

“What’s the Catch?” Testing Theories Regarding the Implications of Recent Federal Initiatives for the Social Sciences and Humanities

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Abstract

There has been substantial academic concern over what is deemed to be the negative implications of the recent “reinvestment” phase of federal research funding (1999 to 2008). For the social sciences and humanities, however, much of this concern is not substantiated with any actual data. This thesis examines five of these proposed theses (or “fears”) and finds that only one can be supported by actual evidence. The remaining four concerns are thus premature or erroneous.

The first thesis centers around total dollar funding amounts and argues that federal funding is either dwindling for the social sciences and humanities or has decreased in proportion to other disciplines. Using publicly available data this is found to be false and in conflict with the actual trends occurring during this period. The second thesis argues that federal funding initiatives specifically target business or industrial-related research, to the detriment of the public good. This fear is qualified and then dismissed through an analysis of private sector R&D expenditures, commercialization activity, and new initiatives developed during this period. Related to the above, the third thesis posits that federal funding has become “targeted,” or directed away from basic research and towards specific (applied) fields of federal interest. Using public data this is shown to be false. Thesis four constitutes the only fear which is substantiated in this analysis.

Scholars have argued that recent funds have cultivated a certain level administrative control over the direction of faculty research, primarily for the purposes of increasing funding success. This trend is examined in detail in chapter 3 using interview data with research officials at Canadian institutions. The final thesis argues that the value of social sciences and humanities grant success is growing for both universities and faculty and has led to a corresponding increase in competition, hierarchy, and differentialization between Canadian institutions. After examining this argument in chapter 4, this hypothesis is found to be in serious need of qualification.

The work concludes by noting that the net effects of funding fluctuations on research activity for these disciplines are much less pervasive than most scholars recognize. It also argues that greater intellectual rigor is needed if future publications actually expect to help academics understand changes on this issue. Quantitative and qualitative changes in research funding *do* have serious implications for the research activity of the disciplines at large. Unfortunately, to date, these implications have neither been well described nor accurately represented by the scholars devoted to their exposition.

Résumé

Il y a eu une inquiétude académique substantielle concernant ce qui est conçu comme des implications négatives sur la phase récente de ‘ré-investissement’ du financement fédéral pour la recherche (1999 à 2008). En ce qui concerne les sciences sociales et les humanités, cependant, cette inquiétude n’est pas appuyée par des véritables données. Cette thèse examine cinq de ces cas proposés (ou ‘craintes’) et découvre qu’un seul peut être appuyé avec des véritables preuves. Les quatre autres inquiétudes sont donc prématurées ou erronées.

Le premier cas entoure les montants totaux de dollars finacés et soutient que le financement fédéral est soit à la baisse par les sciences sociales et les humanités ou a baissé en proportion avec les autres disciplines. En utilisant des données disponibles au public, cela est faux et en conflit avec les tendances actuelles durant cette période. Le deuxième cas soutient que le financement fédéral cible spécifiquement la recherche des entreprises ou reliées aux industries, au détriment du bien public. Cette crainte est qualifiée et ensuite écartée par une analyse du secteur privé, des dépenses de recherche et développement, des activités de commercialisation et des nouvelles initiatives développées durant cette période. Reliée au cas précédent, le troisième cas avance que le financement fédéral est devenu ‘ciblé’ ou est dirigé ailleurs qu’à la recherche de base et vers des domaines spécifiques (appliqués) qui intéressent le fédéral. En utilisant les données publiques, cela est faux. Le quatrième cas établit la seule crainte que est appuyée dans cette analyse. Les érudits ont argumenté que les fonds récents ont cultivé un certain contrôle au niveau administratif sur les directions des recherches des facultés, surtout dans le but d’augmenter les réussites du financement. Cette tendance est examinée en détail dans le chapitre 3 en utilisant des données d’entrevues avec les directeurs de recherche aux institutions canadiennes. Le cas final veut que la valeur de la réussite des octrois pour les sciences sociales et les humanités s’améliore pour les universités et les facultés et a mené à augmentation correspondante dans la compétition, l’hérarchie et la différenciation entre les institutions canadiennes. Après avoir examiné cet argument au chapitre 4, cet hypothèse a un besoin sérieux de qualification.

Le travail conclut en notant que les effets nets des variances dans le financement sur les activités de recherche pour ces disciplines sont beaucoup moins pénétrants que les érudits le reconnaissent. Il soutient aussi qu’une plus grande rigueur intellectuelle est requise si les publications futures vont aider les érudits à comprendre les changements dans ce domaine. Les changements quantitatifs et qualitatifs dans le financement des recherches ont des implications sérieuses sur l’activité de recherche en général. Malheureusement, jusqu’à date, ces implications n’ont été ni bien décrites, ni bien représentées précisément par les érudits dévoués à leur exposition.

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List of Acronyms and Abbreviations

AUCC	Association of Universities and Colleges of Canada
CAP	Canada Assistance Program
CAUBO	Canadian Association of University Business Officers
CAUT	Canadian Association of University Teachers
CFI	Canadian Foundation for Innovation
CHST	Canada Social and Health Transfer
CHT	Canada Health Transfer
CIHR	Canadian Institutes for Health Research
CRC	Canada Research Chairs Program
CST	Canada Social Transfer
EPF	Established Programs Financing Act
FIUC	Financial Information of Universities and Colleges Survey
ICP	Indirect Costs Program
MRC	Medical Research Council of Canada
NEC	Networks of Centres of Excellence Program
NRC	National Research Council of Canada
NSERC	Natural Science and Engineering Research Council of Canada
PSE	Post-Secondary Education (Economic Sector)
SRG	Standard Research Grant
SSHRC	Social Sciences and Humanities Research Council of Canada

Introduction

This thesis examines the fluctuations in Canadian research funding for the social sciences and humanities during what has been deemed the “reinvestment” phase of recent government spending (1999 to 2008). It does not make any original arguments which regards to the implications of these trends, but is directed solely at evaluating the sometimes extreme arguments of other scholars writing on this subject. To this end, it identifies and tests five primary “concerns” which permeate the scholarly literature on this issue, only one of which is found to have any substance. Three central conclusions can be drawn from such an analysis. First, scholars writing about Canadian higher education must make a better attempt to actually test the theories they propose with regards to research funding since much of the assumptions which underline their analyses are never actually substantiated with data. In this study, for example, four of the five theories tested with publicly accessible data could not be supported. Secondly, scholars writing on research funding trends must make more of an attempt to highlight the uniqueness of the Canadian situation. Although most English speaking scholarship in higher education tends to focus on the trends of the United States, the events happening in that country are not directly comparable with the events occurring in Canadian universities. Finally and most importantly, when taken together the findings of this thesis argue that changes which occurred during the reinvestment phase have not had any large or drastic effect on research activity in the social sciences and humanities as a whole. This finding is in direct opposition to what most other scholars have argued on this matter, and is corroborated by substantial data from a variety of sources.

This thesis constitutes what some have termed as “identity work” in academic literature—it treats the discipline or field of the researcher as its main subject of analysis. In this case it is the changes that are occurring in one aspect of this field—research funding—which constitute the work’s central focus. My interest in this subject stems from my greater interest in studying the various determinates of academic work at large, particularly for the disciplines which constitute the social sciences and humanities. Since research makes up a large part of what academics do, it stands to reason that any changes into how this activity is conducted will also affect other aspects of academic work. More time spent on completing research grant reporting requirements, for example, will mean less time available to devote to scholarly teaching or

service responsibilities. Similarly, an increase in funding which is reserved for specific research subjects may lead to a subsequent increase in the academic interest of those subjects. In this manner, any emerging trends on research performance which can be identified now may have a large influence on how academics perform many of their duties in the future.

While this thesis focuses on the developments occurring in social sciences and humanities as a unit, it neither disaggregates this grouping nor includes those within the health disciplines who would otherwise fall under its purview. There are a number of logistical reasons for keeping the “social sciences and humanities” grouping as one distinct unit. To begin with, in Canada there are three major disciplinary distinctions within academia—the hard sciences, the social sciences and humanities, and the health sciences—and most public documents on higher education use these distinctions when reporting their information and figures. More to the point, public documents devoted to the social sciences and humanities are substantially different than those of the health sciences. As evidence of this, two research councils which service these groupings use different statistics in their annual publications to report things like parliamentary appropriations or grant success, making aggregations or comparisons difficult between the two. The social sciences and humanities also have a number of internal features which make them unique. These disciplines make up the bulk of academics in most Canadian institutions (as seen in table 1), but they are serviced by a granting council which is provided the lowest levels of research funding of all the federal funding bodies.¹ Disaggregating this grouping is particularly difficult at the institutional level, since each university uses the distinction but allocates different subjects and fields under its purview when creating public or private reports on their faculty. The resulting statistics are difficult to untangle, especially when no rubric is given to show how the allocation decisions were made. When aggregated on the national scale the minor discrepancies produced from this divergence disappear, but at the individual level attempting to separate what faculty falls under what subject, or whether a given subject is either a “social science” or a “humanity,” can cause major problems. After careful examination of pros and cons of this kind of disaggregation, it was determined that the research within this thesis would keep the grouping “as is” and concentrate on national statistics to ensure such errors are kept to a minimum.

¹ Save perhaps the Canada Council, which serves the visual arts.

Table 1: Percentage of Social Science and Humanities Scholars In Total University Faculty by Category of Institution, 1999-2000 to 2006-2007*

Category	2000	2001	2002	2003	2004	2005	2006	2007	Period Mean
Primarily Undergraduate	72.77%	73.44%	73.15%	72.81%	72.73%	72.60%	72.13%	72.26%	72.74%
Comprehensive	60.62%	59.86%	62.42%	62.31%	61.73%	61.86%	61.10%	61.44%	61.42%
Medical / Doctoral	44.02%	43.67%	43.54%	43.25%	43.01%	43.59%	43.52%	43.46%	43.51%
Average	61.01%	61.05%	61.42%	61.14%	60.91%	61.06%	60.65%	60.77%	61.00%

* Years shown are ending fiscal years

Source: AUCC Estimates

Analysis in this work centers on federal funding as opposed to inter-institution, provincial or private expenditures. The reasons for this are straight forward—as we shall see in chapter one, the federal government holds the primary responsibility for funding university research. Although individual universities are the primary “direct” funders of this activity by sheer size of their expenditures,² most of the funding they receive for this service is directly provided by federal initiatives. By contrast, provincial governments principally invest in institutional general operating costs, which may spill-over into research expenditures but may also go to a host of other institutional expenses. The organic relationships that occur in the R&D sector between the university and private or public parties are often a constructed product of federal programming. While these associations undoubtedly follow their own trends and have their own characteristics, their existence serves to further demonstrate the government’s prominence over development in this sector. As such, any great change in university research funding is largely a reaction to, or product of, the changes occurring at the federal level.

Historically, federal funding has been treated as something auxiliary to the pursuit of research activity within the social sciences and humanities. As evidence of this, many scholars in these disciplines throughout the majority of the 20th century did not hold what has traditionally been referred to as “standard research-grant” (or primary-investigator award) from this source. The costs of research at this time were either paid from the general operating expenses of the institution where the researcher was employed, or the scholar would self-fund his or her own work. The patterns which were present at this time were in many ways a product of the low value placed on external funding in general; winning a federal award meant significantly less than it does today in terms of academic career advancement, and less still in terms of public status. As a

² According to the AUCC’s momentum report, 45.6% of all university research funding came from internal funding allocations. The Association of Universities and Colleges of Canada, *Momentum: a 2008 report on university research and knowledge mobilization* (Ottawa: AUCC, 2008): 13.

result, scholars only applied for funding when they actually required the money to complete their research, and the total funding of these awards would be distributed more or less on the basis of financial need. Similarly, institutions had little vested interest in seeing their faculty secure these funds, since whether they were funded by the institution or the government these expenses often did not surpass those of other university commitments, such as building maintenance or ancillary enterprises. As significant changes occurred in federal programming from 1995 onward, however, both the individual and institutional value placed on winning federal funding was drastically altered. More money was provided to research, specifically after 1998 when new initiatives were created to disperse these funds. The changes have in some ways reshaped institutional priorities in terms of financial expenditures and have helped to encourage more individual scholars to pursue federal initiatives. As such, more social sciences and humanities scholars now hold a federal award than ever before even as the total number of professors in these disciplines has increased; table 2 shows how greatly this phenomenon rose during the reinvestment phase (1998-2008).

Table 2: “Standard Research Grant” holders as a proportion of total social science and humanities faculty, 1999-2000 to 2006-2007

Year*	Social Sciences and Humanities Tenure-Track Faculty	SSHRC PIs	SSHRC PIs as a Proportion of Total Social Science and Humanities Scholars
2000	17,964	4,301	23.94%
2001	18,363	4,543	24.74%
2002	18,810	4,240	22.54%
2003	19,230	4,625	24.05%
2004	19,833	6,452	32.53%
2005	20,730	5,721	27.60%
2006	21,333	7,457	34.96%
2007	21,921	7,952	36.28%

* Years shown are ending fiscal years.

Source: SSHRC Internal Award Database.

Here we can see a large change in the value of the external grant, with the proportion of scholars holding a federal award increasing by 10%. While more money is now directed towards research funding at large and both the individual and institutional value of the research grant has increased, the implications of such trends have not readily been studied. Many unsubstantiated arguments have been made by scholars of Canadian higher education positing a number of effects, some of them quite drastic. For some commentators the size, quality of programming,

and characteristics of these initiatives have lead to an extreme transformation in the way university research is both administered and completed. This thesis seeks to investigate the various suppositions of these implications by testing the five major reoccurring theses produced by such literature.

Background

Various scholars have argued that public universities have recently undergone a period of great financial flux. Whether defined in terms of a “crisis,”³ “revolution,”⁴ or “transformation,”⁵ all explanations point to larger issues of privatization, globalization, and techno-science which seem to have encroached on the traditional system of higher education funding before the 1970s. From the “academic capitalism” of Slaughter and Leslie⁶ to the “entrepreneurial university” of Clark,⁷ concepts and theories devoted to these trends often tell the same historical narrative—the decline of government expenditures since the late 1970s has led to an “acute resource dependency” on dwindling state funding. In an effort to make the research produced by these remaining funds more relevant to their social and economic sectors, Western governments have been actively transferring traditional merit-based grants into conditional targeted-based competitions. Evidence of this can be seen in the growing emphasis on business and industry-related research⁸ or reliance on a “matched” funding principal between public and private donors.⁹ According to some scholars the growing institutional emphasis placed on securing these grants may be indirectly driving interest away from basic or “curiosity-led” research projects. Similarly, as academics are increasingly forced to frame their research to fit in with those fields

³ Peter Scott. *The Crisis of the University*. (Dover, NH: Croom Helm Ltd, 1984).

⁴ George Keller, *Academic Strategy: The Management Revolution in American Higher Education* (Baltimore, John Hopkins UP, 1984).

⁵ Sohail Inayatullah and Jennifer Gidley, *The University in Transformation* (Santa Barbara, CA: Praeger, 2000).

⁶ Sheila Slaughter and Larry L. Leslie, *Academic Capitalism: Politics, Policies, and the Entrepreneurial University* (Baltimore: John Hopkins UP, 1999).

⁷ Clark R. Burton, *Creating Entrepreneurial Universities: Organizational pathways of transformation* (Pergamon: IAU Press, 1998).

⁸ Rich Welsh et al., “Close enough but not too far: Assessing the effects of university-industry research relationships and the rise of academic capitalism,” *Research Policy* 37 (2008): 1854-1864. Sheila Slaughter and Gary Rhoades, *Academic Capitalism and the New Economy: Markets, State, and Higher Education*, Baltimore: John Hopkins UP, 2004. Bronwyn H. Hall et al., “Universities as Research Partners,” *The Review of Economics and Statistics* 85.2 (2003): 485-491.

⁹ Markus Perkmann and Kathryn Walsh, “Universities-industry relationships and open innovation: Towards a research agenda,” *International Journal of Management Reviews* 9.4 (2007): 259-280. Toby E. Huff, “The Big Shift,” *Society* 43.3 (2006): 30-34.

and categories which have been pre-determined by federal granting councils, there is a fear that such targeting may erode an important level of faculty autonomy.¹⁰ Nowhere do these fears seem more acute than in the social sciences and humanities, two disciplines whose faculty have traditionally prided themselves on academic freedom and critical thinking.¹¹

The collective explanatory force of these theories derives from their similar causal narratives. According to Slaughter and Leslie's publication in 1997, and later Slaughter and Rhoades in 2004, the last four decades have seen a dramatic reduction in the amount of public funding given to major public universities. As a direct consequence of this shift, institutions have been forced to seek substantial amounts of funding from external and private sources. This has led to a merging of the academic (or knowledge-based) system of higher education with the industrial (or profit-based) system of the market. Leading the transformation were state governments, which established significant collaborative schemes and third-party organizations to bring industry and academe into a closer working relationship. Accordingly,

...[t]hese policy shifts served as a rationing device, shifting higher education moneys from block grants and toward specific goals that were consistent with the new orthodoxy of making industry more competitive in the global market. Given that the federal governments [...] paid the largest share of all higher education costs, government targeting of functions for research and program investment meant that there were fewer unrestricted public resources available [...]¹²

In short, decreased state financial support has forced universities to devote more and more of their human resources towards securing external funding. With regards to academic labour, decreased funding has also meant that universities placed a greater emphasis on evaluation to ensure the cost-effectiveness of their scholars,¹³ a greater emphasis on productivity to increase

¹⁰ Slaughter and Leslie 59.

