilities or equipment, including major library acquisitions, to support collaborative research. Awards can range from $2m to $10m, with an average of c$6m, and normally last for up to three years. Universities make a 50% contribution towards the equipment costs for group research grant projects and for the total costs of equipment grant projects. Preliminary applications are submitted by February, and assessed by a panel specially-constituted each year. Invitations to submit full proposals are issued in May. After proposals are assessed by external reviewers and CRF Committee Members, shortlisted applicants are invited to interview, and final results are announced in December. Following the lifting of an institutional quota on applications, there has been a three-fold rise in the number of applications since 2013/14.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($m)
110.0	203	18	9%	6.1

Theme-based Research Scheme (TRS)

TRS was established in 2009 and provides awards to focus research efforts on themes of strategic importance to Hong Kong. The RGC's Steering Committee for Research Themes and Topics, which comprises representatives of the business community and of the Innovation and Technology Commission as well as senior academics, advises on the selection of the themes, and on grand challenge topics arising from them. Awards are for up to five years, with a direct project cost ceiling of $75m, excluding overheads (at a rate of 27% of direct costs) and an annual allowance to the Project Coordinator (PC) (currently $329k) to release him/her from normal duties for up to two months each year. Universities are required to contribute 10% of total direct costs (and 50% of equipment costs if the equipment costs are at $2m or over). Typical awards are in the range $10-40m. As with CRF, there is a two-stage process for applications. Preliminary applications must be submitted by September each, and final results are announced in July.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($m)
180.0	48	5	10%	$36

Areas of Excellence (AoE)

AoE was set up in 1996 following a review of higher education in Hong Kong, when it was agreed that Hong Kong needed world-class institutions with distinct areas of excellence. Responsibility for the scheme was passed to the RGC in 2012. It aims to enable UGC-funded universities to build on existing strengths and develop them into areas of world-class excellence. Awards are for up to eight years, divided into two four-year periods. Awards cover direct costs and overheads, and require contributions from universities on a similar basis to the TRS. The maximum amount for direct costs is $60m ($40m in the first four years, $20m in the second). The two-stage application process starts

with preliminary applications in January, invitations for full applications in June, and ends with announcement of awards in December. The scheme runs every *second year.*

Research Impact Fund (RIF)

The RIF was established as a pilot scheme in 2018/19, in response to a perceived need, felt by funding agencies across the world and articulated in the Phase I Review, to find ways to ensure that research has economic, social and cultural impacts. The framing of the scheme was determined after consultation with the university and research community. $200m has been made available for the first pilot round, with awards ranging between $3m and $10m and lasting for between three and five years.

Joint Schemes

National Natural Science Foundation of China (NSFC) / RGC Joint Research Scheme

This scheme supports collaborative projects of up to 4 years involving researchers and teams in Hong Kong and the Mainland. Proposals are submitted jointly by the Mainland and the Hong Kong researchers to the RGC and NSFC. The maximum RGC grant is $1.25m. The six focus areas under the scheme are: Information Technology; Life Science; New Materials Science; Marine and Environmental Science; Medicine; and Management Science. The Hong Kong and Mainland partners receive funding respectively from the RGC and the NSFC, covering staff and equipment cost, the cost of travel and subsistence for researchers moving between the two locations, and conference costs. Preliminary proposals are submitted by mid- February, together with copies of the proposals submitted by Mainland partners to the NSFC. After initial screening, full proposals are invited in June, and the results announced in October for a start in January.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($m)
25.7	190	22	12%	$1.2

The French National Research Agency (ANR) / RGC Joint Research Scheme

This scheme operates on a similar basis to the NSFC scheme, supporting projects of 3-4 years involving researchers and teams in Hong Kong and France. The maximum RGC grant is $3m excluding on-costs. There is a one-stage application process, in which the Hong Kong and French applicants prepare a joint proposal which is submitted to the RGC and ANR in parallel. The proposals are assessed jointly, and the results announced in September.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($m)
7.9	30	3	10%	$2.6

European Commission (EC) /RGC Collaboration Scheme

This scheme supports Hong Kong participation in EU-funded Horizon 2020 projects for up to 5 years. The maximum RGC grant is $3m. Applications are invited twice-yearly, with the results announced some 6 months later.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($m)
10	7	6	86%	$1.7

Fulbright-RGC Hong Kong Scholar Programme

This scheme supports Hong Kong scholars to undertake research in the USA, with awards of up to $350k for a period of up to 10 months each year, with a supplementary grant of up to $150k for research expenses. Applications are submitted in October, and the results amounted in January.

Funding, applications and awards 2017/18

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
1.0	67	6	9%	$167

Germany / Hong Kong Joint Research Scheme

This scheme is run jointly with the German Academic Exchange Service (DAAD) and provides one-year or two-year travel grants to support research visits between partner institutions. Grants are $45,000 per year for projects involving travel for research postgraduate student(s) and $30,000 per year for projects not involving students' travel.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
1.1	34	14	41%	$79

PROCORE-France / Hong Kong Joint Research Scheme

This scheme is run jointly with the Consulate General of France (CGF) in Hong Kong, and provides one-year or two-year travel grants similar to those under the Germany/Hong Kong scheme. Grants are HK$45,000 per year for projects involving travel for research postgraduate student(s) and HK$31,250 per year for projects not involving students' travel. The scheme also offers two conference/workshop grants to sponsor a conference/workshop each in Hong Kong and in France. Applications are submitted in June, with results announced in December.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
1.0	33	15	45%	$67

Postgraduate Schemes

Hong Kong Postgraduate Fellowships Scheme (HKPFS)

This scheme aims to attract the best students to pursue postgraduate research in Hong Kong. The fellowships provide an annual stipend of $240k and conference and travel expenses of $30k. After

making an initial application to the RGC in December, applicants submit full applications to their chosen universities, which then submit nominations which are assessed by one of two selection panels covering sciences and technology, and humanities, social sciences and business. Results are announced in February. Some six thousand applications are made in each round, and universities submit between 400 and 500 nominations. Candidates are ranked, and 231 awards are made each year. Just over half (53%in 2017/18) of the applicants and just under half (48% in 2017/18) of the award-holders are from Mainland China.

