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Evaluation of the Canada Research Chairs Program

Final Report

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Introduction

This report on the evaluation of the Canada Research Chairs Program (CRCP) assesses the relevance and performance of the CRCP, covering the five core issues set out by the Treasury Board Directive on the Evaluation Function, over fiscal years 2010-11 to 2014-15. The evaluation targeted two areas of primary focus: 1) The relevance of the current objectives of the CRCP and possible emerging/new objectives; and 2) The extent to which the CRCP is contributing to institutional strengthening of strategic research areas.

The CRCP is a tri-agency program launched in 2000 that was designed to enable Canadian universities and affiliated research institutes and hospitals to foster research excellence and to enhance their role as centres of research excellence in the global, knowledge-based economy. A total of 2,000 Chairs are allocated to eligible institutions, based on the research grant funding received by institutions from the tri-agencies in the three years prior to the year of the allocation. Canada Research Chairs are divided into two tiers:

- Tier 1 Chair awards are worth $200,000 annually, tenable for seven years and renewable indefinitely; and

- Tier 2 Chair awards are worth $100,000 annually, tenable for five years and renewable once.

Evaluation Methodology

The evaluation employed seven lines of evidence: namely, surveys of institutions and chairholders, a bibliometric analysis, case studies, key informant interviews, document review, administrative data review and cost-efficiency analysis. The evaluation methods were carried out by a hybrid team composed of internal evaluators at the Natural Sciences and Engineering Research Council's and Social Sciences and Humanities Research Council's Evaluation Division and two external consulting firms.

A few challenges and limitations were encountered during the evaluation. The review of external documentation was not exhaustive, and in some areas was unable to uncover significant amounts of more recent documentation (from 2010 onward). For example, there appears to be a lack of more recent research on migration of highly skilled researchers into and out of Canada. CRCP funding data was incomplete for 2014-15, and consequently was excluded from analysis. For interviews and case studies, knowledge of the program differed by respondent type; respondents were therefore asked to comment only on aspects with which they were most familiar.

Findings and Recommendations

The CRCP is cost-efficient and, in most areas examined, effective and relevant. The program is selecting the right nominees for the award, and is contributing towards research production, research centres, collaborations, and high quality training for students, postdoctoral researchers

and others. The program is aligned with federal and tri-agency priorities and the objectives of the program remain relevant.

Despite this, the chairholder package–the benefits provided to chairholders by the institution–is diminishing. This trend is largely driven by the fact that the award value has not changed since 2000 and is therefore diminishing in real terms. CRCP funds and institutional funds are both increasingly being used to cover chairholder salaries, resulting in less funding available for other components of the chairholders' package, such as research funding. This may present a risk to relevance, and may be linked to some observed challenges to program effectiveness, namely challenges in recruitment and turnover among chairholders from abroad, and an increase in Chair vacancies.

Strategic Research Plans (SRPs), which are created by institutions to outline their research priorities, may no longer be a useful tool to ensure CRCP funds are being used strategically. Despite this, the evaluation found evidence that the CRCP does in fact contribute to institutional investments in strategic areas of research.

While most components of program design and delivery were found to be appropriate, a few areas were noted to require attention. More work is needed to address barriers of access to CRCP for designated groups, as the majority of institutions do not currently meet targets. Secondly, the Chair re-allocation process can cause challenges for institutions when it results in the loss of an occupied Chair. Finally, the possibility of indefinite renewals for Tier 1 chairholders may be creating an increasingly large age gap between Tier 1 and Tier 2, reducing the ability of the CRCP to attract Tier 1s earlier in their career.

The evaluation offers the following seven recommendations, resulting from the evidence described above.

Recommendation 1: Management should investigate the feasibility of increasing the award value and/or indexing it to the inflation rate.

Since program inception, the CRCP award value has diminished by a third in real terms. This, in turn, contributes to a diminishing chairholder package, which threatens the achievement of all four CRCP objectives.