¹¹ Ibid 117. Peter Uwe Hohendahl, "The Future of the Research University and the Fate of the Humanities," *Cultural Critique* 61 (2005): 1-21.

¹² Slaughter and Leslie 65.

¹³ Michael Mills and Adrienne E. Hyle, "Faculty Evaluation: A Prickly Pair," *Higher Education* 38.3 (1999): 351-371. Aldo Geuna and Ben R. Martin, "University Research Evaluation and Funding: An International Comparison," *Minerva* 41 (2003): 277-304.

prestige,¹⁴ and a greater emphasis on fiscal accountability within the administration of employees and resources.¹⁵ In this “new” era of scholarship, academics, particularly those in the hard sciences, who manage to secure funding and prestige from research which has been affiliated with the private sector will accordingly be *valued above* traditional “knowledge-for-knowledge-sake” scholars. This increased value carries with it structural rewards, which in turn perpetuate both a status or income imbalance between individual scholars at the micro-social level,¹⁶ and corresponding disparities between academic disciplines at the aggregate level.¹⁷

The dwindling government funds that do exist, however, have also undergone substantial changes in both composition and dissemination. While most scholarship within this vein deals primarily with the American education system, the underlining consensus for all Western countries seems to be that the proportion of government expenditures on research activity have gone up¹⁸ relative to the funding for universities general operating costs and capital expenses. This means that institutions must increase their promotion, support and expenditures in faculty research in order to make up for total dollar losses and stay competitive within their national systems. This transfer of emphasis may have serious consequences for the production of intellectual scholarship, as it has been argued that shifting funding away from other ventures to support research infrastructure will have a parallel effect on academic labour.¹⁹

It is not just the composition of state funds that has been transformed in the last three decades, however, but also the mechanisms by which these funds are distributed. In this era of globalized economics, competition within and between national post-secondary education systems is increasing worldwide.²⁰ This is due to not only an increasing concern about the growing influence of popular prestige rankings (such as the Academic Ranking of World

¹⁴ James S. Fairweather, “The Mythologies of Faculty Productivity: Implications for Institutional Policy and Decision Making,” *The Journal of Higher Education* 73.1 (2002): 26-48.

¹⁵ Robert Birnbaum, *Management Fads in Higher Education: Where do they come from, what they do, why they fail* (San Francisco: Jossey-Bass, 2000).

¹⁶ Erin Leahey, “Not by Productivity Alone: How Visibility and Specialization Contribute to Academic Earnings.” *American Sociological Review* 72 (2007): 533-61.

¹⁷ Slaughter and Leslie 14 & 117.

¹⁸ Robert Shelton, “Relations between national research investment and publication output: Application to an American paradox,” *Scientometrics* 74.2 (2008): 193. Stephan Vincent-Lancrin, “What is Changing in Academic Research? Trends and Future Scenarios.” *European Journal of Education* 41.2 (2006): 169-70.

¹⁹ Slaughter and Leslie 210-20.

²⁰ Simon Marginson, “Dynamics of national and global competition in higher education.” *Higher Education* 52 (2006): 1-39.

Universities produced by Shanghai Jiao University or the THE–QS World University Rankings from *Times Higher Education*) on public opinion, but is also due to the realization that such competition has an enormous impact on the status of individual scholars. The distribution of federal funding for research has thus increasingly taken the form of competitive granting programs wherein scholars compete with one another for access to restricted monies and related statuses or titles.

But have such trends occurred in Canada and, if so, what implication do they have for the social sciences and humanities at large? This thesis examines five “fears” which occur throughout scholarly literature on this matter in an attempt to determine if federal expenditures are as pervasive as other academics have made them out to be. After a brief overview of the history behind Canada’s federal research funding in chapter one, chapter two presents a summary of these five theses. Three of the concerns center on the strength and direction of new federal expenditures, and posit that the changes in federal programming have drastically changed research activity in the social sciences and humanities by restricting, commercializing or targeting professorial output. Using public documents available from Statistics Canada and a host of other sources these concerns are shown to be false, and in some ways the reverse of the actual events which occurred during this period. The two remaining theses are judged to be issues of more substantial merit, and as such constitute the subject of analysis in the subsequent two chapters. Chapter three examines the concern that federal initiatives have increased the capabilities of university administration to influence academic research, a phenomenon which is aptly termed “research managerialism.” From an analysis of interview data with ten research administrators representing ten different institutions it was confirmed that research managerialism is a significantly growing trend on Canadian campuses, and that its impetus was indeed a product of recent federal actions. Three specific forms of managerialism are examined—changes in internal research programming, subject differentiation, and disciplinary hierarchy—though only the former two are substantiated by the data. This trend has unique implications for the social sciences and humanities, though its effects are not just confined to these disciplines. The final chapter examines whether the reinvestment phase has brought about an increase in stratification between Canadian institutions in terms of grant success rates at the social science and humanities research council. After testing for the presence of stratification in

three different conceptions of success, it was found that there has been no great divergence in this measure during the reinvestment period. The work is concluded by noting that scholars of Canadian higher education are much too quick to jump to extremely negative conclusions when examining the implications of recent federal funding. Although the total dollar amount provided for research activity has risen considerably in the last ten years, this has not had a particularly great influence on the way research in the social science and humanities is conducted or completed. The changes in federal programming have thus had less of an immediate or direct effect on this discipline than many scholars have come to believe.

Chapter 1 – Federal Funding for the Social Sciences and Humanities: Historical Context

This chapter provides a chronological overview of federal research funding by highlighting two important periods in its history—the retrenchment phase (1995-1998) and the reinvestment phase (1999-2008). This overview provides context for chapter two’s discussion of the fear surrounding the implications of recent federal initiatives by demonstrating the rapidity of change that occurred throughout this time. In essence, scholars have argued that the extremity of change in federal programming between these two phases will have dire implications for social sciences and humanities scholars and the organizations which service them.

A Note Concerning FIUC Data and Inflation

Before this analysis can begin a few notes about its source data and presentation are in order. The primary source for fiscal trends in Canadian post-secondary education is the Financial Information of Universities and Colleges (FIUC) survey housed by Statistics Canada. This survey constitutes the most comprehensive statistics on this issue for Canada, and as such has been used for both national and international analysis by various institutions and academics. The dataset itself provides an in-depth financial breakdown on revenue and expenditures for all Canadian universities, university colleges, colleges, and other institutions in the Canadian post-secondary system, and the survey is administered annually by the Canadian Association of University Business Officers (CAUBO)—an association which includes most all Canadian post-secondary institutions in its membership roster.²¹ The requirements for joining CAUBO include agreeing to allow the data it collects to be distributed publicly.²² Accordingly, the FIUC dataset presents its data in two forms, with individual fiscal breakdowns on each CAUBO member institution and large-scale aggregated statistics on all non-CAUBO organizations.²³ The survey began in 1972 and is completed by each institution individually, in accordance with their own financial reporting practises.

²¹ The CAUBO dataset provides in-depth financial information on 67 universities, which constitute 96% of the AUCC university members.

²² The public dissemination of this information is currently only found in one of two places: either through the Data Liberation Initiative of Statistics Canada, or through the CAUBO website itself.

²³ The sole exception to this rule is the Royal Military College of Canada, which, although a CAUBO member institution, does not receive any in-depth breakdown of finances due to its relationship with the Department of National Defence.

When examining FIUC data it is important to remember that the financial nature of universities and colleges is arguably more complex than many private financial institutions. While educational institutions contain revenue and expenditure streams like any other organization, much of the funding they receive is legally mandated for specific goals, depending on its source. Some of this targeting may come as a condition for receiving the funds, and thus institutions are in some ways bound to specific fields of expenditures depending on their systems of appropriation. The easy way to demonstrate this phenomenon is with an example; Tables 3 and 4 show aggregated FIUC statistics for McGill University's revenue and expenditures. While McGill is one of the top medical-doctoral schools in Canada, and thus has finances which are not comparable to other institutions within Canada (at least, in absolute terms), the *structural relationship* of all Canadian university funding is similar to the two examples shown. For the sake of clarity, these relationships have been bolded.

Table 3: FIUC Reported Revenue for McGill University by Selected Aggregations, 2006-2007
(in 000's)²⁴

Source of Funds	General Operating	Special Purpose and Trust	Research	Ancillary Enterprises	Capital	Endowment	Total	Percent
Federal Funds	\$0	\$19,956	\$201,955	\$0	\$0	\$0	\$221,911	19.09%
Provincial Funds	\$269,181	\$8,099	\$37,412	\$0	\$29,727	\$0	\$344,419	29.62%
Other Government	\$0	\$0	\$9,253	\$0	\$0	\$0	\$9,253	0.80%
Non-gov't contracts and grants	\$0	\$0	\$94,585	\$0	\$0	\$0	\$94,585	8.13%
Fees and Tuition	\$150,573	\$0	\$0	\$0	\$0	\$0	\$150,573	12.95%
Donations (including bequests)	\$5,541	\$35,577	\$2,165	\$0	\$4,692	\$36,673	\$84,648	7.28%
Other	\$36,871	\$0	\$19,834	\$65,717	\$230	\$0	\$122,652	10.55%
Investment	\$17,144	\$24,533	\$10,535	\$6	\$9,134	\$73,348	\$134,700	11.58%
Total	\$479,310	\$88,165	\$375,739	\$65,723	\$43,783	\$110,021	\$1,162,741	100.00%

Source: FIUC Annual Dataset

The bolded statistics in these two tables demonstrate the financial relationships which are present within all Canadian universities. Thus, while income from sales or tuition can be used for a

²⁴ To provide a more succinct presentation of data, 'Source of Funds' categories have been aggregated in the following manner: *Federal Funds* includes all granting council and Health Canada amounts, amounts taken from the Canadian Foundation for Innovation and the Canada Research Chairs Program; *Non-government contracts and grants* includes monies from individuals, business enterprises and not-for-profit organizations; *Donations (including bequests)* also includes monies derived from individuals, business enterprises and not-for-profit organizations; *investment* consists of endowment and other investment amounts; the *other* row includes amounts reported in the miscellaneous and sale of services and products rows. All other column and row categories are provided by CAUBO and are native to the FIUC dataset.

variety of services (as shown by the fact that fees and tuition amounts go directly to general operating costs), most of the funding from the federal government is earmarked for research expenses and research infrastructure. Similarly, the majority of a given institution's donation and investment money goes directly to an institution's endowment, just as the majority of its capital expenses are spent on material goods, and so forth.

Table 4: FIUC Reported Expenditures for McGill University by Selected Aggregations, 2006-2007 (in 000's)²⁵

Target of Funds	General Operating	Special Purpose and Trust	Research	Ancillary Enterprises	Capital	Endowment	Total	Percent
Salaries and Wages	\$388,239	\$22,525	\$179,214	\$12,908	\$0	\$0	\$602,886	53.05%
Interest	\$10,534	\$301	\$13	\$3,099	\$29,715	\$0	\$43,662	3.84%
Internal sales and Cost Recovery Measures	-\$17,498	\$0	\$18,271	-\$773	\$0	\$0	\$0	0.00%
Library Acquisitions	\$11,371	\$2,948	\$770	\$0	\$0	\$0	\$15,089	1.33%
Other	\$23,923	\$3,407	\$39,131	\$24,173	\$0	\$0	\$90,634	7.98%
Material Expenses	\$55,728	\$14,194	\$123,424	\$20,465	\$93,220	\$0	\$307,031	27.02%
Scholarship	\$6,505	\$28,818	\$23,373	\$0	\$0	\$0	\$58,696	5.16%
Utilities	\$14,700	\$269	\$768	\$2,698	\$0	\$0	\$18,435	1.62%
Total	\$493,502	\$72,462	\$384,964	\$62,570	\$122,935	\$0	\$1,136,433	100.00%

Source: FIUC Annual Dataset

These relationships highlight the relationships that exist between a particular revenue or expenditure and its corresponding source in the structure of CAUBO data. Although some institutions may boast large or impressive yields of net revenue in the FIUC, much of their funding may actually be reserved for services outside of general operating costs. When conducting large scale longitudinal analysis with such data, it is important to be aware of the trends not only in general revenue and expenditure, but also in the source and “category type” of such monies. An example of the relevance of these relationships can be seen in the analysis of federal-to-provincial spending; using FIUC data some scholars have argued that increases to federal expenditures in university research has a negative effect on other levels of state funding for university, as the provincial and municipal governments will often claw-back a portion of

²⁵ Target of Funds categories have been aggregated in the following manner: *Salaries and wages* includes monies defined for academic ranks, other instruction and research, other salaries and wages, benefits, and travel; *material expenses* includes printing and duplicating, materials and supplies, renovations and alterations, furniture and equipment purchase, equipment rental and maintenance, and building, land and land improvements; *other* consists of communications, other operational expenditures, lump sum payments, professional fees, and cost of goods sold; *scholarships* includes bursaries and prizes. All other column and row categories are provided by CAUBO and are native to the FIUC dataset.

their funding in a classic display of resource substitution and in an effort to lower costs in their budgets.²⁶ The fear here is that, because provincial funding is given primarily to general operating costs while federal funding is devoted to research, such a relationship will direct total government expenditures away from general operating services even while it increases absolute revenue amounts. Accordingly, although university income may increase in absolute terms, general operating revenue will not keep pace with inflation and the underfunding of this sector will lead to a crisis in institutional administration. While this is not the place for such an analysis, such a finding strengthens the notion that FIUC data can be used to capture the relationship between a fund and its source when examining university finances. Such a dataset is thus extremely useful for analyzing the size and changes in federal funding over time, or comparing it to other sources.

A final point of note regarding this dataset is the problems caused by the different reporting practises employed by the surveyed institutions. Since each institution is encouraged to present its finances in accordance with its own internal reporting practises, the resulting statistics may be limited in their ability to compare between institutions. The CAUBO has taken steps to reduce this disparity by setting some nominal guidelines for the respondents, such as requiring all institutions to consolidate the information they report to the FIUC with their own audited financial statements, or specifying which accounting approach to use when reporting specific sources. While the underlining objective of these practises is to encourage the “consistency [of the data] from one year to the next,”²⁷ many scholars have reservations regarding their influence on the survey’s accuracy. One such scholar is higher education consultant Ken Snowdon, who has attempted to argue that, due to these discrepancies in institutional reporting, the FIUC dataset may actually overstate the “financial situation” by hundreds of millions of dollars.²⁸ Unfortunately, Snowdon’s evidence only demonstrates that reported revenue may be inflated, and speaks nothing to the accuracy of FIUC statistics on expenditures. Additionally, while his

²⁶ Ken Snowdon, “Without a Roadmap: Government Funding and Regulation of Canadian Universities and Colleges” *Canadian Policy Research Networks Inc. Working Papers*. 2005: 32, retrieved from http://cbcsq.qc.net/sites/1678/documents/dossiers/40781_fr.pdf.

²⁷ Canadian Association of University Business Officers, *Guidelines for the Financial Information of Universities and Colleges* (2007): 3.

²⁸ Ken Snowdon, ““Muddy” Data: University Financing in Canada,” *Higher Education in Canada*, eds. Charles Beach, Robin Boadway, Marvin McInnis (Montreal/Kingston: McGill-Queen’s UP, 2005), 5, retrieved from <http://jdi.econ.queensu.ca/Publications/HigherEducation.html>.

concern over the divergence in reporting practises related to, for example, the finances of university hospitals or affiliated institutions, is pertinent, he seems to overlook the fact that both revenue and expenditures reported within the survey is to be reconciled with each institution's audited financial statements. The CAUBO guidelines clearly state as such; the annual return given to CAUBO is,

[...] prepared in accordance with prescribed reporting practices. An institution's annual return is not subject to audit, but is reconciled to its audited financial statements. The annual return is also available to the public, but rather than representing an accounting of financial stewardship, the annual return provides financial data for statistical comparisons among institutions and for trend analysis.²⁹

While there may be problems with the comparability of absolute amounts within the survey, these issues are not as much related to over/under-stating total finances in absolute terms as they are due to the respondent institutions placing funding amounts into dissimilar categories. Accordingly, the revenue and expenditure totals found within this survey are highly useful for long-term aggregate analysis, even as the comparability and consistency between some of the categories may be suspect.