Postgraduate Students Conference / Seminar Grants (PSCSG)

This scheme provides grants to cover the costs of inviting scholars to speak at conferences and seminars in Hong Kong organised by or for research students; the aim is to encourage research students of the same discipline from the various UGC-funded universities to come together and share their experiences and research results. Grants are of up to $50k for travel for the invited scholar, and $1.8k per night for subsistence. Applications are submitted via universities at any point in the year.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
0.45	12	11	92%	$40.9

Tuition Fees for Research Postgraduates

This scheme, funded by $3bn added to the REF from January 2018, provides for non-means-tested studentships which cover tuition fees for local students enrolled in postgraduate research programmes at UGC-funded universities. Disbursements to universities began in September 2018.

Self-Financing Sector Schemes

Faculty Development Scheme (FDS)

This scheme aims to develop the research capability of individual academic staff in self-financing institutions so that they can transfer research experience and new knowledge into teaching and learning. The scheme operates essentially as a mirror of the GRF, with awards of similar amounts.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
36.9	199	58	29%	$636

Institutional Development Scheme (IDS)

This scheme aims to develop the research capacity of the local self-financing degree-awarding institutions in their strategic areas. Institutions can submit a single application each year to develop a programme of research that informs teaching in the strategic areas of the institution's development plan. Applications are submitted in March and are assessed by the special SF panel, with results announced in August.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
14.3	8	2	25%	$715

Inter-Institutional Development Scheme (IIDS)

This scheme aims to enhance academics' research capability and to keep them abreast of new developments and challenging research topics in relevant fields. Grants cover the costs of organising workshops or short courses.

Funding, applications and awards 2017/18.

Funding ($m)	Applications	Awards	Success rate (by nos. of applications)	Average value of awards ($k)
2.0	19	5	26%	$400

Annex 2 Assessment criteria and grading

We have noted some lack of clarity as to how assessment criteria are used in the assessment process. In the GRF scheme, for example, the guidance for reviewers defines the criteria as:

- academic quality, viz. (1) scientific and scholarly merit of the proposal, (2) qualifications and track record of the (principal) investigator(s), (3) originality and (4) feasibility within the time-scale of the proposal;
- the relevance of the proposal to the needs of Hong Kong;
- university's commitment;
- contribution to academic/professional development (where applicable);
- potential for social, cultural or economic application; and
- availability of, and potential for, non-RGC funding.

The guidance stresses that academic quality is the 'overriding' criterion, while the 'other factors' should be accorded equal weight. On the assessment form, however, reviewers are asked first for detailed comments on:

- project objectives and 'research agenda';
- research design and methodology;
- feasibility of the proposed research;
- originality, innovation, and the advances the research might bring in the field (without any grading); and
- the reasonableness of the proposed budget (again without any grading).

They are asked to grade each of the five aspects of the proposal on the following five-point scale:

Grade	Description
Excellent	Outstanding by international standards and very well thought out
Very Good	Demonstrates high standards, though there are a few concerns which could be addressed with reasonable efforts
Good	Meets satisfactory standards with concerns which could be addressed with significant efforts
Fair	Unsatisfactory with significant concerns
Poor	Insufficient quality / evidence for a feasible proposal

After commenting on strengths, weaknesses and suggested improvements, reviewers are then asked for a 'summary assessment' of:

- scientific/scholarly merit (graded excellent to poor)
- duration proposed (graded too long to too short)
- impact of research (graded high to none)
- the PI's ability to undertake the proposal (graded excellent to poor), and
- the PI's track record in field (graded excellent to poor).

The relationships between the stated assessment criteria, and the two sets of features of proposals which reviewers are asked to comment on and to grade, are not clear. On the final part of the form, reviewers are asked for an 'overall recommendation' in the form of a rating on a seven-point scale:

Rating	Description
5	Outstanding and internationally excellent. Provides full and strong evidence and justification for the proposal. **Should be accorded the highest priority for funding**

4.5	Demonstrates very high international standards. Provides strong evidence and justification for the proposal. **Should be funded as a matter of priority.**
4	Demonstrates high international standards and provides good evidence and justification for the proposal. **Worthy of consideration for funding.**
3.5	Demonstrates good international standards, but **in a competitive context it is not of sufficient priority to recommend for funding.**
3	Has adequate qualities but is not internationally competitive. **Not recommended for funding.**
2	Has strengths and innovative ideas but also has major weaknesses and flaws. **Not recommended for funding.**
1	Has numerous and significant weaknesses and flaws. **Not recommended for funding.**

Panel members designated as first and second readers make preliminary assessments, using the same seven-point scale, based on the reviews they have received. After both readers make preliminary assessments, they may consult each other and change their assessments as a result of that consultation. The preliminary assessment form asks for comments to be given to the applicant, and for any issues to be flagged at the panel meeting. But it does not ask for any comment or grading on the issues specified on the form for reviewers.