Recommendation 2: Management should examine options to ensure more robust chairholder packages are offered by institutions, in order to support the continued achievement of the program's objectives in the future.

Although there is an expectation that a package should be provided to chairholders, this package has been diminishing in many institutions, driven in part by the declining value of the award. The diminishing chairholder package may threaten the achievement of all four of CRCP's objectives:

- it may reduce the award's competitiveness, affecting its ability to attract and retain (Objective 1);

- it may inhibit training of HQP (Objective 2) and/or research (Objective 3); and

- if the perceived difference between a Chair position and a regular faculty position diminishes, it may affect the extent to which the awards can be used strategically (Objective 4).

The options examined for this recommendation will be partly informed by the outcome of Recommendation 1 (see above) and management will need to consider the role of institutions in responding to this recommendation.

Recommendation 3: Management should set targets for the attraction of researchers from abroad, and, if necessary, develop a plan to better support this group in order to ensure that the program's objective of attracting top researchers from outside Canada is realized.

In the past five years, there has been a large reduction in the amount of researchers from abroad being awarded a Chair. At the same time, chairholders from abroad are more likely than others to resign their award. Attraction of top researchers from outside Canada is one of the expected outcomes of the program and was a key impetus for the creation of the program in 2000. Management should examine the extent to which the evaluation findings on researchers from abroad pose a risk to the program's objectives, and set targets for international attraction. If current levels are lower than the targets set, a plan should be developed to encourage greater attraction and retention of researchers from abroad.

Recommendation 4: Management should examine the extent to which the "fit with SRP" review criterion remains relevant, and whether or not it should be replaced with a criterion assessing alignment to demonstrated priority areas.

At some institutions, the extent to which Strategic Research Plans (SRP) are used to inform strategic action is in question. An institution's strategy for allocating Chairs may not be explicitly reflected in its SRP, which may be kept broad to ensure maximum flexibility of funding use. If the review criterion is not changed, the program's peer review process may be less effective in supporting CRCP's Objective 4 (best possible use of research resources through strategic planning), and if the SRP does not represent the best indicator of an institution's priority research areas.

Recommendation 5: Management should require institutions to adopt greater transparency in their processes for allocation of Chair positions and selection and renewal of chairholders, in order to ensure institutions have greater accountability in terms of meeting their equity targets.

Despite work done to date by the Secretariat to promote equitable practices, the majority of institutions do not meet targets set for women, visible minorities and persons with disabilities. Program management should investigate options to require institutions to adopt transparent processes and criteria, including a requirement that such processes be made publicly available.

Recommendation 6: Management should investigate ways to minimize the impact of loss of occupied Chairs in the re-allocation process.

Loss of occupied Chair positions presents a challenge for all institutions, especially for small institutions. Program management should find ways to diminish the need to take away occupied Chair positions. Potential solutions to be explored may include:

- carrying out an annual recalculation to provide advance notice of impending gains and losses;

- removing occupied, active Chair positions from the re-allocation formula; and

- changing the rolling average calculation to smooth out the effect of sudden, large changes.

Recommendation 7: Management should consider imposing a limit of one renewal for Tier 1 Chairs.

There is some evidence of an age gap between Tier 1 and Tier 2, which is due to the renewal of Tier 1 chairholders, and which is expected to increase in the near future. This introduces a risk that a growing number of researchers may fall into a gap between these two groups. Furthermore, the fact that the majority of Tier 1 Chair awards are now held by renewed chairholders means that institutions have fewer opportunities to attract new researchers through the Tier 1 award.