The FIUC data found in the following chapters consists only of sponsored research funding and total revenue accrued from federal granting councils. Since 1999 the CAUBO has been measuring sponsored research costs according to two categories: entities consolidated and entities not consolidated.³⁰ The difference between these classifications is their reconciliation (or "consolidation") with the institution's audited financial statements, with the latter of the two being the only category throughout the survey which may be reported without this extra step. In order to provide a more holistic portrait of research statistics, this thesis uses the sum of both categories as a representation of fiscal research trends for its analysis. Concern over the inclusion of non-consolidated funding amounts in these estimates can be somewhat alleviated by noting that each entry within this category requires that an "affiliation" report be sent to CAUBO identifying the source of each non-consolidated entity and the corresponding amount included in

²⁹ Canadian Association of University Business Officers, 3.

³⁰ Before this period these categories were merged and labelled as simply 'sponsored research.'

the institution's annual return. The result is a more or less comparable measure of research income and expenses across Canada, with in-depth financial breakdowns in this category for each CAUBO member institution according to funding source and target of expenses. By using these statistics it will be shown that federal research funding has received greater increase relative to provincial funds (for any category of expenditure) in both absolute terms and as a percentage of total government funding during the years 1999-2008.

As the statistics amassed for this research deal specifically with longitudinal trends, they must account for inflation if they are to be considered an accurate representation of the historical changes therein. Inflation in higher education is usually dealt with by most scholars using a Higher Education Price Index (HEPI) which accounts for a wide variety of costs associated with most university-related services. Statistics Canada, however, does not compute a HEPI measure from which control for changes in real value measures.³¹ Although there have been some third-party attempts to create such an index for Canada,³² in the absence of an otherwise reliable HEPI measure this thesis controls for inflation using the consumer price index (CPI). This method obviously has its flaws, as the basket of services which constitute the CPI does not accurately represent the interests of a university (or research, for that matter), but will at least provide comparable numbers between the years for each table.

Early History (1916 – 1960)

Federal research funding has had a tricky history. Part of this reason for its complexity has been the highly decentralized nature of Canada's post-secondary education (PSE) sector when compared to other OCED nations. There has never been a unified or centralized federal office of education in Canadian history, a fact which many scholars on this subject have taken great pains to note.³³ In the absence of any national mechanism of policy development,

³¹ Curiously, they do compute an Education Price Index (EPI) for K-12 schools across the nation. This index is not particularly transferable to higher education, however.

³² Snowden, for example, has succeeded in creating a usable HEPI measure for Ontario alone, though its time-span is somewhat limited. Snowden & Associates, *Revisiting Ontario College and University Revenue Data – Appendix*, (Toronto: Higher Education Quality Council of Ontario, 2009) retrieved from http://www.snowdonandassociates.ca/Appendix_Revisiting%20Ontario%20Revenue%20Data.pdf.

³³ Amy Scott Metcalfe and Tara Fenwick, "Knowledge for Whose Society? Knowledge production, higher education and federal policy in Canada," *Higher Education* 57 (2009): 210. Theresa Shanahan and Glen Jones, "Shifting Roles and Approaches, government coordination of post-secondary education in Canada, 1995-2006," *Journal of Higher Education Research and Development* 26.1 (2007): 32.

provincial governments have been left to coordinate their own mechanisms of funding and systems of accountability, a fact which has made federal-provincial relations on the PSE front that much more convoluted and may account for the late entry of Canadian federal PSE expenditures when compared to those of other industrialized countries.

Significant federal involvement in this sector began during the First World War with the creation of the National Research Council (NRC) in 1916. While the mandate of this council was to strengthen Canada's ongoing commitment to "universal" research through a competitive, peer-review grant process, the underlining impetus in its creation was for the council to encourage industrial research and training, particularly those initiatives which would have a direct affect on the nation's military capabilities.³⁴ Despite the relative significance of this aim, however, federal expenditures in the NRC as a proportion of its GDP remained slight. It wasn't until the end of the Second World War that expenditures in this sector reached \$1 million, though by this time the federal government had already begun to shift its funding toward institutional general operating costs, thereby dividing the focus of its total expenditures.

While section 93 of the 1867 Constitution Act provides provincial legislatures with authority over their respective educational institutions, particularly with regards to accountability and laws, the distribution of authority over the levels of state investment into general operating costs was neither well defined nor readily enforced. Though the authority and responsibility of financing Canada's PSE sector was thus extremely convoluted during this period, it could be argued that none of the vested parties seemed to mind. With significant federal investments into *both* professorial research and institutional operating costs, the provinces were ensured a significant level of financial flexibility with regards to their own PSE funding schemes and expenditures. In turn, the individual institutions were guaranteed a steady stream of revenue in both categories of funding, and could often use the discrepancies between the amounts to lobby their provincial legislatures for more general operating grants when needed. The federal government, which bore the financial brunt of this system, was ensured an at least marginally centralized system of PSE accountability and development.

³⁴ Cameron argues that this focus was soon overshadowed by nature of PSE research in general, as the NRC was "ineluctably drawn" into supporting other, non-industrial based inquiries. David M. Cameron, "Post-Secondary Education and Research: Whither Canadian Federalism," *Taking Public Universities Seriously*, eds. Frank Iacobucci and Carolyn Tuohy (Toronto: Toronto UP, 2005): 279.

With the advent of the Quebec sovereignty movement during the 1950's and subsequent "Quiet Revolution" of the 1960's the landscape of PSE funding changed dramatically. In 1952 the Quebec government under Premier Maurice Duplessis barred universities and colleges throughout the province from accepting federal operating grants, arguing that federal interference in this sector was an infringement of the distribution of authority set down in the Constitution Act. A stalemate occurred between the two levels of government, and it was only after the defeat of the St. Laurent government and death of Duplessis in 1959 that an agreement was reached on this issue. The Federal government accommodated Quebec's assertion of independence by providing an "opting out" option for all provinces; instead of their institutions receiving operating grants directly from Ottawa, the provinces could now opt for a sizable financial transfer from the federal government, which they could then distribute to their PSE institutions according to their own respective funding mechanisms and policies. While the federal government still provided important funding amounts for institutional operating costs, the responsibility for reporting practices for such funding, the mechanisms of its distribution, and laws concerning its allocation, would be laid squarely at the feet of the provinces. In 1965 this option was made mandatory for all provinces, and so the era of national centralization in PSE funding, however slight, was effectively over.

The Contemporary System (1960 - 1995)

The system that emerged throughout the 1960s and early 1970s has characterized the PSE funding landscape to this day and has in many ways cemented the federal government's role as the primary investor, and thus shaper, of university research, innovation, and R&D at large. During this period, the government's involvement in the general operating cost of PSE was reduced, and budget cuts in its financial transfers to the provinces had a negative trickle-down effect on other categories of institutional funds. In his "Post-Secondary Education and Research: Whither Canadian Federalism," Cameron argues that federal transfers to the provinces during this time included an element of equalization, often in tax points, since the fiscal arrangement was originally designed to assure "the provinces of federal transfers equal to half of what [they] spent on post-secondary education."³⁵ The transfers thus represented an ongoing source of friction between the two levels of administration as federal expenditures were divided into

³⁵ Cameron 278.

research expenditures and provincial transfers (for general operating costs), with the latter distributed across the provinces according to the relative weight of each provinces' own PSE budgets. As the federal government released control over the administration of general operating grants, however, it increased its interest in research-based initiatives and funding. Evidence of this can be seen in the establishment of the Medical Research Council (MRC) in 1960 as a separate granting agency from the NRC, or the expansion of the NRC mandate through specific targeted funding envelopes. Some scholars have argued that by the time of the major restructuring initiatives of the late 1970s the sheer size of these investments, coupled with the recognition that universities play vital roles as engines of national economic growth, began to "pattern" research activity in unforeseen ways. Polster argues that traditional research before this period was predominately basic and discipline-driven. Research networks, "[w]hether they received external support or not [...] were established by and for academics, that is, both their membership and their leadership were drawn exclusively from the university sector."³⁶ Although she recognizes that there was some degree of contact between researchers, federal policies, and private or industry-based parties, it was not until the introduction of two new research councils that the federal government began to strategically "direct" faculty research. The underlining assumption in her work seems to be that federal interest in cultivating closer ties between the university and business sectors has somehow tainted the purity of traditional scholarship. A closer tie with business and industry has thus dampened the critical edge of academic scholarship, and this relationship has not boded particularly well for the public reputation, or general utility, of social sciences and humanities research. Whether Polster's sentiments on this issue are correct, it is true that the late 1970s saw a major transformation of the research landscape for all sources of funding, including the disciplines mentioned above.

The significance of the shift in federal PSE expenditures culminated during the late 1970s with the advent of two new initiatives. The first was to finally and completely remove the federal government's direct presence from the funding of institutional operating costs through the creation of the Established Programs and Financing Act (EPF). Instead of providing each province with an adjusted payment to match their respective PSE expenditures, the EPF

³⁶ Claire Polster, "From Public Resource to Industry's Instrument: Reshaping the production of knowledge in Canada's Universities," *Canadian Journal of Communication* 23.1 (1998): paragraph 11, retrieved from <http://www.cjc-online.ca/index.php/journal/article/view/1025/931>.

consolidated federal funding for both PSE and health services. As such, while provincial PSE expenditures remained significant in determining the amount each province received from this new initiative, the ultimate authority for determining the distribution of the resources in the transfer was given to the individual provincial legislatures. In this manner the EPF became what scholars have termed an unconditional block transfer or “love grant;” it provided a sizable cash and tax point transfer, in addition to equalization payment, to be spent entirely at the discretion of the provinces. It should be noted that the federal government set guidelines for the expected distribution of these funds, though there was no actual means or will to enforce this distribution. While it has been argued that the absence of dissemination requirements was partly in deference to Quebec’s separatist activism,³⁷ it could also be interpreted as a sizeable shift in Ottawa’s interest throughout this sector as a whole. Appendix Table 24 shows the EPF funding amounts for all provinces combined which were *expected* to be spent on education. Average change in the expected allocation of educational support from 1977 to 1995 (after adjusting for inflation) was - 0.001, with a standard deviation of 0.1. Future increases to the EPF were thus designed to keep federal levels at a constant, with no significant increase for actually expanding the PSE portion of the transfer. With no further PSE increases in EPF allocation, and no reporting practices required for its distribution, the federal government shifted focus from general operating costs to research expenses.³⁸ It did so with both an increase in total dollar amounts, and a significant interest in how these funds were to be distributed.

In 1977 the federal government restructured the NRC into separate entities. With the MRC already established, the government created the Social Sciences and Humanities Research Council of Canada (SSHRC) in 1977, and the Natural Sciences and Engineering Research

³⁷ Donald Fisher, et al., *Canadian Federal Policy and Post-Secondary Education* (Vancouver, BC: The Centre for Policy Studies in Higher Education and Training (CHET), 2005): 40, retrieved from <http://www.nyu.edu/steinhardt/iesp/aiheps/downloads/finalreports/Feb%202006/federal%20paper%20Octobert.04.05.pdf>

³⁸ Gunther and Van Loon have argued that the percentage of EPF allocated to PSE was actually lower than expected amounts, as provincial governments spent large portions of EPF transfers on their respective consolidated revenue funds. Accordingly, they argue that this period signals the culmination of total government investments in PSE as a whole. See Magnus Gunther and Richard Van Loon, “Federal Contribution to Post-Secondary Education: Trends and Issues,” *Financing Canadian Universities: For whom and by whom?* eds, David Nowlan and Richard Bellaire, (Toronto, ON: Institute for Policy Analysis and Canadian Association of University Teachers, 1981): 161. Table 27 does show that the 1977-8 period represents the apex of the percentage of total university revenue given from all levels of government, though the subsequent decrease of this proportion could also be due to the strength of the general increase in non-government funding from 1977 onward.

Council of Canada (NSERC) a year later. Following the recommendations of the Macdonald report, which was both respectful of discipline autonomy and called for an increase in the level of state engagement with university research, these councils were designed to serve as the major instruments for enacting federal research policy across Canadian institutions. Through the late 1970s and early 1980s, funding envelopes were given to each of the councils to fund research in strategic areas which held significant value for Canadian society, such as policy planning, health programming, and industrial innovation.

Fisher et al. have argued that the autonomy of the research councils after 1977 was severely limited by these new initiatives and became increasingly so after the election of the Mulroney Progressive Conservatives in 1984.³⁹ In recognition of the need for closer university-industry collaboration, the 1986 government launched a “Matching Funds Policy” program for each council; the program provided \$369.2 million potential non-annual dollars (for all councils combined), provided that the councils receive matching amounts from the private sector of the Canadian economy. Although Fisher et al. argue that this initiative was intentionally coupled with a freeze on future increases to the councils’ base dollar amounts, and thus represented an attempt to steer professorial research towards private sector interests,⁴⁰ in reality the terms of what constituted “private sector” in this policy were so broad that universities reached this limit from a variety of sources in just under four years. The Senate Committee on National Finances thus doubted the program had any actual effect of increasing private sector support for university research.⁴¹ In 1990-1 the program was discontinued and the remaining dollars amounts were put towards the councils’ base operating amounts.

A similar trend can be observed in the Networks of Centres of Excellence (NCE) program, which was launched in 1989 as a direct copy an Ontario initiative of the same name. The program provided \$47 million per year to establish significant collaborative research networks between various sectors of Canadian society. Polster has argued that the NCE was “specifically designed to enhance industrial competitiveness,”⁴² but this is emphatically untrue.

³⁹ Fisher et al. 78.

⁴⁰ Ibid 77-78.

⁴¹ Cameron 6.

⁴² Claire Polster, “Canadian University Research at the Turn of the Century: continuity and Change in the Social,” *Studies in Political Economy* 71/72 (2009): 179.

Since its creation the NCE has cultivated ties between university, industry, business, non-profits, NGOs, government and various other organizations. As evidence of this, the current NCE program is made up of four separate initiatives, only one of which specifically targets industrial research.⁴³ Although the NCE has been renewed annually, its permanence was made official by federal mandate only in 1995. The argument that the NCE program has intentionally directed Canadian research *away* from basic and discipline-based fields is thus not well defined, though it is true that there has been more opportunity for collaboration with the industrial and private sector that has been enabled this initiative.

The Retrenchment Phase (1995 – 1998)

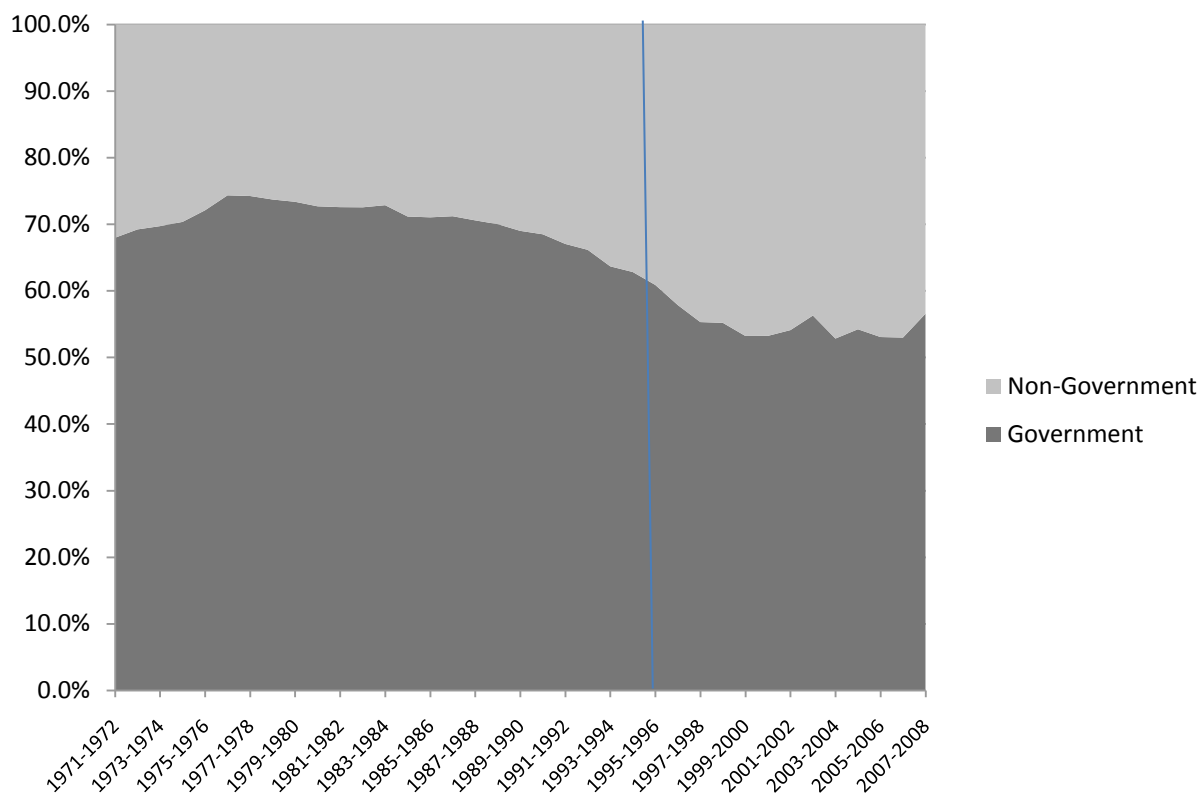
Whether the increase in university-industry research at this time was at the actual expense of basic scholarship, it is true that Canada has seen a significant increase in private sector involvement within the university as a whole. This was particularly pertinent during the so-called “federal retrenchment” period of 1995-1998, when changes in federal programming once again had a drastic effect on the overall PSE funding landscape. Upon replacing the Conservative government in 1993, the Chrétien Liberals announced their intention to cut the national deficit, which at that time was one of the highest among OECD nations. Savings were to be made in a variety of areas, including research expenditures (see tables 27 and 28 in the appendix) and the provincial transfers through the EPF and the Canada Assistance Plan (CAP). Total dollar amounts to the EPF and CAP were cut as the two were merged into the Canada Social Transfer (CST), which in 1996 was renamed the Canada Health and Social Transfer (CHST) to better highlight its expected purpose. The Minister of Finance declared that the new initiative would represent a modest 3.3% cut, though some scholars argue the figure was actually closer to 34%.⁴⁴ Cumulatively, the provinces lost \$14 billion for health, social programming, and PSE. For universities, the scramble to make up the lost funds, particularly in general operating revenue, meant increasing tuition levels for all programs. Figure 1 shows the net effect of this cut, with

⁴³ The four initiatives are the general networks of centres of excellence program, the centres of excellence for commercialization and research, the business-led networks of centres of excellence, and the industrial research and development internship program, the latter of which constitutes less than 1% of the total \$1.5 billion NCE budget.