Annex 3 Financial allocations

Allocations to different schemes have fluctuated in recent years. For the earmarked schemes funded from the REF, the table below indicates that:

- The allocations for the GRF increased in line with the amount requested in applications each year from 2013/14 to 2016/17.
- Funding for the ECS fell by 14% between 2013/14 and 2017/18 despite a rise in the number of applications; but it rose by 3% for the most recent round, with a consequent rise in the success rate.
- Funding for the CRF rose by 16% in 2014/15, but has since remained static, while applications have risen three-fold.
- Funding for the joint schemes has remained largely static, while for the much smaller HSSPFS and PSCSG schemes it has fallen significantly.

Financial allocations for earmarked research grants 2013/14 to 2017/18.

	2013/14 Amount ($M)	2014/15 Amount ($M)	2015/16 Amount ($M)	2016/17 Amount ($M)	2017/18 Amount ($M)	Change 2013/14 to 2017/18	% total in 2017/18
GRF	560.6	594.9	596.5	599.2	592.6	6%	71%
ECS	97.8	94.1	91.9	89.2	84.3	-14%	10%
CRF	94.9	110.5	110.0	110.0	110.0	16%	13%
Joint schemes	39.8	38.7	36.7	42.7	39.1	-2%	5%
HSSPFS	4.9	5.3	1.5	2.9	3.7	-24%	0%
PSCSG	0.8	0.8	0.7	0.6	0.4	-50%	0%
Total	**798.8**	**844.2**	**837.3**	**844.6**	**830.1**	**4%**	

There were significant changes for the TRS and AoE schemes, too. Funding for the TRS scheme rose by 30% between 2013/14 and 2016/17, but then fell back almost to the 2013/14 figure in 2017/18, when there was a fall of 13% in the number of applications. The success rate fell from 13% to 10%. Responsibility for the AoE scheme was transferred to the RGC in 2012, with funding allocated not from the REF but by the UGC. In the two competitions since then, funding rose from $144m in 2013/14 to $231m in 2016/17.

Financial allocations for TRS and AoE 2013/14 to 2017/18

	2013/14 Amount ($M)	2014/15 Amount ($M)	2015/16 Amount ($M)	2016/17 Amount ($M)	2017/18 Amount ($M)	2018/19 Amount ($M)
TRS	176.3	205.0	202.8	230.0	180.0	180.0
AoE	144.0			231.2		

Annex 4 Definitions of major and minor conflicts of interest

The *RGC Code of Conduct* specifies that:

> *"Members should not assess applications in which they are in any way associated, such as applications from (i) themselves/colleagues in their departments/institutions or (ii) institution that they have served within two years or (iii) institutions that they have been invited for pre-review. Similarly, reviewers should not assess applications in which they are in any way associated, such as (i) applications from themselves/colleagues in the same institution or (ii) applications that have been pre-reviewed by the concerned reviewers before submission to the Council."*

Major conflicts are defined in the *Guidelines of Handling Conflicts of Interests During Proposal Evaluation Process* in two categories as below.

University-related Conflicts

a) currently employed/ having been employed within the previous two years by the university of the applicant
b) holding adjunct, honorary or visiting position(s) in the university of the applicant
c) serving as consultant / advisor to a committee or department of the university of the applicant

Application-related Conflicts

d) submitting applications as Project Coordinator, Principal Investigator (PI), Co-PI, Co-Investigator or Collaborators in the same funding exercise
e) having pre-reviewed the application
f) having / having had advisor / advisee relationship (such as tutor and PhD student relationship) with the applicant
g) having / having had co-authorship of patents with the applicant
h) having close personal relationship (e.g. partner, spouse, immediate family member, long-term close friend) with the applicant
i) having / having had co-authorship of paper or publications with the applicant within the previous three years
j) being / having been collaborator (in the capacity of Co-PI or Co-I) in research projects or programmes held by the PI within the previous three years
k) any other interest(s) ruled by a Council/Panel/Committee Chairman to be treated as a major interest

On the form for reviewers in the GRF scheme, the last of those above (k) is replaced by 'serving / having served the same editorial board with an appointor-appointee relationship'.

Minor conflicts are defined in the *Guidelines* as:

a) having/ having had co-authorship of paper or publications with the applicant1 from three to seven years;
b) being/ having been collaborator (in the capacity of Co-PI or Co-I) in research projects or programmes held by the applicant1 from three to seven years;
c) partnership/ co-organisers of major events with the applicant1 within seven years; and
d) any other interest(s) ruled by a Council/Panel/Committee Chairman to be treated as a minor interest.

Reviewers are not asked to provide any information about minor conflicts on the assessment form but the *Guidelines* state that:

> *"It shall be for the nominating member to decide what material effect the existence of a minor interest shall have on a reviewer's assessment. Depending on the nature of the minor interest, the nominating member may decide that:*

> a) *the reviewer concerned should refrain from assessing the particular application(s) that is/are affected by the minor interest;*

> b) *the minor interest should be noted by the panel/committee, but it should not affect the reviewer's participation in the assessment of the applications; or*

> c) *the reviewer's comment on the application(s) that is/are affected by the minor interest should be disregarded if the reviews has/have already been completed."*

Annex 5 Procedures for handling misconduct

Misconduct may be discovered during the assessment process, or by the Secretariat, or reported by panel members, reviewers, complainants, universities and other parties. The RGC's definitions of misconduct cover plagiarism, falsification, fabrication, double-dipping, and non-disclosure of similar or related projects. Since 2017/18, the earlier inclusion of non-disclosure of a relationship with a nominated reviewer is no longer relevant.

The first stage in response to any report or complaint is for the Secretariat to consult panel or committee Chair to ascertain whether there is cause for further investigation, and if the answer is affirmative, to seek explanations from the researcher concerned. A response is required within seven days. If the explanations are not found acceptable, the university concerned is asked to initiate a formal investigation, and to report within 30 days.