Acronyms

CAUT	Canadian Association of University Teachers
CERC	Canada Excellence Research Chairs
CFI	Canada Foundation for Innovation
CFREF	Canada First Research Excellence Fund
CIHR	Canadian Institutes of Health Research
CRCP	Canada Research Chairs Program
HQP	Highly qualified personnel
IAC	Interdisciplinary Adjudication Committee
NSE	Natural sciences and engineering
NSERC	Natural Sciences and Engineering Research Council
PMS	Performance Measurement Strategy
SRP	Strategic Research Plan
SSH	Social sciences and humanities
SSHRC	Social Sciences and Humanities Research Council
TIPS	Tri-agency Institutional Programs Secretariat

1.0 Introduction

1.1 Purpose

The fifteenth-year evaluation of the Canada Research Chairs Program (CRCP) is required as per the evaluation coverage requirements stipulated in the Treasury Board *Policy on Evaluation* and with respect to section 42.1 of the *Financial Administration Act*. This evaluation will assess various aspects of the relevance and performance of the CRCP, covering the five core issues set out in the Treasury Board Directive on the Evaluation Function (2009). The five-year evaluation coverage time frame has been set from fiscal year 2010-11 to fiscal year 2014-15.

The CRCP has been evaluated or reviewed three times since its inception in 2000. The current evaluation is the 15th year evaluation of the program. During the design of the evaluation, the following two key areas of focus emerged:

- Exploring the relevance of the current objectives of the CRCP and exploring possible emerging/new objectives that could lead to changes in the program logic and design.

- Exploring the extent to which the CRCP is contributing to institutions strengthening their performance in strategic areas of research, and how it can work better with other programs to achieve this outcome.

To the extent possible, evaluation evidence was used to address these key areas. Because the previous (2010) evaluation examined questions on performance in great depth, these data were used as a baseline for longitudinal comparison for the current evaluation.

1.2 Overview of the Program

The CRCP is a permanent program launched in 2000 that was designed to strengthen Canada's research capacity and offset "brain-drain" pressures by helping Canadian universities and their research affiliates retain talented Canadian researchers and attract the best international researchers to Canada. The program's budget was $300 million per year until 2010-11, after which it was decreased to $265 million.

The program is a tri-agency initiative of the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC); the Canada Foundation for Innovation (CFI) also provides accompanying funds to support infrastructure. Housed within SSHRC, the Tri-agency Institutional Programs Secretariat (TIPS – formerly the Chairs Secretariat) is responsible for the day-to-day administration of the CRCP.

The main objective of the CRCP is to enable Canadian universities, together with their affiliated research institutes and hospitals, to foster research excellence and to enhance their role as centres of research excellence in the global, knowledge-based economy. More specifically, the program intends to achieve the following:

- Increase Canada's research capacity. The program will increase Canada's research capacity by attracting and retaining 2,000 top researchers from within Canada and abroad.

- Improve training of highly qualified personnel (HQP). The program will increase the number of HQP trained through research in Canadian universities. It is also expected that the quality of training will be improved.

- Improve universities' capacity to generate and apply new knowledge. By attracting and retaining top researchers, Canadian universities will be able to increase research outputs as well as the dissemination, transfer and use of knowledge.

- Best possible use of research resources through strategic planning. Strategic planning will help universities to focus their efforts on their research strengths as well as new areas in which they want to develop strengths.

The direct beneficiaries of the program are Canadian universities and their affiliates, chairholders, and chairholders' students and trainees (the HQP).

A total of 2,000 Chairs are allocated to institutions that have received an average of $100,000 or more annually from the three federal research funding agencies in the three years prior to the year of the allocation. Canada Research Chairs are divided into two tiers:

- Tier 1 Chairs are tenable for seven years and renewable indefinitely. These are for outstanding researchers acknowledged by their peers as being world leaders in their fields. Tier 1 nominees must be full professors or associate professors who are expected to be promoted to the full professor level within one or two years of the nomination. Should they come from outside of academia, nominees must possess the necessary qualifications to be appointed at these levels. For each Tier 1 Chair, universities receive $200,000 annually for seven years.