⁴⁴ David Cameron, “The Federal Perspective,” *Higher Education in Canada: different systems different perspectives*, ed, Glen Jones (New York, NY: Garland Publishing, 1997): 27

income from non-government sources (i.e. tuition, donations, sales, etc.) constituting a higher proportion of total university revenue than it had in the past.

Figure 1: Distribution of Total Revenue for All Canadian Universities in All FIUC Categories, 1971-1972 to 2007-2008



Source: FIUC Annual Dataset

In addition to the cut itself, the new transfer contained no expected level of support to be given for PSE. Provinces were free to allocate their own distribution, and thus financially-strapped provinces could easily prioritize other sectors over PSE without infringing on federal “expected” expenditure guidelines.⁴⁵

While the 1995 cuts primarily meant decreases to universities’ general operating revenue, these changes also had an important, albeit indirect, effect on the institutional value of research. Jones and Young argue that in their scramble to make up for lost funds universities placed a high *internal* priority on securing the dwindling state monies that were still available. Since federal

⁴⁵ According to Shanahan and Jones, during the early 1990s a number of provinces had already begun looking for ways to reduce their PSE expenditures. When 1995 cuts occurred it thus exacerbated the level of underfunding at many institutions. Shanahan and Jones 33.

research funding had received only a modest decrease throughout this period, this meant providing more financial support for research offices, as well as the creation of various incentives designed to increase the competitive advantage of scholars in acquiring tri-council grants. Throughout the late 1990s, institutions thus “turned towards research activity as a potential source of income, though the full potential of this revenue source was mollified by the specific nature of the research funding mechanisms.”⁴⁶ Revenue also came from increased commercialization aided by a 1991 treasury board regulation which had overturned its 1954 decision on commercialization rights, thereby allowing intellectual property produced from Crown contracts (i.e. the granting councils) to be owned by the contractor rather than the government. Polster argues that this move led to a sustainable increase in the subsequent privatization and commercialization of Canadian research.⁴⁷ The veracity of these arguments is difficult to ascertain, especially considering the fact that research activity has often been treated by universities as a significant expense in their own internal budgets. Although the total dollars available to universities in external research funding remained sizeable throughout this period, there is no evidence to suggest that these amounts were large enough to even alleviate the costs of the added research activity it took to acquire them.

In examining the aftermath of this period, however, various scholars have argued the dramatic effects of the retrenchment period inadvertently led to a greater institutional interest in tri-council grant success rates and a corresponding increase in the value placed upon research activity as a whole. Due to the strong need to recuperate provincial losses in general operating revenue, and aided by the newly acquired ability to capitalize on past research expenditures through the use of intellectual commercialization, the argument follows that universities working at the administrative level instituted a systematic prioritization of those disciplines which would most likely draw sizable amounts of research income. This prioritization was felt primarily through a greater divergence in the university’s internal funding allocation between its various disciplines, but also in its overall strategic planning for future growth. Those disciplines which were thus “furthest from the market,” such as the social sciences and humanities, were discriminated against through a variety of methods, which in turn has lowered research activity

⁴⁶ Glen Jones and Stacy J. Young, “Madly off in all directions: Higher Education, Marketisation and Canadian Federalism,” *Higher Education Dynamics* 6 (2004): 192.

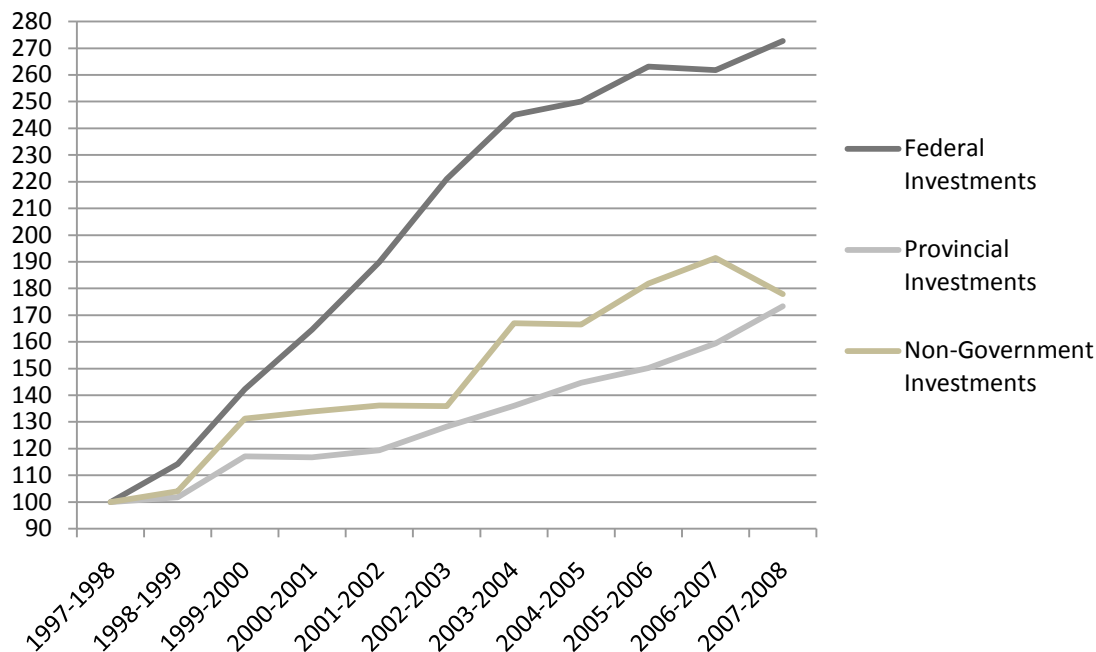
⁴⁷ Polster, “continuity and change” 180.

and subsequent grant success ratings in these fields. As they often constitute the major assumptions through which contemporary Canadian scholars of higher education view recent developments in this sector as a whole, these issues will be touched upon at a greater depth in Chapter 2.

The Reinvestment Phase (1998 – 2008)

The funding trends which emerged immediately after 1998 have been loosely referred to as a period of federal reinvestment. Appendix Tables 25 and 26 provide evidence for this trend, as the growth levels of total university revenue from Ottawa for all categories of investment combined have outpaced those of the provincial legislatures; in 1997 federal amounts constituted 13.6% of total government funding, yet by 2007 this figure had jumped to 20.5%. Similarly, the amount of federal funding provided for all categories of investment increased by 145%, with research funding in particular growing by 165%. As mentioned earlier, it is difficult to ensure an apples-to-apples comparison of funding levels when examining the strength of longitudinal increases between various sources. Again, this is due to the fact that university revenue is often earmarked for specific baskets of services based on its origination. A simple way to compare the changes in federal funding for this period is to compare it to that of other sources, such as provincial funding (which is primarily directed towards general operating and maintenance costs) or non-government funding (which is diffused throughout a large number of categories and services). Figure 2 presents the comparative index of growth in these three measures for all categories of service combined.

Figure 2: Indexed Change in Funding for all Canadian Universities by Select Sources (adjusted for inflation) [1997=100]



Source: FIUC Annual Dataset

Here we see federal expenditures growing at a much larger pace than provincial or non-government funding. Since federal expenditures are predominantly allocated for research⁴⁸ while provincial amounts are dependent on student enrolment, institutional access to these monies obviously varied across the provinces based on the composition of their institutions.

The “reinvestment” occurring during this phase was not just confined to university research funding. Research funding in the private sector also grew greatly during this short period as well. In its recent momentum report the AUCC noted that the private sector research activity had its strongest recent period of growth between 1996 and 2001, where it averaged an annual increase of about 10%.⁴⁹ Today (2007) this sector accounts for 54% of all research activity occurring in Canada, cumulatively valued at around \$15.8 billion.⁵⁰ Though this development was more or less organic to the sector itself, the federal government worked to increase private party R&D expenditures by providing financial support for direct costs and

⁴⁸ In addition to displaying the absolute changes in federal funding during this period, Table ?? also reveals that the growing majority of these investments were directed towards supporting institutional research as opposed to other categories of PSE services.

⁴⁹ Association of Universities and Colleges of Canada 6.

⁵⁰ Ibid 7.

creating its Scientific Research and Experimental Development Tax Credit program, which set the framework for later policies on this issue.

Conclusion

For universities just leaving the heels of the retrenchment era, the new initiatives which arose during this period provided an ideal opportunity to compensate for their earlier loss of provincial general operating funding. While scholars of higher education are unclear as to how such funding could counteract the increased cost it took to capture these funds, they note that by encouraging the research productivity of their scholars many universities could bring in a wider range of research revenue that they did in the past, some of which could be used to pay for ancillary or capital expense. As if to encourage this strategy, the federal government created a number of initiatives during this period which would further enable universities to employ research funding for general operating expenses. However, whether these developments have actually led to any particular patterns of funding and research activity across Canada, and whether such trends are particularly salient for the social sciences and humanities, is a matter of some contention, a phenomenon examined in Chapter 2.

Chapter 2 – The Reinvestment Phase and the Five Theses

In terms of understanding the scholarship related to federal funding for social sciences and humanities research, the reinvestment period is significant for a number of reasons. To begin with, a substantial portion of the literature devoted to research funding in Canada has occurred since 1999, with the focus being the long-term ramifications of such reinvestments for the disciplines. The arguments made within these analyses have been convoluted and often contradictory, and while there is a general consensus concerning the growing presence of marketization, subject targeting, and private sector involvement in Canadian research, there is no observable agreement as how these trends may actually affect research activity. The assumptions are in some ways contradictory. Thus academics such as Polster, Scott-Metcalf, and Fenwick argue that the unequal structure of recent expenditures will increase the hierarchy and differentialization of research activity between both institutions and disciplines,⁵¹ while others such as Cameron argue that the same initiatives are counterproductive because they seek to equalize federal support for all parties.⁵² Similarly, Shanahan and Jones argue that events since the 1990s represent a unified strategic plan for research funding from all levels of government⁵³ while Snowden argues that the federal initiatives were created and instituted without much input from the provinces or universities, creating substantial confusion for both,⁵⁴ and Jones and Young interpret federal-provincial policy as “madly riding off in all directions.”⁵⁵ In 1990 Polster argued that commercialization was “taking off” at Canadian institutions “with or without help from the federal government,”⁵⁶ yet seven years later American sociologists Leslie and Slaughter argued that Canada had been intentionally “resisting” global trends on this issue, and that that “government levels of funding were such that faculty were not impelled to find alternative sources of revenues.”⁵⁷ The examples could go on. Making matters worse is the apparent lack of scholarly interest in engaging with these discrepancies; academics in this field often quote one another with impunity and give little effort to reconcile, or even recognize, the differences between their arguments. Part of the reason for this confusion is undoubtedly due to

⁵¹ Polster, “continuity and change” 185. Metcalfe and Fenwick 223.

⁵² Cameron, “whither federalism” 13.

⁵³ Shanahan and Jones 36.

⁵⁴ Ken Snowden, “Without a Roadmap,” 24.

⁵⁵ Jones and Young 204.

⁵⁶ Polster “Industry’s Instrument,” paragraph 21.

⁵⁷ Leslie and Slaughter 110.

the relative “newness” of the subject, though this excuse can only go so far given the amount of interest it has received. In any case, the initiatives created after 1999 are in desperate need of a more extensive analysis, especially in light of some the grander arguments made regarding their significance for future social sciences and humanities research activity.

The recent emergence of scholarship in this field may also help to explain the consistent lack of data from Canadian researchers. In publications from the 1990s and onwards, many of the conclusions concerning the net effect of federal expenditures have been constructed in an ad-hoc fashion, with little supporting evidence provided for what seem to be serious allegations. The following segment thus serves to determine which theories in this vein are actually viable hypotheses, and subsequently those which can actually be tested for significance. To be succinct, there are five general arguments with regards to trends in sciences and humanities research, the first three of which can be dismissed outright and the fifth after careful analysis. These are:

1. Federal funding is dwindling for the social sciences and humanities, in both total amounts and in proportion to other disciplines.
2. Federal funding initiatives have specifically targeted business or industrial-related research, to the detriment of the public good.
3. Related to point two, federal funding has become “targeted,” or directed away from basic research and towards specific (applied) fields of federal interest.
4. Institutions are increasing their administrative control over the direction of faculty research for the purposes of increasing funding success. This process has corresponded to what some have called an increase of “New Managerialism” in the university system.
5. The value of social sciences and humanities grant success is growing for both universities and faculty. This has led to a corresponding increase in competition, hierarchy, and differentialization between Canadian institutions.

The two substantial topics which emerge at the end of this discussion, points four and five, constitute the focus of analysis of chapters three and four, respectively.

In recognition of the convoluted and sometimes erroneous way recent initiatives have been presented by contemporary scholarship, the following segment has also been supplemented with interview data from administrative officials at federal research-funding organizations including the SSHRC, the Canadian Foundation for Innovation, and the Canada Research Chairs Program, all of which play significant role in funding social sciences and humanities research. This is partly due to the need for a clearer representation of what these organizations actually do, and partly to aid the researcher in determining which academic arguments in the literature were viable theories. In the words of one respondent,

[t]here are a lot of misconceptions from academics in the education sector about how this funding works and it's mostly people who haven't been doing their homework. There has been some stuff published recently that is quite frankly horrible on this topic. It's not just the interpretation, because interpretation is fine, but they have been repeating factual errors that are just so easily corrected. A lot of this is simply that researchers haven't taken the time to go and figure out how the machine works. Or they don't want to.

Reconciliation thus helped to “weed out” invalid arguments and provided a clearer understanding of those trends which did exist. The interviews were conducted in a semi-structured manner and lasted from thirty minutes to an hour and a half.

Argument One: Dwindling Federal Support for the SSHRC

Scholars concerned over dwindling support for research in the social sciences and humanities frequently touch on issues of significant concern throughout their work. Unfortunately, the arguments used to present this concern often fly in the face of public evidence to the contrary. The strong version of this argument views recent federal initiatives as an attempt to select and promote “hard” science or industry-based research to the *direct detriment* of other disciplines. This line of argument is posed predominantly by humanities scholars, such as Mary Burgan, who argue that “[r]esearch activity [in these fields] has grown almost exponentially over the past twenty-five years, even as the support for research in the humanities has diminished.”⁵⁸

⁵⁸ Mary Burgan, “Production in the Humanities,” *Universities at Risk: How politics, special interests and corporatization threaten academic integrity*, ed. James L. Turk (Toronto, J & Lorimer Co., 2008): 244.

Others have taken more drastic views in this vein, positing that the very existence of research funding for those disciplines furthest from the private sector (i.e. business and industry) is threatened by emerging trends; in their globally influential *Academic Capitalism*, authors Leslie and Slaughter survey the emergence of the private sector into university research with concern and argue that if current trends continue “fields with diminishing market potential (e.g., civic regulation, which encompasses some of the social sciences, and human services, which includes education and social work) may be cut altogether.”⁵⁹ Scholars writing on Canada in particular frequently point to the dreaded Bill C-93 of 1992, which, had it passed in senate, would have “dismantled”⁶⁰ the SSHRC and transferred its programming to the Canada Council. It is seldom pointed out that this bill occurred in the context of the opening retrenchment period, that the plan was never to “destroy” research funding for these disciplines as such, and that the proposed restructuring would have saved, at most, an estimated \$5 million⁶¹—a number which represented less than 8% of total university expenditures from the SSHRC that year. Rather, most see scholars these proceedings as an ominous warning sign of unfortunate events yet to come.