The DC (Investigation) oversees investigations and appoints a three-member Investigation Working Group (IWG) for each case. The IWG's role is to examine all relevant documents, including the institutional investigation report; and to report its findings to DC (Investigation), using a standard template. A redacted copy of the report is given to the respondent, who can make final representations before the report is considered by DC (Investigation). The DC (Investigation) considers whether the report's findings and recommendations are fully supported by the evidence and may seek clarifications from the IWG. The DC (Investigation) discusses the case by tele-conference and then prepares its own report for RGC, again to a standard template, with a recommendation on whether the alleged misconduct is substantiated or not. Once endorsed by RGC (if necessary, between meetings by circulation of papers), substantiated cases are forwarded to the DC (Penalty).

The DC (Penalty)'s role is to make recommendations to RGC on the penalty to be imposed in substantiated cases. It has formulated Guiding Principles which have been endorsed by RGC, setting out the range of penalty for different types of misconduct, and the factors that should be taken into account. The penalties range from a warning letter to debarment from all UGC/RGC schemes for up to five years. In considering individual cases, it takes account of all relevant documents, including the DC (Investigation) report and precedent cases. It then holds a tele-conference to discuss the case and prepares a report with recommendations to RGC. Once endorsed by RGC, the Secretariat informs respondents and their affiliated universities / institutions.

At a possible final stage, the DC (Appeal) oversees appeals, appointing an Appeal Board in each case. The Board's responsibility is to examine the previous documents, the grounds of appeal, and any new evidence. Previous decisions can be overturned or modified only if the appellant can provide good reasons or new evidence not considered before; or if there is an omission or error in the earlier decision-making process. A report is submitted to the DC (Appeal), and before that, a redacted copy is provided to the appellant who is given chance to make final representations. Again, the DC (Appeal) considers whether the report's findings and recommendations are fully supported by the evidence and may seek clarifications from the Board. The DC (Appeal) then holds a tele-conference to discuss the case and prepares its own report to RGC. Once endorsed by RGC, the Secretariat informs appellants and their affiliated universities / institutions.

Table i shows that the number of allegations fell between 2014-15 and 2015-16 but rose again in 2016-17 (though not to the previous level). The highest number of cases in 2014-15 and 2015-16 were of non-disclosure of a relationship with a nominated reviewer, a category that is now redundant. The other significant category was non-disclosure on the application form of similar or related projects. Plagiarism and falsification cases are rare, and no cases of fabrication are recorded.

Table i. Misconduct cases dealt with by the RGC 2014/15 to 2016/17. (substantiated cases in parentheses)

Misconduct	2014/15	2015/16	2016/17	Total
Non-disclosure of relationship with nominated reviewers	19(7)	6(3)	5(4)	30(14)
Non-disclosure of similar related projects in the application form	5(5)	2(1)	7(2)	14(8)
Plagiarism	2(2)	1(1)	1(0)	4(3)
Falsification	0(0)	0(0)	1(0)	1(0)
Totals	26(14)	9(8)	14(6)	49(25)

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Annex 6 Summary of survey findings

We conducted four surveys.

- Academics eligible for RGC grants at UGC-funded universities
- Academics eligible for RGC grants at self-financing institutions
- Members of RGC committees and panels
- Reviewers on the RGC database

For the surveys of academics, we received lists of addresses from the universities and self-financing institutions. The RGC provided lists for the members of its committees and panels, and external reviewers.

Questions were devised and agreed in consultation with the RGC.

In the following sections, we discuss the responses received to the above-mentioned surveys. In this respect, we state that a number of "complete" responses have been received in each case. A complete response is one where the respondent has been through the whole survey and has pressed "Submit" at its end. It should be noted that respondents might have decided to leave some of the questions unanswered and, thus, the number of respondents reported in the figures may be lower than the total number of complete responses in each case.

A. Survey of academics eligible for RGC grants at UGC-funded universities

We sent the survey to 3713 academics and received 997 complete responses, a response rate of 27%. Breakdowns by subject and by seniority are shown in Figures a and b.

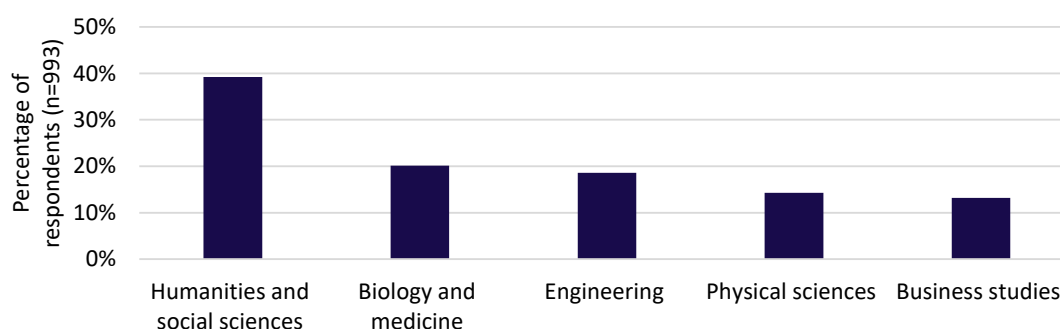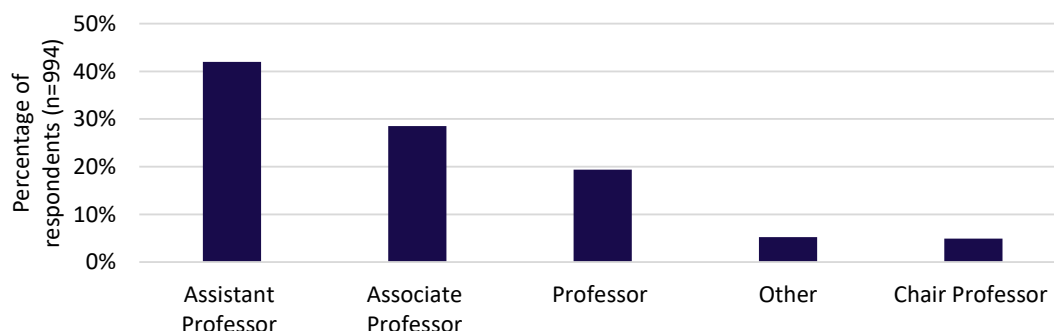Figure a. Survey of UGC-funded academics: responses by subject