- Tier 2 Chairs are tenable for five years and renewable once. They are for exceptional emerging researchers, acknowledged by their peers as potential leaders in their field. Nominees for Tier 2 positions must be assistant or associate professors or possess the necessary qualifications to be appointed at these levels. Universities must justify why (e.g., clinical training, years in industry, breaks in career) a Tier 2 nominee is more than ten years away from the highest degree at the time of nomination. For each Tier 2 Chair, universities receive $100,000 annually for five years.

A more detailed description of the program is presented in Appendix A.

1.3 Evaluation Issues and Questions

The evaluation addressed 10 evaluation questions in three issue areas.

Relevance

1. Is there a continued need for the CRCP given the evolving research funding context since 2009-10?
2. Is the CRCP aligned with Government of Canada's and the tri-agencies' mandates/priorities?
3. Is the provision of CRCP awards an appropriate role for the federal government?

Performance – Effectiveness, Efficiency and Economy

4. Have the CRCP awards resulted in the attraction and/or retention of excellent Canadian and foreign researchers?
5. Have the CRCP awards resulted in the creation of dynamic research teams and projects in support of the Chairs?
6. Have the CRCP awards resulted in the creation, dissemination and application of new knowledge in strategic areas of research?
7. Have the CRCP awards resulted in a comparative advantage for universities in strategic areas of research?
8. Has the CRCP resulted in any unintended impacts (either negative or positive)?
9. Has the CRCP been delivered in a cost-efficient manner?

Design and Delivery

10. To what extent is the implementation of the design and delivery features of the CRCP appropriate for meeting its current (and potential future) objectives?

1.4 Organization of the Report

This report is organized into two additional sections and two appendices. The next section (2.0) outlines the methodology and the associated limitations. The following section (3.0) presents the findings for the evaluation. The findings are presented by main theme, which include: overall success and relevance; institutional packages for chairholders; link with strategic areas of research; and program design and delivery. In general, findings presented in this report show results for the CRCP program overall, although areas of significant differences across agencies are also reported. The recommendations stemming from the evaluation are embedded within the appropriate sections of the report. Appendix A presents the logic model for the program and Appendix B presents a crosswalk between the evaluation questions and the sections of the report.

2.0 Methodology

2.1 Overview

Seven methods were implemented to carry out the 15th year evaluation of the CRCP.

- document review;

- administrative data and cost-efficiency analysis;

- key informant interviews, including 15 interviews with tri-agency, Innovation, Science and Economic Development Canada, Canada Foundation for Innovation and Health Canada representatives, members of the Tri-agency Institutional Programs Secretariat, members of the Interdisciplinary Adjudication Committee (IAC), and unsuccessful applicants;

- survey of institutions, with 53 completed questionnaires out of 75 who were sent the survey, for a response rate of 70.7%;

- survey of chairholders, with 1,191 completed questionnaires out of 2,402 valid contacts who were sent the survey, for a response rate of 49.6%;

- bibliometric analysis; and

- case studies, including 10 cases representing a mix of region, institution size, the proportion of Tier 1 and Tier 2 Chairs, the proportion of CFI funding, and so on.

The evaluation methods were carried out by a hybrid team composed of internal evaluators at the NSERC-SSHRC Evaluation Division and an external consulting firm, Goss Gilroy Inc. (GGI). The Evaluation Division conducted the document review, parts of the administrative data review, the survey of institutions, the cost-efficiency analysis and four case studies. They also oversaw the bibliometric analysis, conducted by Science Metrix. GGI conducted key informant interviews, the administrative data review, the survey of chairholders and 6 case studies. Each of these methods is described in detail, below.

2.2 Limitations of the Approach

Some data challenges and limitations were encountered during the document review. In particular, the webscan conducted to identify relevant documents was not exhaustive, but rather specifically targeted key evaluation questions, collecting information on key indicators. For certain evaluation questions, there seemed to be a general lack of recent documentation (from 2010 and onward) available online. This may be due simply to a reduction in the attention paid to these areas: for example, research on "brain drain" in Canada appears to have diminished over time, which is probably indicative of a lower level of national concern about this issue, compared to previous decades.