In the face of the trends emerging out of the reinvestment period, however, it has become increasingly difficult to uphold these fears. Put bluntly, never has the government of Canada invested more dollars to support research activity *in all disciplines* than it has provided in the last ten years. In 1999 the MRC had its base allocation significantly increased when it was reorganized into the Canadian Institutes for Health Research (CIHR) and provided with an expanded mandate to serve all health and clinical-based research activity. Similarly, all levels of tri-council programming have seen large increases in both total funding and targeted initiative accounts. As FIUC data can only capture the direct amounts provided to Canadian institutions per year, table 27 in the appendix presents proximate amounts for these increases.⁶² From these measures it is clear that not only has total expenditures from the SSHRC to Canadian universities *gone up* in total dollars since 1990, but the proportion of tri-council grants reported from the SSHRC has also increased. In fact, both the CIHR and the SSHRC’s relative success during

⁵⁹ Leslie and Slaughter 177.

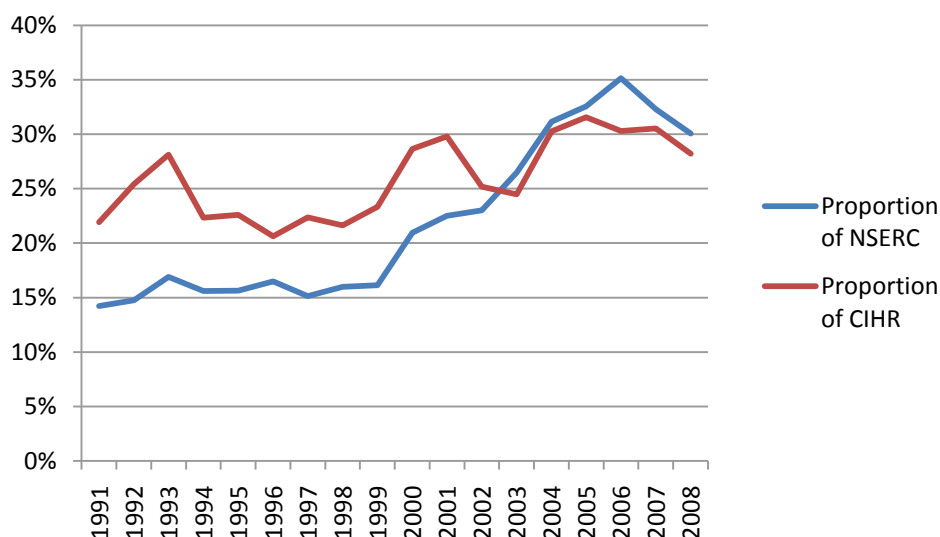
⁶⁰ Fisher et al. 83.

⁶¹ Ibid 83.

⁶² As the total monies spent on research support from these councils has increased, we can expect a proportional increase in their respective operating budgets. A quick survey of the recent annual financial reports of these institutions, all of which are public documents, reveals this to be the case.

these years seem to be at the expense of the NSERC, which decreased in total share by more than 10%. Arguments concerning the “dwindle” of federal funds for fields outside of the hard sciences are thus erroneous. Additionally, Fisher et al.’s position that the significance of the SSHRC’s increases are due in part to its low starting point⁶³ is somewhat misleading, since calculating the total funding from the SSHRC as a proportion of the changes in the NSERC and the CIHR (Figure 3) proves quite the opposite.

Figure 3: SSHRC funding as a proportion of NSERC and CIHR, 1990-1991 to 2007-2008



Source: FIUC Annual Dataset

It stands to reason that during the last ten years the SSHRC has been strategically selected for *increased* funding, not less, and at least in terms of direct tri-council funding to universities. Moreover those who view the general disproportion of research funding between the councils as evidence of discrimination fail to acknowledge the all-important factor of cost differences between these disciplines. To this end, the SSHRC’s level of funding has traditionally been a portion of that its sister councils’ because the research it supports typically requires less dollar amounts to complete, a fact which has been confirmed by the Canadian Federation for the Humanities and Social Sciences.⁶⁴ This is not to say that social science and

⁶³ Fisher et al. 92-3.

⁶⁴ “By definition the direct costs of research in the natural, medical and engineering sciences are higher than those for the social sciences and humanities. Expensive equipment, the cost of processing laboratory samples, and time required to allow for the completion of experiments contribute to high direct costs.” The Canadian Federation for Humanities and Social Sciences, *Indirect Costs of Research*, 2011. Retrieved from <http://www.fedcan.ca/content/en/355/indirect-costs-of-research.html>

humanities research is particularly cheap, as some large-scale research undertakings in these disciplines can often cost in range of millions. However, the fact that these costs may not have risen at the same level as that of the NSERC or the CIHR disciplines, which often require specialized equipment and state-of-the-art facilities, means that the increase the SSHRC received from 1999 onward may actually be more significant than these simple figures may convey.

Officials from the SSHRC confirmed these trends. When asked about the fear surrounding a future decrease in federal funding, like that experienced throughout the retrenchment period, they noted that the fluctuations in funding for the councils at this time were highly correlated with one another. Funding levels thus were a concern for all disciplines, and was not just confined to one field or subject. Accordingly, they argued that

...there is a challenge to research in general. To the people who are supporting research, and not just those in the social sciences and humanities, but all disciplines, to make the case about why public support to research is important. This includes why taxpayers should care about this, and what are the benefits of society which flow from this. We should be thinking in a very open way about those benefits, about the potential economic and social payoffs for research. So yes, there is a challenge for us to make that case in a compelling and convincing way; that is a challenge for the research councils, but more importantly for the research community at large.

Officials also noted that, as argued earlier, the disproportionate funding levels were not a product of government discrimination or systematic bias in favour of certain disciplines but rather a representation of the differences in the costs of the research that the councils served, though they provided neither substantial evidence nor any particular method to prove this argument.

Argument Two: Private Sector Takeover

It is clear from a brief survey of the education literature that 1980 and onward is regarded by many academics as the venerable “beginning of the end” for basic university research in Canada. Polster has argued that during this time “research [was] being progressively pulled out of departments”⁶⁵ and organized for the benefit of private sector. In this case the concept of the

⁶⁵ Polster, “industry’s instrument” paragraph 14.

“private sector” excludes private non-profit organizations, which constitute a different category of analysis on their own. In her more recent work this conviction is expressed even more strongly:

[t]here is a widespread misconception that the research links that developed between the academic and business communities during this period were the product of government neglect. Many people believe that inadequate federal funding of higher education provided—or was intended to provide—business with an opportunity to move in on Canadian universities which were left with no choice but to seek and accept research (and other forms of) support from the private sector. In truth, however, the federal government did not abandon our universities to the industrial wolves: it handed them over to business with its blessing. Through a series of moves, government progressively ceded control over the nature and uses of university research to the private sector while the costs of university research were (and still are) largely borne by the public.⁶⁶

Disregarding the fact that labelling industrialists as “wolves” may be a bit hyperbolic in this context, and that Polster insists on using the terms “industry” and “business” interchangeably throughout her work, these sentiments reflect attitudes that many scholars of higher education hold dear.⁶⁷ Leslie and Slaughter argue that those professors who engage in systems of commercialization act more like “state-subsidized entrepreneurs”⁶⁸ than proper researchers. They also find evidence that commercialisation is, at least in the U.S., a cross-disciplinary trend, with the “social sciences and professional schools [...] developing services with techno-science components which are marketed as products. Examples are legal tools and financial instruments as well as software packages that depend on sophisticated mathematical and statistical capabilities.”⁶⁹ While the term “academic capitalism” in their work is meant to provide a unified theoretical framework for understanding these trends, arguments on this subject are often a convoluted mix of three distinct, yet interrelated, assumptions: that private sector (meaning private business and industry) funds for university research are growing at a rapid pace, that the

⁶⁶ Polster, “continuity and change” 179.

⁶⁷ The fact that Polster’s views are held by many of her colleges does serious damage to her argument that the impetus behind university-industry collaboration is somehow widely misunderstood among Canadian academics.

⁶⁸ Leslie and Slaughter 9.

⁶⁹ Ibid 38.

growth of commercialization threatens the tradition of basic research, and that the private sector is receiving a higher return on the value of professorial research than the public sector had in the past. Each of these assumptions will be dealt with in turn.

Private Sector Expenditures

Scholars who pose arguments concerning the growth of private sector funds in university research often overextend themselves when describing the size of this growth. Statistics Canada annually compiles a group of descriptive statistics on higher education research and development estimates (HERD), which is typically used to determine research financing trends in Canadian institutions for OECD publications. These estimates capture trends in all Canadian universities, colleges, polytechnics, and other PSE institutions, and comprise measures for the three basic disciplinary groups⁷⁰ per fiscal year. Variables captured include R&D personnel/staff, R&D expenditures, and R&D revenue, among others. Using these statistics Table 28 in the Appendix demonstrates that private sector funding for social sciences and humanities research has witnessed a relatively weak decrease since 1999, both in total amounts and in terms of its proportion of total funding. Federal funding, in contrast, has risen by over \$400 million constant dollars, representing a 6% increase in the already large proportion of this source category. It is interesting to note that the proportion of total social sciences and humanities research funding from the university as an institution has decreased in recent years. Arguments concerning the growing power of federal control over professorial research thus do have some substance to them, but this has not translated into a corresponding increase in business-related control. In fact, private sector interest in university R&D *as a whole* has decreased slightly; when examining R&D estimates for all disciplines combined (table 29 in the appendix), one can see a curvilinear pattern of growth in the private sector's yearly proportion—the apex of 9.55% in 2001 quickly decreases for the rest of the period. The data also shows that non-profit funding grew steadily until it surpassed business amounts in all measures. CAUBO's FIUC data, which captures only sponsored research amounts, corroborates these findings. Table 5 shows that business-related research expenditures have indeed grown, but that this growth has not been enough to sustain

⁷⁰ The different disciplinary mandates of the tri-council constitute the primary fault lines of inquiry into Canadian PSE. Accordingly, and as mentioned in the introduction, most public statistics on this subject are disaggregated by three general categories: social sciences and humanities, the clinical and health sciences, and the natural sciences and engineering.

their proportion in terms of total sponsored research amounts. Additionally, the increase in total dollar amounts has not kept pace with that of non-profits, which has sustained its proportion, and so non-profits have recently surpassed business funding in terms of total dollars and proportion.

Table 5: FIUC Reported Sponsored Research Expenditures by Select Sources in Constant 2009 dollars, 1999-2000 to 2007-2008 (in 000's)

Year*	Business Enterprises		Not-for-Profit Organizations and Foundations*		All Other Sources		Total Sponsored Research	
	Total Dollar Amount [†]	Percentage of Total	Total Dollar Amount [†]	Percentage of Total	Total Dollar Amount [†]	Percentage of Total [‡]	Total Dollar Amount [†]	Percentage of Total
2000	\$557,558	16.27%	\$460,485	13.44%	\$2,407,864	70.29%	\$3,425,907	100%
2001	\$645,568	16.17%	\$540,866	13.55%	\$2,805,674	70.28%	\$3,992,108	100%
2002	\$657,035	14.90%	\$597,079	13.54%	\$3,156,650	71.56%	\$4,410,764	100%
2003	\$679,327	13.87%	\$690,353	14.09%	\$3,529,857	72.04%	\$4,899,537	100%
2004	\$726,818	12.93%	\$667,520	11.88%	\$4,224,899	75.19%	\$5,619,237	100%
2005	\$761,894	13.37%	\$729,348	12.80%	\$4,207,054	73.83%	\$5,698,296	100%
2006	\$778,130	13.14%	\$782,688	13.22%	\$4,361,191	73.64%	\$5,922,009	100%
2007	\$747,490	12.41%	\$818,546	13.59%	\$4,457,028	74.00%	\$6,023,064	100%
2008	\$803,322	12.85%	\$905,660	14.49%	\$4,541,425	72.66%	\$6,250,407	100%

*Years shown are ending fiscal years.

[†]Amounts are the result of combining the investments reported for research donations (including bequests) and research grants/contracts originating from these sources.

•Excludes the Canadian Foundation for Innovation.

[‡]All Other Sources consists of total amounts from the following: All Government Funding, All Tuition amounts, Institutional Investment Expenditures, and Miscellaneous.

Source: FIUC Annual Dataset

When taken together these two findings reveal trends which fly in the face of Polster's and others' conclusions that the supposed business takeover has made it "increasingly difficult for academics to pursue research questions that respond to the needs of particular social groups, such as disadvantaged groups that cannot afford to sponsor academic research."⁷¹ If anything, the Canadian private sector (in Polster's understanding of the term—private business and industry) has shown an extreme reluctance to help fund university research even while the not-for-profits have been steadily increasing both their amount and proportion of these expenses.

Commercialization

Unfortunately, there are no particularly detailed public statistics for understanding commercialization trends in Canada, as neither CAUBO nor HERD researchers seem interested

⁷¹ Polster, "continuity and change" 190.

in capturing revenue accrued from intellectual property. Statistics Canada does conduct a periodic study of PSE commercialization in its *Survey of Intellectual Property Commercialization in the Higher Education Sector*, but the institutions surveyed must voluntarily provide data and the non-annual, episodic nature of the survey limits its overall utility. Furthermore the survey does not distinguish its measures by discipline, meaning there is no way to determine the status of social sciences and humanities developments on this topic. Despite the lack of reliable data, however, there is some evidence to suggest that research commercialization did grow at the beginning of the reinvestment period. In 2002 the government of Canada and the AUCC signed the *Framework of Agreed Principals on Federally Funded University Research*. In this document the government reconfirmed its commitment to provide more funding for PSE research, while the AUCC in return promised “to double the amount of research [Canadian universities] perform and triple their commercialization performance.” Recent AUCC estimates, working from the aforementioned Statistics Canada survey and their own “internal calculations” find sizable increases during this period; to show this, table 6 has been lifted directly from the 2008 AUCC research momentum report.⁷²

Table 6: AUCC-Reported Commercialization Indicators for Member Institutions, 1999 and 2006

Commercialization Contextual Indicators	1999	2006	Increase
Operational Expenditures on IP Management (\$ Millions)	22	42.5	93.2%
Disclosures	893	1,356	51.8%
New Patent Applications	656	1,442	119.8%
Number of Spin-Offs	718	1,068	48.7%
New Licenses	232	437	88.4%
Value of Industrial Research Contracts (\$ Millions)	153.8	370.5	140.9%

Source: AUCC Momentum Report, 2008

It stands to reason that commercialization received a significant level of institutional attention after 1999. This is unsurprising, however, given the general thrust to secure alternative sources of funding which occurred after the fallout of the retrenchment period. In any case, these figures do not present the full story. To begin with, it is logical to assume that commercialization activity is underreported at Canadian universities. Since these institutions typically take a “cut” of the profits derived from professorial research, and since faculty are often under no obligation to report on such practises, it stands to reason that many would prefer not to inform the institution

⁷² The Association of Universities and Colleges of Canada 128.

of their research's potential market-value. This is common among many of the policy-generating disciplines, where professors will often engage in consulting contracts as a "side" job to their work at the university. Such practises may inflate the commercialization activity which has occurred in Canada, but there is little way to tell from these statistics. Secondly, there is a methodological problem with the AUCC's use of such data. The number of respondent-institutions in the *Survey of Intellectual Property Commercialization in the Higher Education Sector* has increased each year, and since Statistics Canada *totals* the reported amounts in its estimates, the corresponding increase in income may simply be an expression of the survey's response-rate variance. This issue can be slightly mitigated by calculating an income-per-responding institution amount as shown in table 7.

Table 7: Reported University Revenue from Commercialization in Constant 2009 Dollars, 2003-2004 to 2008-2009 (in 000's)

Year*	Income from Commercialization	Responding Institutions	Income per Responding Institution
2004	\$61,788	89	\$694.25
2005	\$55,952	88	\$635.82
2006	\$58,991	118	\$499.92
2007	\$62,590	117	\$534.96
2008	\$53,841	112	\$480.73
2009	\$53,321	125	\$426.57

* Years shown are ending fiscal years

Source: Statistics Canada Survey of Intellectual Property Commercialization in the Higher Education Sector

Once this has been done, two important details stand out. One is that commercialization income per responding institution has been decreasing in total dollar amount for the past six years. The second is that actual dollar amounts reported in this survey have received no significant level of increase since 2004. Accordingly, while the reported income accrued from commercialization may have received a large increase when compared to its 1999 levels, *it has become stagnant for the majority of the reinvestment phase*. This stagnation has been a cause of federal alarm; in its 2007 budget the government made a concerted effort to increase activity in this area by establishing the Centres of Excellence for Commercialization and Research (CECR) initiative as a component of the overarching NCE program. The initial \$285 million dollars provided for the CERC should not be viewed as an effort to force professorial research towards market-based subjects, but is better seen as a strategic attempt to cultivate an already underfunded and under-engaged aspect of research—one which may already be at risk of falling behind OECD averages.