Figure b. Survey of UGC-funded academics: responses by seniority
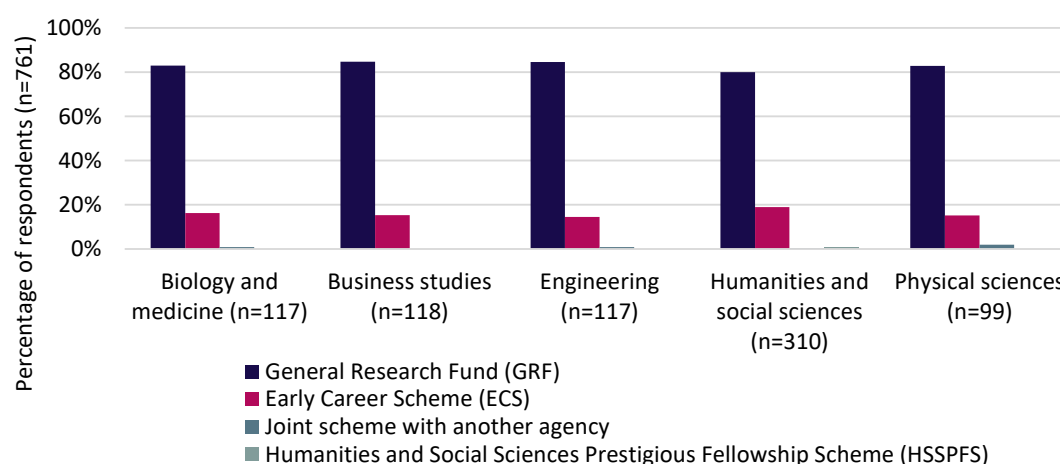
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The largest group (43%) of respondents had been working for more than 9 years as an academic in Hong Kong, 14% for between 6 and 9 years, 21% for between 3 and 6 years. Just over half (51%) had experience of working as an academic in other countries. Almost all respondents (94%) had submitted an application to the RGC in the past three years, and 59% had received an award as a result, with the highest rate of awards in the physical sciences, as shown in Figure c.

Figure c. Respondents who had received an award since July 2015, by subject
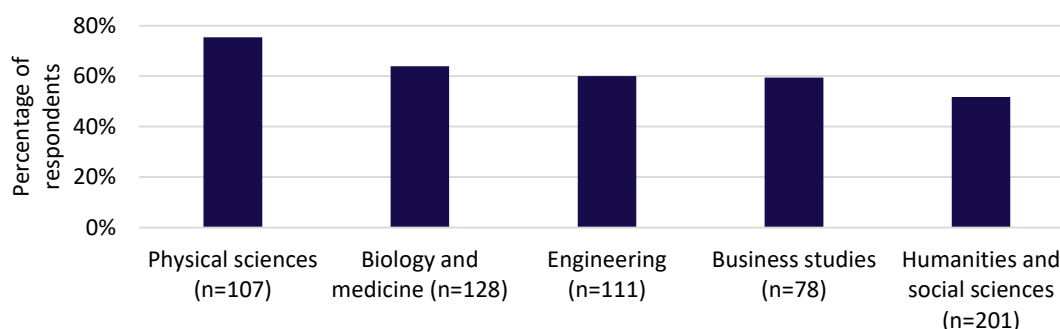
Most applications were to the GRF and ECS. Only 23% of respondents has submitted an application to one of the group schemes, with 71% of those to the CRF scheme. Applications to the GRF and ECS were spread across all subjects, as shown in Figure d.

Figure d. Respondents who had submitted an application to the GRF, ECS, a joint scheme, or the HSSPFS

- General Research Fund (GRF)
- Early Career Scheme (ECS)
- Joint scheme with another agency
- Humanities and Social Sciences Prestigious Fellowship Scheme (HSSPFS)

B. Survey of academics eligible for RGC grants at self-financing institutions

We sent the survey to 925 academics and received 184 complete responses, a response rate of 20%. Breakdowns by subject and by seniority are shown in Figures e and f.

Figure e. Survey of academics at self-financing institutions: responses by subject
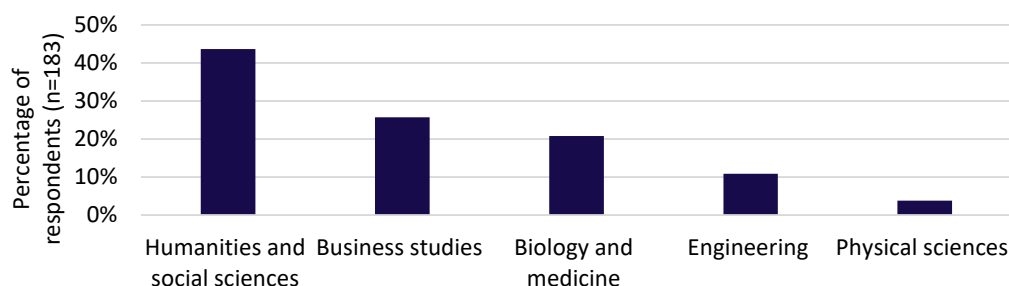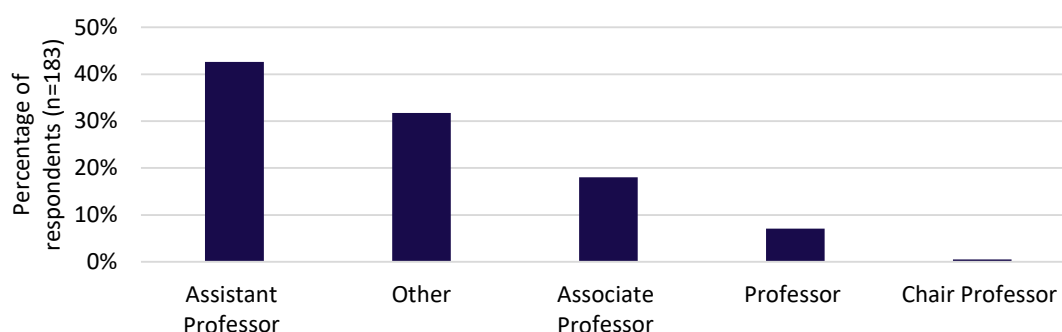

Figure f. Survey of academics at self-financing institutions: responses by seniority

The largest group (42%) of respondents had been working for more than 9 years as an academic in Hong Kong, 20% for between 6 and 9 years, 19% for between 3 and 6 years. Just under a fifth (19%) had experience of working as an academic in other countries. Three-quarters (75%) of all respondents had submitted an application to the RGC in the past three years, and 36% had received an award as a result, with the highest rate of awards in engineering.

Figure g. Respondents who had received an award since July 2015, by subject
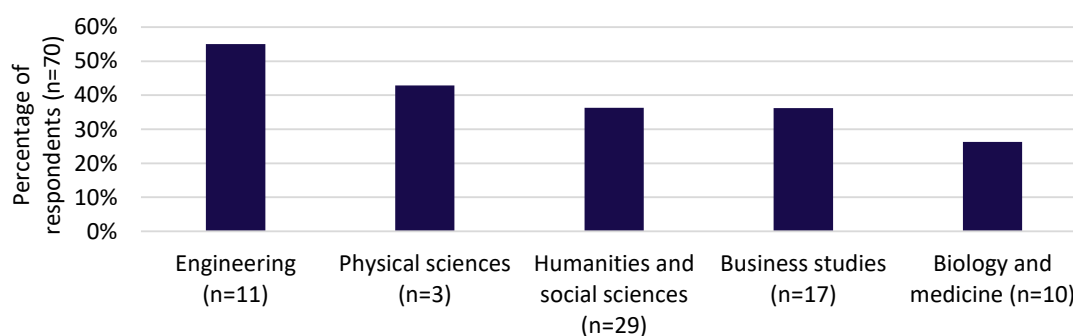
C. Survey of RGC committee and panel members

We sent the survey to 494 members and received 265 complete responses, a response rate of 54%. A breakdown by groups of panels is shown in Figure h, and by length of service in Figure i.

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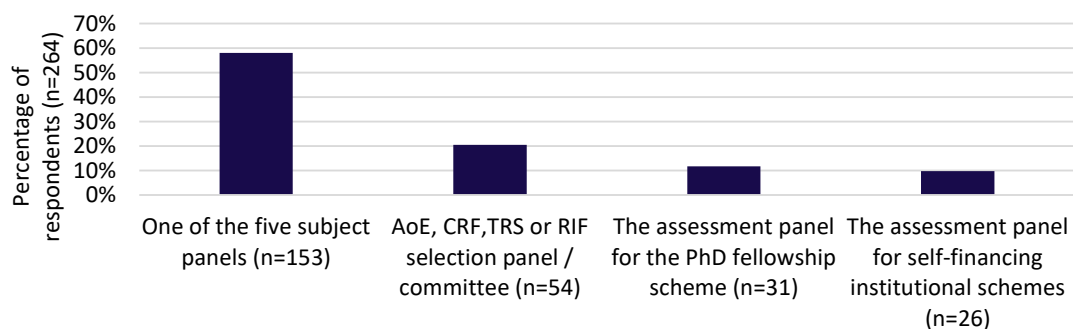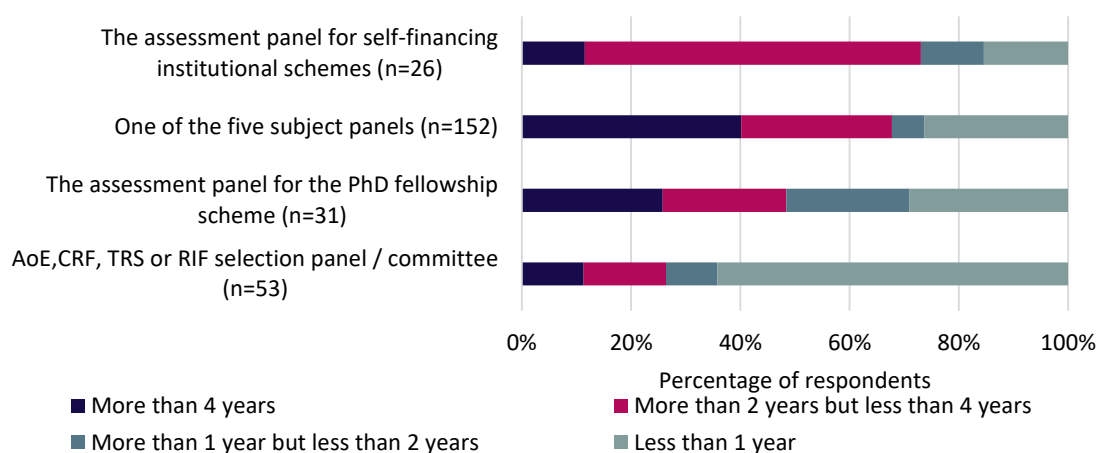Figure h. Survey of RGC committee and panel members, by scheme/group

Figure i. Survey of RGC committee and panel members, by length of service

- More than 4 years
- More than 2 years but less than 4 years
- More than 1 year but less than 2 years
- Less than 1 year

A majority of respondents (59%) were based outside Hong Kong; and as Figure j shows, this was particularly prevalent for panels for the group schemes. Although the members of the panel assessing applications in the Self-financing institution schemes are drawn from academics working in Hong Kong, two respondents indicated that they were based elsewhere.