If research commercialization on campus as a whole is experiencing such stagnation and decreases, it stands to reason that these trends will be even more pronounced in disciplines which typically yield low levels of intellectual property to begin with, such as the social sciences and humanities, which have predominantly focused on copyright activity.

Since reporting practises on this issue leave much to be desired, we are unable to ascertain the true nature of commercialization on Canadian campuses. The information that we do have, however, shows that commercialization income has become stagnant since 2004. Put in this light, arguments concerning commercialization's "powerful pull" in directing Canadian professorial research towards profit-yielding output seem largely premature. In 2005, for example, the President of the Canadian Federation for the Humanities and Social Sciences explicitly noted the *absence* of any increased government interest in commercialization for Canadian universities, arguing that "[w]ith limited resources devoted to post-secondary education and research, it is gratifying to see that the majority of new funding directly supports researchers through the granting councils and indirect funds."⁷³

The Canadian Foundation for Innovation

Fear that the federal government may be encouraging the private market, with its corresponding profit-motive model of productivity, to "take over" Canadian research stems from the state's recent interest in facilitating university-industry alliances. Until recently, trends in this vein could easily be captured by solely examining tri-council budgets and NCE initiatives. The reinvestment period, however, brought with it a number of new federal initiatives, external to the tri-councils, which have drastically changed the research landscape. One of the more influential changes came in 1997 with the creation of the Canadian Foundation for Innovation (CFI). The CFI was established as an arms-length organization (i.e. independent from direct government control) for the purposes of funding research infrastructure across Canadian institutions. With a starting endowment of \$800 million, the foundation has allocated \$5.3 billion across 130 institutions to date, with the monies awarded in a similar manner as the granting councils via expert peer review and competitive grant programming. In this case, however, hospitals are included as eligible recipients, and for many of the competitions applications must be submitted

⁷³ Donald Fisher, *Bulletin on the Federal Budget* (Ottawa: CFHSS, 2005): 1, retrieved from <http://www.fedcan.ca/images/File/PDF/Federal%20Budget%20Previous%20Years/budgetfeb23-05-e.pdf>

by the institutions themselves instead of the individual faculty or primary researchers.⁷⁴ It is important to note that the CFI's mandate only provides 40% of the costs of a given application. The remaining 60% must come from external parties, such other government agencies (beside the tri-councils), industry, or the private or non-for-profit sectors. In this manner the CFI helps to promote ties between the academy and other members of Canadian society which may have significant interest in university research. In 1999 the foundation's funding policy was updated to allow social sciences and humanities research proposals to be considered for granting eligibility. Prior to this period the infrastructural needs of these disciplines were addressed primarily through the SSHRC programming initiatives.

Scholars who charge that the foundation's primary purpose is to hand-over university research to the private sector often cite the matching funds policy as evidence of business or industry takeover. Snowden argues that such a policy "fit with some key precepts of neo-liberalism," as provincial governments could set limits on the proportion of funding they provided to CFI applications and thereby require some level of private sector involvement in the research.⁷⁵ Indeed, some provinces, such as Quebec, adopted such a strategy in order to limit their own (already sizeable) expenditures in this area.⁷⁶ Similarly, Polster has argued that CFI's matching policies will enact "changes in the social relations of academic research [which will] result in the conversion of (some of) the university's research capacities from a public resource to a private instrument used by industry to meet its needs."⁷⁷ The fact that the private sector is eligible to fund CFI applications has thus led to a fear that it may somehow "take over" this initiative's mandate. Indeed, some scholars seem to think this has already happened.⁷⁸

⁷⁴ It should be noted that the CFI does fund individual researchers; the Leaders Opportunity Fund, for example, is dedicated towards helping "universities attract and retain the very best of today's and tomorrow's researchers at a time of intense international competition." This initiative, however, still requires the institution itself to submit an application to receive funding.

⁷⁵ Snowden, "without a map" 28.

⁷⁶ At most the province of Quebec will fund 40% of the application, leaving the private or non-profit sector to fund the additional 20%. Claude Trottier and Jean Bernatchez, *Higher Education Policy in Quebec: a case study* (New York Alliance for International Higher Education Policy Studies, 2005): 12, retrieved from http://www.nyu.edu/steinhardt/iesp/aiheps/downloads/finalreports/May%202005/Quebec_case_study_May05.pdf.

⁷⁷ Polster, "industry's instrument" paragraph 26.

⁷⁸ "The creation of the CFI signalled the advent of the business model-PHI. Now, whatever business grants you receive will be matched by the CFI meaning those that can solicit business also get the most funding." Bruneau and Savage erroneously believe that only business dollars can be matched to provide funding for CFI applications.

While it is true that some of the 60% in matching funds comes from private (i.e. business and industry) investors, this does not mean that business is in some way directing the research process. Rather, such a measure is simply a representation of the *ability* of the private sector to fund research when compared to other sources. Officials from the CFI were emphatic on this point, noting that since there were no stringent guidelines on who these funding partners could be there was equally no intention of directly “handing” university research over to anyone:

...the CFI legislative mandate is such that where you get this other money can come from *anywhere except the councils*. That’s because the councils are in the direct cost business, while we are in the infrastructure cost business, and it wouldn’t make any sense to dip into both of those pots. This is a straight-up, non-ideological, good management practise. Now where that other 60% comes from, it certainly has taken certain trends and gone in certain ways, but that has not been at the direction of the federal government at all. It is really been because of the other players in the research environment, and yes there has been significant private sector interest; about 1.1 billion of the 5.3 billion in our applications comes from the private sector [20.7%]. But that’s not going *to* the private sector, that’s money for basic research coming *from* the private sector. There is a big difference between that. We are not in the business of subsidizing anybody except researchers who do fundamental research, that’s what our purpose is.

In terms of interest in applications, the provinces have also grown in their proportion of CFI matched funding. This has been partly in recognition of the general need for more local funding for professorial research, but is also due to the zero-sum nature of CFI programming; those provinces whose universities have less ability to engage with federal initiatives will be forced to direct a larger portion of their own funding to these institutions in order to ensure they stay competitive in the national PSE sector. Evidence of these expenditures can be seen in the establishment of the British Columbia Knowledge Development Fund, which received over \$850⁷⁹ million between 2001 and 2006 for the purposes of ensuring that “British Columbia’s public post-secondary institutions and teaching hospitals are able to compete successfully for

William Bruneau and Donald Savage, *Counting Out the Scholars: How performance indicators universities and colleges* (Toronto, ON: J & Lomier Co., 2002): 178.

⁷⁹ British Columbia Ministry of Advanced Education, *Local Excellence, Global Impact* (Vancouver: Ministry of Advanced Education, 2007): 5, retrieved from <http://www.tted.gov.bc.ca/TRI/research/Documents/strategy.pdf>.

private sector and federal funding, such as that available through the Canada Foundation for Innovation.”⁸⁰ Similarly, the Atlantic Innovation Fund (AIF) which was created as a joint initiative between the Atlantic Provinces and the federal government in 2001 has dispersed a total of \$636.9 million towards these applications in seven rounds of grant competition programming. When examining the purpose of these expenses against their assumptions of CFI funding, scholars seem confused over the apparent incongruities. Indeed, if the intention of the CFI were to provide the private sector with a means of accessing and directing university research, why should provincial amounts cut in on these investments? Fisher et al. states that the AIF is “a clear example of federal funds being used to compensate for weakness in the private sector,”⁸¹ while Snowden attempts to argue that the CFI’s commitment to the “competition and the rigour of the market” has been “compromised by other realities.”⁸² It is clear, however, that since CFI grants have never required a set level of private sector funding and there are no rules against non-tri-council federal funding, arguments to this end miss the point. The CFI matching funds policy aids in bringing universities and the various sectors of the Canadian community together for research funding and does so in proportion to the differential abilities of the latter. To the extent that the private sector has a strong ability to fund research, it has maintained a strong proportion of the interest in CFI applications. This pattern is completely congruent with the mandate that all levels of Canadian society have an important part to play in national innovation programming, but it in no way invalidates the fact that, as discussed earlier, private sector funding as a whole is in a period of stagnation when compared to other sources.

Another area of concern regarding the CFI is its apparent autonomy and fiscal independence as an arms-length, non-profit organization. Scholars typically point to the fact that the CFI has been “roundly criticized” by the Auditor General for its independence; citing the 1999 Report to the House of Commons, Cameron argues that “the burden of her criticism has been that as private corporations spending public funds, they violate the principles of responsible government and public accountability.” If one were to actually read the report, however, her or she would be discover that of the 77 organizations which were examined within it, most of the

⁸⁰ British Columbia Ministry of Small Business, Technology and Economic Development, “British Columbia Knowledge Development Fund,” *Funding and Investments*, Accessed October 7th, 2010, retrieved from <http://www.tted.gov.bc.ca/TRI/research/funding/BCKDF/Pages/default.aspx>.

⁸¹ Fisher et al. 92.

⁸² Snowden, “without a map” 31.

discussion surrounding the CFI in particular presents the foundation in a positive light—as an example which is to be followed by other government-established not-for-profit foundations. These are the sentiments expressed in chapter 23 of the aforementioned document.⁸³ Moreover, CFI officials noted that the foundation has made 26 appearances before parliamentary committees in a span of less than 13 years, and had instituted a number of processes to provide briefings on its activities for members of parliament and senior government officials.

Fear over the autonomy of the CFI is also directed against the authority and independence of its board of directors. Polster argues that this board may attempt to “skew universities’ [research] choices in the direction of industrially relevant research” because it is dominated by “advocates of closer university/industry research ties”⁸⁴ Table 8 provides the titles of current board members for the curious reader to test this assumption. Suffice to say, while it may represent a large proportion of the sectors which constitute the board, industry is not the only sector of concentration within this group.

Table 8: Titles of the CFI Board of Directors, 2010

Member	Title
1	President and Chief Executive Officer, St. Joseph’s Healthcare Hamilton
2	Executive Director, Canadian Centre for Ethics in Public Affairs (CCEPA)
3	Chief Executive Officer, Centre for Drug Research and Development
4	President, Natural Sciences and Engineering Research Council of Canada (NSERC)
5	President and CEO, Medisure Inc
6	Chair, Canadian Council on Learning, Consultant in public management, Part-time member of the Federal Public Service Staffing Tribunal
7	Professor, School of Physical Therapy and Associate Dean College of Medicine, University of Saskatchewan
8	Past President, TSX Venture Exchange
9	President and Chief Executive Officer, Montreal Economic Institute
10	Chief Operating Officer, Centre for Sustainability in Energy and the Environment, Cape Breton University
11	Vice President, Product Development, Vertex Pharmaceuticals (Canada) Incorporated
12	Manager, Northern Plains Exploration, Husky Energy
13	Not Reported

Source: The Canadian Foundation for Innovation, *Board of Directors, 2010*. Retrieved from <http://www.innovation.ca/en/about-the-cfi/governance/board-of-directors>

⁸³ To provide a more detailed overview of this report: section 23.96 mentions the CFI as one of the only foundations examined by the Auditor which reported its financial performance to parliament. Section 23.101 mentions the CFI as one of the only foundations which had a formal provision for dealing with non-performance. Section 23.108 reports that the CFI voluntarily adopted information transparency policies similar to that of federal organizations. Section 23.93 provides the only point of criticism, stating that the CFI has no federal obligation to measure the effectiveness of its investments.

⁸⁴ Polster, “continuity and change” 188.

Of the 13 board members listed, only 6 are appointed by the government, one of which must be the president of a tri-council. The remaining seven are appointed by CFI members, though the term “member” used here is similar to the notion of a shareholder in an organization and so these individuals are drawn from the ranks of the significant leaders in the education community. The board is comprised of the three major sectors involved in Canadian university research (besides the government itself) which includes the academic sector, the private sector, and the non-profit or NGO sector. While it is true that this group of individuals have final authority over the approval of funding for all CFI applications, this authority is no different than that of the presidents of the three granting councils. Moreover, CFI officials also noted that if board members ruled in opposition to the recommendations of the three rounds of expert peer review, it would be a rarity, if it had occurred at all.

With regards to the charge that CFI initiatives specifically target business competitions to the detriment of traditional disciplines, officials from the CFI noted that the foundation had only provided infrastructural support for business-related competitions which had already been established by the tri-councils, such as the Automotive Partnership Canada Fund. The CFI had thus never taken the lead in establishing competitions specifically devoted to this end:

We do nothing of the sort, we never have done anything of the sort, and as far as we are concerned, there is no necessity to do so. One of the interesting wrinkles of the CFI, and this goes back to when we started in 1997, is its requirements for benefits to Canadians in its applications. In your application you have to spell out how this is going to benefit Canadians and there is no presupposition as to what those benefits may be. They could be fundamental understanding of the universe, all the way to creating a new widget, and everything in between, and this is as true in the social sciences and humanities as it is for other disciplines. All scholars are treated equally, there is no favouritism given to any area; specific experts in specific areas appraise specific applications based on excellence. And we talk about excellence it's always the research that comes first, not the spin-offs or the money. It's always the intention to create knowledge that gets judged; we're not a structure and engineering firm.

A quick survey of the applications funded by the foundation corroborates this argument as the majority are “innovation fund” grants which are open to all disciplines and subjects. Though it could be argued that those applications with a more well-defined practical or “applied” component have greater success in these competitions, it is doubtful that those who criticize the CFI on such grounds have the data to prove such an argument.

Concern that CFI has “reinforced attempts to shift... research in favour of the applied, and especially patentable end of the research scale”⁸⁵ are also unfounded. The CFI’s program and policy guide defines research according to OECD standards, as any “[e]xperimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts.”⁸⁶ Accordingly, the primary focus of CFI expenditures is funding infrastructural needs for basic research initiatives. Officials were emphatic on this point as well:

Let me just say that yes, all of the stuff that you have read in the literature to date is inaccurate, because the literature what it does is simply surveys and regurgitates what has been written. It is simply poor and shoddy scholarship. The CFI was created to fund *basic research*; those that say that CFI created of advancing business do not understand the continuum of basic research to commercialization. We are not in the commercialization business, we are the in the very basic and elemental research process. There are a bunch of steps you have to go through to get there, and we are at the start. As an example, let me say that in 1999 one of the biggest difficulties that the social sciences and humanities faced was access to journals. These disciplines were provided, through the CFI research platform, funding which basically allowed all universities across this country to be linked to a unified database. This database is available for all scholars to do basic research in whatever discipline they are particularly interest. This is an example of where, before the CFI existed, this kind of research infrastructure would simply not have been available to scholars. So because the CFI was there, because of its mandate, *new opportunities for basic research in the social sciences and humanities were made available.*

⁸⁵ Cameron, “whither federalism” 9.

⁸⁶ The Canadian Foundation for Innovation, *Program and Policy Guide* (Ottawa: CFI, 2010) 8, retrieved from http://www.innovation.ca/docs/guide/2010_cfi_guide_e.pdf.

If it is true that the CFI funds research across the disciplines, is primarily devoted to providing support for basic research, and does not attempt to direct professorial research towards business or industry related goals, why has there been such a worry that the foundation will somehow “corrupt” academic research, or as one scholar put it, leave “physical legacies to [Canadian] research policy ideology that will likely long outlast the organization itself[?]”⁸⁷ Representatives from the foundation argued that the incongruence may simply be the product of low quality research:

Unfortunately all of the literature around the CFI investigation have not been conducted via primary research by coming to this organization and meeting with us, but have been done in a shoddy way by simply repeating what has been said by other scholars in a lazy literature review.

This theory fits well with the fact that research into the funding mechanisms of Canadian higher education is a relatively new field of scholarship, and thus may not have reached the high level of complexity or accuracy when compared to other subjects. Another theory, closely related, is that those who conduct such research belong to disciplines which have shown little interest in engaging with CFI funding as a whole. It is true that the social sciences and humanities have traditionally constituted an extremely low proportion of the total research expenditures from the foundation. Yet officials from all the organizations surveyed were unsure of whether this fact represented the low level of infrastructural need for these disciplines, or whether such a pattern may be due to the aforementioned misconceptions about the foundation’s funding. Representatives from the SSHRC reported that, in an attempt to “get the word out to both the CFI and people in the social science and humanities that this organization [the CFI] can fund the infrastructure needed to support research in these fields” they were creating new grant competitions which included a CFI component in the application. Such programming will be seen in future Major Collaborative Research Initiatives (MCRI) competitions, which “supports leading-edge research with true potential for intellectual breakthrough that addresses broad and

⁸⁷ Metacalfe and Fenwick, 214-215.

critical issues of intellectual, social, economic and cultural significance.”⁸⁸ Regardless of the cause of the misconceptions, scholars in this field should make a greater attempt to engage with the CFI’s mandate, history, and representatives before publishing information about the foundation’s supposed impact on Canadian research in international journals, if for no other reason than because scholarship missing this basic level of intellectual rigor does nothing to promote an already under-researched topic of inquiry.