Figure j. Location of respondents by panel group

- Elsewhere
- Hong Kong
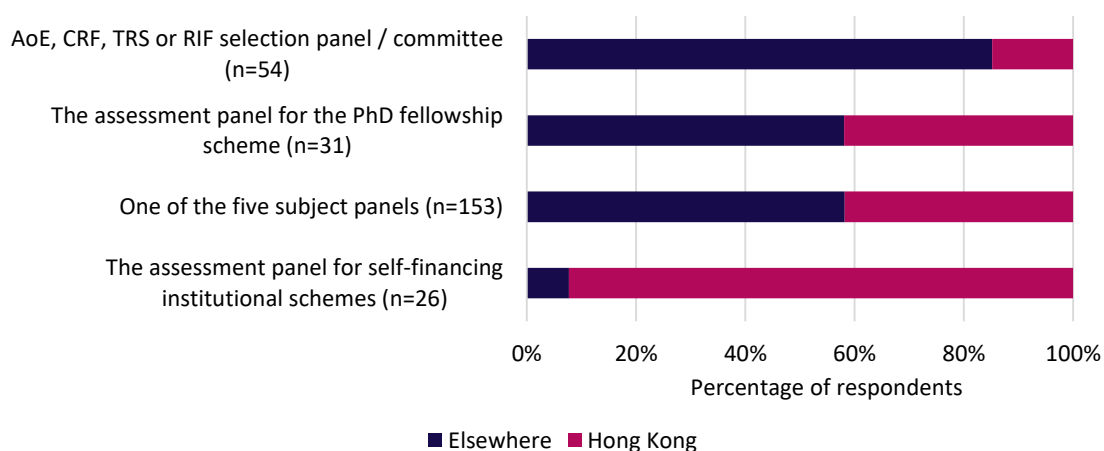
More than two-thirds (68%) of respondents had served on assessment panels outside Hong Kong; and Figure k shows the proportions of those based in Hong Kong and elsewhere who had such

experience, while Figure l shows that overseas experience was particularly prevalent among respondents on panels for the group research schemes, but less so for those on panels for the self-financing institution schemes.

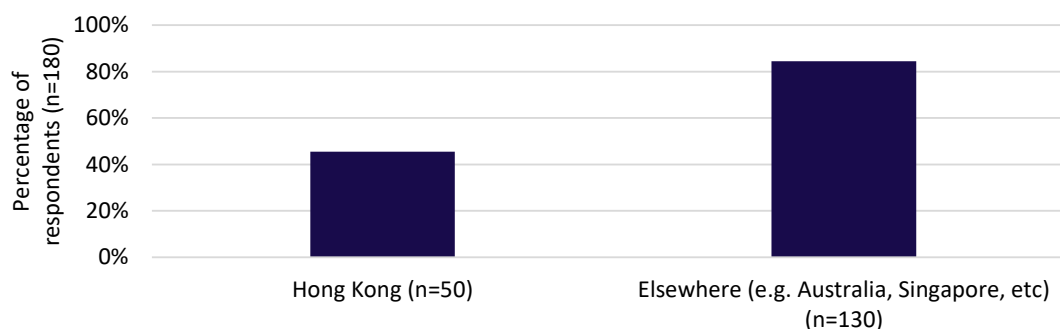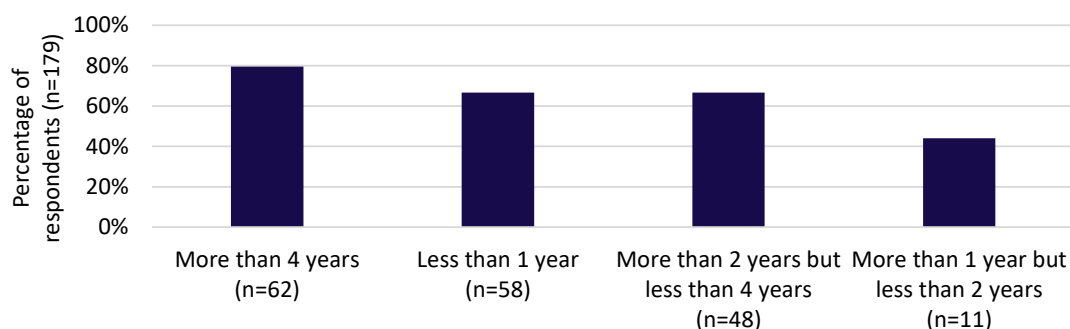Figure k. Respondents based in Hong Kong and elsewhere who had served on panels outside Hong Kong