Through this examination of private sector expenditures, commercialization trends, and CFI programming, it should be apparent that the fear over a suspected private sector or profit-motive takeover of Canadian professorial research is just that—unsubstantiated fear. Private sector expenditures into social sciences and humanities research has been decreasing in the last ten years, and private sector involvement into university research as a whole is decreasing in proportion to other sources, such as non-profits. Institutional interest in commercialization grew at the beginning of the reinvestment phase, but has since become stagnant. Finally, the one organization which is supposedly directly responsible for the business takeover, the CFI, is specifically devoted to supporting traditional basic research and while it may leverage funding from the private sector to this end, it does so with the added provision that such funding be used towards outcomes which have significant benefits for all Canadians. Canadian scholars attempting to link national developments to the trends which may be occurring in other industrial countries have thus done so without taking stock of the inherent uniqueness of the Canadian situation. In 2007 the OECD placed Canada near the very bottom of its countries when measuring the national proportion of businesses collaborating with public universities for the purposes of research and development.⁸⁹ Similarly, the national Science, Technology and Innovation Council’s 2008 *State of the Nation Report* voiced concern over the fact that that “[i]n the World Economic Forum’s survey of executives, a relatively low share of Canadian executives gave positive reviews of the state of university–business cooperation in Canada.”⁹⁰ Moreover, Polster’s argument that the federal government facilitated university–industry

⁸⁸ Social Sciences and Humanities Research Council, “Major Collaborative Research Initiatives,” *Funding Opportunities*, accessed October 29th, 2010, retrieved from <http://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/mcri-gtrc-eng.aspx>.

⁸⁹ Organization for Economic Co-operation and Development, *Science, Technology and Industry Scoreboard 2007* (Brussels: OECD Publishing, 2007): 157-159.

⁹⁰ National Science and Innovation Council, *State of the Nation Report, 2008* (Ottawa: National Science and Innovation Council Secretariat, 2008): 36.

alliances in a direct effort to claw back its own expenditures on research funding is demonstrably untrue, since, as tables 25 and 27 in the appendix show, federal funding to the tri-councils never substantially decreased except during the aforementioned retrenchment period of the early to mid nineties. The decreases felt at this time, however, were never as significant as the increases produced from the reinvestment phase.

Argument Three: Targeting

Related to the issue of business-directed funding is the more general matter of “subject targeting.” Targeting occurs when those who control research funds or their funding mechanisms disperse these monies in competitions which focus on a single field. Targeting is often used as the primary means of supporting applied research topics, though not fundamentally so as it may also occur at the disciplinary level. For the social sciences and humanities, major targeting initiatives stem from one of three central sources: provincial competitions (which obviously vary according to the interests of the respective legislatures who fund them), the federal government (which targets specific fields and subjects that may have significant value for policy development), and the SSHRC itself. Since the tri-councils are the primary vehicle for dispersing federal funding in university research, the latter of these two are highly interconnected. While the SSHRC receives its entire budget from parliamentary appropriations, the funds are differentiated by those which go to the council’s “base” (and are subsequently used for either standard research grants or targeted initiatives accordingly to the SSHRC’s internal programming) and those funds which the government has earmarked for specific competitions that the SSHRC *must* administer.⁹¹

Disentangling which targeting initiatives derive from which source and what this may mean for the purpose of the initiative is an important step for understanding the recent trends on this subject. Accusations that the government is “taking over” the direction of Canadian research are often a reaction to periods when there is little increase to the council’s base amounts but additional earmarked funding for government-determined competitions. Such is the sentiment expressed by a number of scholars, such as Szeman, who writes that,

⁹¹ A fourth category consists of the appropriations used in the council’s general operating expenditures. For the purposes of this thesis, however, this category is not relevant for analysis.

[t]he practice of targeting increasing amounts of research monies to “strategic areas” and to university-industry-community “joint initiatives” is but one sign of this fundamental aim of state-sponsored research. Even if it has proven to [*sic*] difficult to stop the slide of research monies toward its uses to biopolitical ends, as scholars we have become adept at identifying and challenging this particular re-definition of our research practices.⁹²

Targeting does have serious implications for control, and those who determine the targeted fields of the tri-councils also channel the research activity across their respective disciplines. There are, however, significant differences between the methods that the government uses to determine targeted areas and those used by the tri-councils themselves. Government initiatives are typically derived as the product of autonomous decisions from individual federal departments, such as Elections Canada or the Department of Heritage. They may also be the product of budgetary decisions and announcements from parliament, such as the Initiative on the New Economy which, though first conceived by past-SSHRC president Marc Renaud, the SSHRC has administered on behalf of parliament since 2001. Conversely, the SSHRC’s internal priority areas are determined after a period of consultation with the greater social sciences and humanities research community, and as such are much more inclusive of researcher input. In this manner, academics have a much greater say over the determination of the SSHRC’s internal priority areas than they do over government funding envelopes, and Szeman’s inability to differentiate between these sources is an unfortunate oversight.

Regrettably, the SSHRC has made little attempt in its reporting history to differentiate between those fields which are government-directed and those that are unique the council itself, preferring instead to merge both sources into one of two categories of expense: “strategic research development” or “targeted research and training initiatives.” Accordingly, capturing trends between the sources is difficult, since the two aforementioned categories contain funding amounts from both. This difficulty is further compacted by the fact that there is no public document which contains a consistent measure for capturing long term trends in either the categories or sources in question. The SSHRC’s publicly accessible financial statements only go back as far as the 2002-2003 fiscal year, and a substantial reporting change in 2005-2006 makes

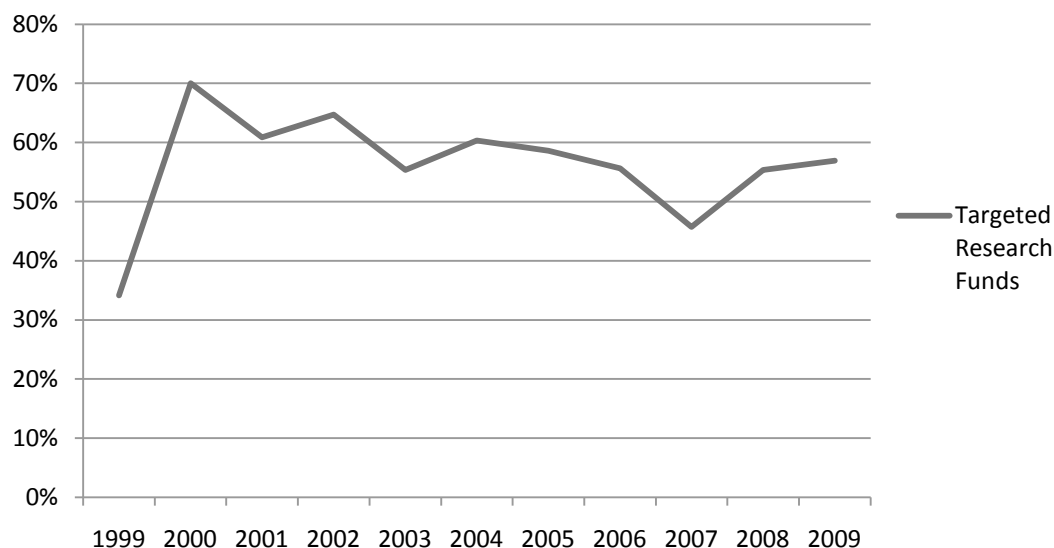
⁹² Imre Szeman, “Administered Lives: Scholarly Research, Accountability, and the “Public,” *English Studies in Canada* 32.4 (2006): 10.

the majority of these documents incomparable between one another. Similarly, the compiled financial statistics on the SSHRC's website, which date from 1995 onwards, change the terms of their reported categories almost every two years.

In the absence of a more suitable measure, trends on targeting in the SSHRC competitions have been captured in this thesis using the council's internal award database. While this database does provide consistent categories of measurement from 1998-1999 and onwards, it does not provide an explanation as to how the council determined which competition fit with each category. Indeed, there is no mention in the SSHRC's public documents of the various "program clusters" listed in this database except in the financial statements created after the 2005-2006 fiscal year. There is thus no method for determining the reliability of the resulting categories, or their amounts, and a brief examination of the competitions reveals that both government and the SSHRC-led initiatives are present in each (save the "Investigator-framed Research" category, which is primarily drawn from standard research grants). Table 30 in the appendix presents total dollar amounts for these categories, as well as their distribution. The curious reader may be interested in its supplementary information, table 31, which show the competitions included in each category by their number of applications, awarded monies, and average award amounts in the last nine years.

Despite the inability to differentiate federal initiatives from those of the SSHRC and the questionable reliability of the categories, this table does provide two useful insights for understanding targeting trends in the social sciences and humanities. To begin with, it is true that investigator-framed research has dropped in its proportion of total grant expenditures. This diminishing proportion, however, was not accompanied with a similar drop in actual funding, and so the trends captured here may represent the divergence in the base sizes of the categories rather than significant changes between. To examine this, figure 4 presents targeted research funds (total amounts for the "strategic research development" and "targeted research and training initiatives" categories combined) as a proportion of investigator-led research amounts.

Figure 4: Targeted funding as a proportion of Non-targeted funding, 1998-9 to 2008-2009
[Investigator-framed Research = 100%]

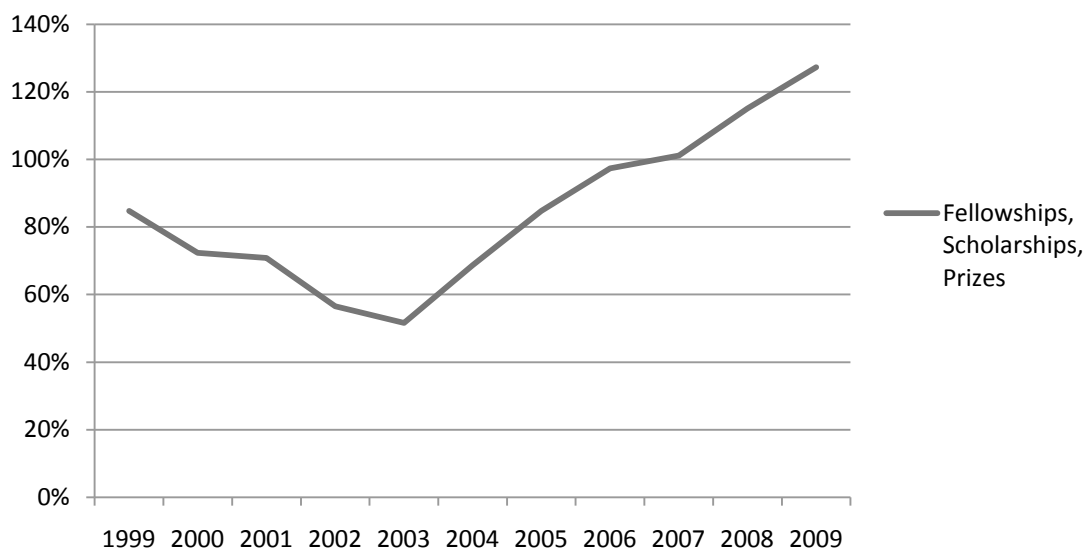


Source: SSHRC Internal Expenditures

Here we can see that after a large increase at the start of the reinvestment phase, funds for targeted research initiatives have sporadically dropped since 1999-2000. Moreover, the supplementary information shown in table 31 demonstrates that these targeted funds represent less than 20% of the total money the SSHRC has divested for research in the last 10 years, and an even lower percentage of the total applications. Accordingly, while a significant increase in subject targeting has occurred since the beginning of the reinvestment phase, as shown by the fact that the targeting percentage is higher in 2008-2009 than it is in 1998-1999, this increase has not been consistent.

Secondly, the only category to receive a considerable increase both as a proportion of total funding and in relation to investigator-led research has been that of “Fellowships, Scholarships, and Prizes.” Compare, for example, the dwindling percentages for targeted initiatives in figure 4 with the growth shown in figure 5:

Figure 5: Fellowships, Scholarships and Prizes as a proportion of Non-targeted funding, 1998-1999 to 2007-2008 [Investigator-framed Research = 100%]



Source: SSHRC Internal Expenditures

Here we see a large increase after 2002-2003, as the funding amounts in this category overtake that of the standard research grants (in other words, are higher than 100%). As the supplementary table demonstrates, the majority of this funding is made up of graduate scholarships and fellowships, all of which are non-targeted, open competitions. Far from being a “targeted” takeover then, funding at the SSHRC has thus become increasingly student-oriented, to the benefit of future academic researchers.

Using the admittedly imperfect measures to capture targeted research, these tables and figures demonstrate that these initiatives should not be seen as a trend of any significant concern for the social sciences and humanities. This fact has been corroborated by the SSHRC officials, who note that total targeted and strategic initiatives have never constituted more than 30% of the council’s annual budgetary appropriations in its entire fiscal history.⁹³ If anything, trends during the reinvestment phase have shown a stable commitment to non-targeted initiatives competition, with student-focused scholarships taking dominance over traditional faculty-directed programming. Moreover, government-directed initiatives are often the product of the aptly named “winds of policy” since they come and go according to the strength of the electoral parties. As the seats of the government are replaced by new individuals and new interests, the

⁹³ Unfortunately, there is no publicly available evidence to show this.

research initiatives are often replaced as well. This instability provides little opportunity for coherent federal research programming, let alone a supposed “takeover” in this sector.

Argument Four: New Managerialism

After careful analysis, it was found that arguments four and five constitute trends with a greater level of analytical substance than that of the three others. Accordingly, and in recognition that capturing the development of these two trends in particular requires more than a simple analysis of graphs and public statistics, chapters three and four have been devoted specifically to their exposition. To prevent a cross-over of analysis between those chapters and these sections, the following two segments provide only a brief introduction to the arguments therein.

Concern over “New Managerialism” in research funding typically revolves around the growing power of university officials in determining the direction and characteristics of institutional research activity. As Polster noted earlier, research activity has traditionally been the domain of small collectives of individual researcher-scholars, and has conventionally been directed “organically,” from the changes and developments accrued in specific networks of disciplines and subjects. The reinvestment phase, however, brought with it a number of initiatives which have made two significant changes to the Canadian research landscape. First, universities are now receiving a higher return of “value” (in both funding and status) for their faculty’s grant success ratings. As such, they have a greater vested interest in increasing this measure for all disciplines. As chapter three will show, this has been done through a number of methods, often with serious consequences for research productivity. Secondly, some new initiatives are such that institutions *as a unit* have become applicants in open competition with one another. These initiatives typically require a long-term strategic plan which targets the research priority areas of each applicant and are conducted via peer review in a competition for “excellence.” Those universities with a more coherent and focused strategy for directing their faculty’s research activity will thus be more successful in securing these substantial funds. As more internal or general operating funds have been devoted to developing and expanding institutional research offices, universities have shown a rapidly increasing interest at winning these open competitions.

As mentioned above, it has been the initiatives created during the reinvestment phase which have produced these trends. One of these has been a substantial change in the way research costs as a whole are understood. Although the granting councils play an important part in cultivating Canadian research and innovation, they only do so by funding the direct costs associated with these activities. The indirect costs of research, such as the various expenses related to building and equipment maintenance, light and heat, or capital depreciation, has traditionally been the responsibility of the individual universities and was thus contingent on the size of their respective operating budgets. In recognition of the barriers these costs posed for the pursuit of research activity, in 2000-2001 the federal government provided a one-time budgetary increase of \$200 million to the tri-councils for purposes of funding indirect research expenses. In 2003 the Indirect Costs Program (ICP) was initiated, providing permanent annual funding for this service. With a contemporary (2010-2011) budget of \$322 million, the ICP is intended to provide an estimated 40%⁹⁴ of the total indirect costs associated with all Canadian research, though some scholars place this figure at a low 25%⁹⁵. What is interesting about this program is the distribution of its funding; the ICP totals the revenue amounts given by the tri-councils to each institution and disburses its funding for indirect costs according to the following calculations (table 9):

Average revenues from CIHR, NSERC and SSHRC research grants	Funding for indirect costs
First \$100,000	80%
Next \$900,000	50%
Next \$6 million	40%
Balance	Percentage calculated annually, based on the total amount available; approximately 20%.

Source: The Indirect Costs Program, *Grant Calculations*, 2010. Retrieved from http://www.indirectcosts.gc.ca/calculations/index_e.asp

The monetary boundaries in this table are cumulative. Those with \$100,000 dollars in sponsored tri-council grants, for example, are given \$80,000 dollars in indirect cost funding, while those with \$1,000,000 tri-council funding are provided with \$530,000 indirect cost funding. Those

⁹⁴ Fisher et al. 96.