Figure l. Respondents who had served on panels outside Hong Kong, by panel group

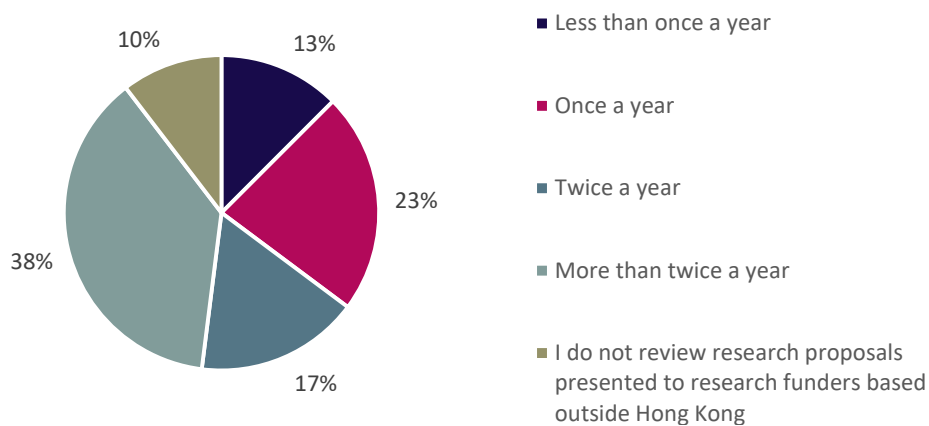## D. Survey of External Reviewers

We sent the survey to 9,112 members and received 3781 complete responses, a response rate of 41%. All but a small minority (2%) of respondents were based outside Hong Kong; and the great majority (95%) had reviewed since January 2016 applications for the GRF scheme. As shown in Figure m, four fifths of respondents were spread evenly across engineering, biology and medicine, and the humanities and social sciences, with smaller proportions in the physical sciences and business studies.

Figure m. Respondents by subject area
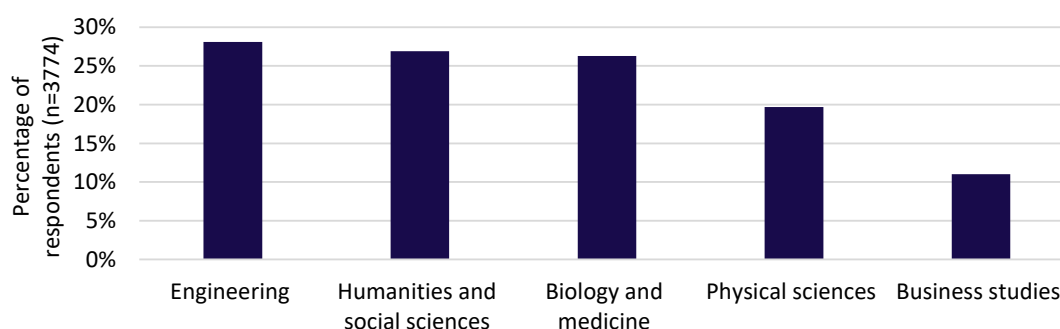
As shown in Figure n, 90% of respondents review for funders based outside Hong Kong.

Figure n. The frequency with which respondents review for funders outside Hong Kong

- Less than once a year
- Once a year
- Twice a year
- More than twice a year
- I do not review research proposals presented to research funders based outside Hong Kong

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Annex 7 References

We have consulted hundreds of documents in the course of our review: many made available to us by the RGC, and many others freely accessible via the websites of our nine comparator bodies. We list here only the major reports, along with documents from other sources.

Assessment of the National Science Foundation's 2015 Geospace Portfolio Review, National Academies Press, Washington DC, 2017.
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https://www.ugc.edu.hk/eng/ugc/about/press_speech_other/press/2018/pr11092018.html

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Annex 8 Abbreviations

ANR   National Research Agency, France

ANOVA Analysis of variance

AoE   Areas of Excellence Scheme

APC   Article Publishing /Processing Charge

ARC   Australian Research Council

BBSRC   Biotechnology and Biological Sciences Research Council, United Kingdom

Co-I   Co-investigator

CRF   Collaborative Research Fund

DAAD   German Academic Exchange Service

DAMA   Disbursement, Accounting and Monitoring Arrangements

DC(I)   Disciplinary Committee (Investigation)

DC(P)   Disciplinary Committee (Penalty)

DC(A)   Disciplinary Committee (Appeals)

ECS   Early Career Scheme

FDS   Faculty Development Scheme

FHB   Food and Health Bureau

GRF   General Research Fund

HKPFS   Hong Kong PhD Fellowship Scheme

HPC   High performance computing

HSSPFS Humanities and Social Sciences Prestigious Fellowship Scheme

IDS   Institutional Development Scheme

IIDS   Inter-institutional Development Scheme

IRC   Irish Research Council

ITC   Innovation and Technology Commission

JRS   Joint Research Schemes

MBIE   Ministry for Business, Innovation and Employment, New Zealand

NRF   National Research Foundation (the same term is used in both Singapore and South Korea)

NSF   National Science Foundation, USA

NSFC   National Natural Science Foundation of China

OA   Open access

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OECD	Organisation for Economic Co-operation and Development
ORCID	Open Researcher and Contributor ID
PI	Principal Investigator
PICO	Policy Innovation and Co-ordination Office
PSCSG	Postgraduate Students Conference/Seminar Grant
QS	Quacquarelli Symonds *(a company that produces rankings of universities across the world)*
RAE	Research Assessment Exercise
REF	Research Endowment Fund
RGC	Research Grants Council
RIF	Research Impact Fund
SAR	Hong Kong Special Administrative Region
SSHRC	Social Sciences and Humanities Research Council, Canada
STM	Science, technology and medicine
TRS	Theme-based Research Scheme
UGC	University Grants Committee
WP	Work package

Appendix

Working Group on the Review of the Research Grants Council (RGC)
(Phase II)

Terms of Reference

1. To oversee the implementation of Phase II of the RGC Review;

2. To report progress and findings of the study to the RGC; and

3. To submit comments and recommendations on findings to the RGC.

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