⁹⁵ Snowden, "without a map" footnote 23.

with 7 million dollars in tri-council grants are awarded a little over 4 million in indirect costs, and so forth. This formula is intended to provide an equitable distribution of ICP funding across Canada, but is not without criticism. Cameron, for example, argues that it constitutes a counter-productive strategy since

[...] universities doing relatively little research have a higher proportion of their research expenditures reimbursed as indirect costs, as compared with more research-intensive universities. There may be some logic to this based on actual marginal costs of supporting relatively small research enterprises, but as a strategy for encouraging success it leaves much to be desired.”⁹⁶

This criticism must be qualified, however, as the sheer size differences between the sponsored research amounts leaves little room for a “more equitable distribution” of the program’s current funding. While it is true that the low level of indirect cost reimbursed to universities as a whole is problematic, the actual distribution of the program’s current funding across the institutions seems quite fair. Table 10 presents the categorical⁹⁷ distribution of funding for the indirect costs program’s 2008-2009 fiscal year:

Table 10: Indirect Costs Funding at Canadian Institutions by Institutional Categories, 2008-2009

Institutional Category	Indirect Cost Budget		Distribution of Institutions	
	Total Dollar Amount	Percentage of Total	Number of Institution	Percentage of Total
Medical/Doctoral	229,882,516	70.91%	15	12.40%
Comprehensive	46,793,379	14.43%	10	8.26%
Primarily Undergraduate	27,656,804	8.53%	24	19.83%
Non-Categorized Universities*	10,886,559	3.36%	16	13.22%
Other/Technical Institutes	6,496,127	2.00%	10	8.26%
Colleges	2,467,394	0.76%	46	38.02%
Total	324,182,779	100.00%	121	100.00%

*Non-Categorized Universities consists mostly of small, undergraduate-based universities which are relatively new and have yet to receive a label, and those institutions which make up the University of Quebec system.

Source: Indirect Costs Program, Internal Expenditures.

⁹⁶ Cameron, “whither federalism” 13.

⁹⁷ The term “category” here refers to the three categories of universities employed in chapter 3 and 4, namely Medical/Doctoral, Comprehensive and Primarily Undergraduate. These terms have been taken from MacLean’s Magazine annual university rankings publications.

Here we see that 15 medical/doctoral institutions, which make up only 12% of the total institutions funded by the ICP, receive 70% of the program's expenditures. In contrast, the 46 colleges included in the program for this year received less than 1% of the total funding. Hence Cameron's concern that the ICP's distribution penalizes universities "in direct proportion to their success in attracting sponsored research grants"⁹⁸ is simply unfounded, especially in light of the fact that the same 15 medical/doctoral institutions reported in table 10, as a group, account for only 55% of the total tri-council funding during the same fiscal year. It stands to reason that, because of the size of the award amounts and subsequent programming calculations, those universities which receive a high proportion of tri-council funding are actually rewarded with even higher proportion of the ICP's budget. The problem is thus not with the distribution of funding in the ICP, but rather that this program requires a larger total dollar budget if it is expected to adequately address the total costs of research on Canadian campuses.

The ICP program is important for a number of reasons, most significantly because it provides universities with *funds for expenses that would have otherwise been paid by general operating amounts*. As Jones and Young have noted, this has helped to further enable institutions to treat federal grants as a viable sources of institutional income.⁹⁹ Those universities which take strategic measures to increase tri-councils funding to their scholars are thus disproportionately awarded with additional funds, which can then be used to cover a variety of expenditures in different areas of need. As will be shown in chapter three, strategies to increase grant success have grown in the past ten years, with significant changes in the way this "success" has been managed by Canadian institutions.

Another important initiative contributing to managerialist tendencies is the Canada Research Chairs (CRC) program. Originating from concern over the aptly named "brain drain" wherein quality Canadian researchers emigrate to prestigious universities in the U.S. and abroad, this program provides funding for universities to select and promote individuals in their faculty as national research "stars." Degree-providing institutions who have received at least \$100,000 or more dollars from tri-council funding are eligible to receive an allocation of chairs. Of the 2000 possible allocations, all Canadian universities who meet the basic requirement receive one

⁹⁸ Ibid 13.

⁹⁹ Jones and Young 193.

chair as a base minimum. 1880 chairs are distributed according to a nomination and appraisal process which takes into account each institution's submitted strategic plan and past tri-council grant success in terms of average awarded dollars for the last three fiscal years. A further 120 chairs are set aside as "special allocations" to those universities which have received 1% or less of the total granting council funding amounts. Some universities are thus eligible for both regular and special allocations. As administered by the CRC mandate, there are two levels of chairs which can be awarded to Canadian professors. Tier one chairs are allocated for world leaders in their field of research; for each tier one chair, the hosting university receives \$200,000 annual dollars for seven straight years to be used in accordance with the fiscal strategy found in the institution's submitted strategic plan. Similarly, Tier 2 chairs, which are given to individuals who show exceptional research potential, bring in \$100,000 annual dollars for five years. Each institution is given some level of flexibility over the distribution of chairs it may allocate across its respective disciplines, though the CRC urges institutions to strive towards a distribution which would be similar to that set out in its policy manual, namely 45% to the NSERC's researchers, 35% to those under the CIHR, and 20% to those under the SSHRC.¹⁰⁰ The program was awarded a little under \$300 million when it first began in 2000 and has since received \$2 billion in annual funding to date.

While each university receives an allocation of chairs according to its total proportion of combined tri-council funding, in order to fill these chairs (and thus receive the funding for them) institutions must nominate individual researchers to the allocations. Once nominated, the CRC then decides whether the individual will receive the position through a competitive process of expert peer review. Success in the nominations is, in principal, dependent on two factors; first, the quality of the research and suitability of the funding expenditures connected to the allocation and second, the relative "fit" between the nominee's research focus and the institution's aforementioned strategic plan. According to most scholars, the quality of the institution's

¹⁰⁰ There seems to be discrepancy between the official distribution and those which have circulated in the scholarly literature. According to Cameron, "The humanities and social sciences, which would have qualified for approximately 12% of the chairs on the basis of their share of research grants, were actually awarded 40% of the chairs. The health sciences were allotted 34% and the natural sciences and engineering 45%. Still, there were complaints that the humanities and social sciences should have received more." (Cameron, "whither federalism" 19). Cameron's numbers on matter, however, are most likely a typing error, as they add to a suspicious 119%.

strategic plan is thus of paramount importance for acquiring CRC funding.¹⁰¹ Polster has argued that, because of this importance, the CRC program will increase the level of institutional infringement on faculty-directed research since,

[b]y definition, the selection of priority areas for strategic investment promotes specialization. Less obvious are the ways in which these initiatives may lead to the erosion—in absolute and/or relative terms—of some kinds of university research capacity, further advancing institutional specialization and differentiation.¹⁰²

The central element here is the institutional *interest* in directing professorial research, rather than administrative capabilities to do so. While scholars such as Polster argue that the CRC nomination process provides significant motive for increasing managerial authority over research, they have yet to show that such motive translates into actual power, or indeed, how such a power would manifest itself. The problem lies with placing such a large emphasis on the institution's strategic plan. These documents are often very short and quite broad with regards to the subjects and disciplines that could fit within their purview. If administrative managerialism does exist in this regard it must follow a two-step process whereby the strategic plan covers the university-wide research interests of faculty, and the administrative officials then choose specific lucrative topics from this collection to promote and support.

While academic reaction to programs such as the ICP or CRC highlights a growing concern over research managerialism, the actual effects of such a trend are difficult to discern. In an attempt to capture managerial strategies for cultivating strategic research plans, and thereby understand their implications for social sciences and humanities research, chapter three employs interview data with various research officials at Canadian institutions. Findings suggest that the infusion of new managerialism in the research landscape may have significant indirect consequences for the ways in which future professorial research will be conducted. Accordingly, this is the only “fear” out of the five examined that is substantiated by scholarly evidence.

¹⁰¹ Shanahan and Jones argue that the CRC constituted the first time when institutes “were required to develop and submit an institutional research plan in order to obtain support” but this is untrue, as both CFI programming and certain tri-council initiatives which predate the CRC also required university-wide applications. (Shanahan and Jones 35).

¹⁰² Polster, “continuity and change” 185.

Argument Five: Institutional Grant Success Stratification

In addition to an overall increase of managerial interest in grant success, scholars of higher education have also argued that the reinvestment phase has cultivated a higher level of institutional stratification in terms of research activity than at any other point in Canadian history. Polster argues that recent expenditures, because of their sheer volume, will increase institution differentialization at a greater rate than if the same level of funding had been dispersed at a more consistent pace. As a result of this rapidity, federal funding has predominantly fallen to those universities which had a pre-established culture of grant success, such as those with a flexible level of general operating funds to support research and those with a greater public reputation. She argues that such centralization “means that many academics are likely to experience significant and rapid declines in their relative professional standing,”¹⁰³ or at least until the smaller universities catch up by employing managerial strategies to compensate for these weaknesses.

The mechanism by which these new initiatives are dispersed is the culprit behind such trends, as the CFI, CRC and tri-councils (and, by extension, the ICP) rely on open grant competitions to allocate the majority of their funding. Snowdon argues that institutional differentialization is the logical consequence of such practices; had the funds been distributed through the provincial operating grant mechanism the universities would receive allocations according to their size or student body, however,

[b]y adopting the precepts of existing federal research funding mechanisms the notion of “equity” played out quite differently at the institutional level. Federally, the granting councils had well-established allocation programs that, for the most part, were seen as using peer-adjudicated competitions to fund individual professors. The concept of competitive grants was part of the research ethos and the results, when “rolled up” to the institutional level showed a quite different allocation result than if the monies were simply allocated, for example, on the basis of the number of faculty in each institution.¹⁰⁴

¹⁰³ Ibid 194.

¹⁰⁴ Snowdon, “without a map” 33.

By channelling these funds through highly competitive initiatives a “very small set of Canadian institutions emerged as clear research leaders”¹⁰⁵ and have continued to dominate in terms of success ratings. However, considering Canadian institutions were already highly stratified in this regard before the reinvestment period, Snowden has failed to demonstrate just how much this stratification has increased.

It is important to note that the existence of this proposed stratification is not simply the product of distributive characteristics of specific disciplines or subjects. It is true that smaller, undergraduate universities receive an extremely low level of the CIHR’s funding because health-related research is monopolized by medical/doctoral institutions and, likewise, that smaller universities are generally less successful in persuading third-party investors to contribute to CFI applications. However, as open competition is an integral aspect of most all tri-council programming, these extremities are simply localized forms of a much larger pattern. In this respect the disparities which exist between Canadian universities would logically be present in all disciplines, including the social sciences and humanities.

To examine the veracity of claims surrounding the differentialization and stratification of Canadian institutions in terms of the SSHRC grant success, chapter four takes an in-depth examination of this council’s competition results. This chapter uses three interpretations of success—success rates (as a function of awarded application per submitted application or awarded funding per requested funding), engagement levels (as a function of applications per faculty) and average award amount (as a function of awarded funding per awarded application) to show that stratification in the social sciences and humanities did not increase among Canadian institutions during the reinvestment period.

Conclusion

If anything, the findings of this chapter show that scholars of Canadian higher education should make a much greater attempt to test the assumptions they employ in their research. In this case, three of the five fears examined surrounding the implications of new federal research funding for the social sciences and humanities were found to be unsupported. The SSHRC’s operating budget has not decreased in the last ten years, nor has this council’s proportion of total tri-

¹⁰⁵ Ibid 34.

council funding lowered during this time. To the contrary, the reinvestment phase has saw in an increase in federal interest in this organization, to the benefit of social science and humanities research at large. The “business takeover” thesis, undoubtedly a by-product of both the growth in private sector R&D expenses and academic assumptions about the similarities between Canadian and American PSE sectors, was also found to be false. Finally the issue of a “targeting takeover” at the SSHRC was also disproven, highlighting the fact that when examining federal research funding one must be sensitive to both the reality and appearance of publicized changes. Although a government may provide new ear-marked grants for specific subjects, it is the size of these expenditures as compared to other forms of support which determines their significance for research.

Chapter 3 – Federal Programming and University Managerialism

Managerialism (or “New-Managerialism”) is a recognized, well-established, and highly influential subject throughout international research into higher education. A large reason for its popularity has arguably been due to the expansion of interest into the workings of the PSE system in general, and indeed, the number of publications, books, and conferences devoted to issues of academic governance has risen rapidly since the 1980s. A second and perhaps more pervasive reason, however, has been the growing visibility of administrative power within various sectors the academy. Scholars point to the fact that the academy is acting more “business-like” with regards to establishing institutional priorities, particularly when finance is involved. Deem notes that this structural quality has had a trickle-down effect into the various faculties, as “heads of academic departments once concerned mainly with academic leadership have now become heads of budget cost centres.”¹⁰⁶ It is important to note these structural changes are an extremely recent development; Birnbaum’s work probes into the characteristics and life-cycles of university management “fads” since the 1960s, and finds that although educational leadership has gone through a number of significant changes in the last six decades, recent developments since the 1980s seem to be converging on the issue of greater structural hierarchy in executive university administration.¹⁰⁷

Introduction

Despite the high level of academic interest in the subject, discussion around university managerialism tends to be oversimplified and employs a number of generalizations—as if the same kind of managerialism exists to the same extent at all campuses. Little attempt is made, for example, to delineate between the regional variations of this trend or the many important factors which limit its reach. Thus Rhoades’s *Managed Professionals*,¹⁰⁸ through an analysis of 212 American faculty collective bargaining agreements, adequately describes the growing power of managerialism in determining such issues as faculty stratification or the expectations and procedures around new hires, yet fails to adequately stress that it is this same legal agreement

¹⁰⁶ Rosemary Deem, “Globalization, New Managerialism, Academic Capitalism and Entrepreneurialism in Universities: Is the Local Dimension Still Important?” *Comparative Education* 37.1 (2001): 11.

¹⁰⁷ Robert Birnbaum, “The Life Cycle of Academic Management Fads,” *Journal of Higher Education* 71.1 (2006): 1-17.

¹⁰⁸ Gary Rhoades, *Managed Professionals: Unionized faculty and restructuring academic labour*. New York: New York UP, 1998.

which regulates the extent of this administrative takeover and its reach. The same text also fails to differentiate between the managerialism of university and that of the faculty union, preferring instead to lump both into the one amorphous blob with the same qualities and origination. Similarly, Deem's work on the "Managerialist University," notes that this new method of administration is "very different from the collegial self-governance traditional among academics"¹⁰⁹ but, given that she recognizes that both exist at the same time, makes no attempt to examine the existing relationship between the two or how they interact. For the majority of publications the message is simple and clear: managerialism is an unnecessary evil on campus, singular in its manifestation, unified in its goals and consequences, external to the institution, imposed on the professoriate, and at significant odds with the traditional goal of the university. Little attempt has been made to provide much-needed qualifications to these pre-existing assumptions.

While scholars are thus unclear about the various manifestations of these trends, they are much more emphatic about their potential consequences for the university. Deem characterizes managerialism, with its focus on centralizing executive power, as "an ideological approach to the management of publicly funded services in Western societies"¹¹⁰ since it encourages the adoption of "private sector organizational models" into public institutions.¹¹¹ Developments in this vein are thus far from innocent, and because they conflict with the traditional academic ethos of work they will eventually "unravel the fabric of academe." She provides a few examples to this end:

[m]anagerialism also seems to have led to a number of specific consequences for the integrity of academic work. The consequence include [...] active intervention in how and on what topics academics conduct research and in the outputs of that research; the development of audit regimes to assess the quality of teaching and learning, which are based on a distrust of academics and a belief that the outcomes of teaching can be predicted in advance; a shift in the axis of doctoral degree from a mainly academic

¹⁰⁹ Rosemary Deem, "Unravelling the fabric of Academe: The managerialist university and its implications for the integrity of academic work." *Universities at Risk: How politics, special interests and corporatization threaten academic integrity*, eds. James L. Turk (Toronto: J & Lorimer Co., 2008): 258.

¹¹⁰ Ibid 256.

¹¹¹ Ibid 258.

concern to one embroiled in a whole range of intrusive quality measures and bureaucratic devices and changes to doctoral programs and viva procedures, with students also displaying a consumerist attitude to their studies.¹¹²

Whether such a laundry list of consequences accurately relates to the “integrity” of academic work, they describe a trend that has far-reaching implications for research activity in particular. With its emphasis on performance and outputs, this managerialism may have a detrimental effect to the “creativity of research,” preferring instead to treat it as “something that can be overly “managed” by others than academics, as a process of generating extra institutional income and as contributing to an international reputation and position in world league tables.”¹¹³ The fear here is that such trends will subordinate the goals of research to the needs of the institution and further centralize executive authority in the university structure. This will eventually lead to the proliferation of specific patterns of knowledge production for the institutions which adopt such practises.

The originations of these developments are diffuse, but there is some level of consensus surrounding their causes. Managerialism is argued to be a global PSE phenomenon, and while scholars recognize that there may be localized variation in terms of nation or region, they note that the similarities often outweigh the differences. Such is the sentiment expressed in Bruneau and Schuetze’s “Less State, More Market: University Reform in Canada and Abroad,” which finds similar trends regarding the growing power of administrative control in the PSE sectors of five countries. The unifying factors between these cases are the aims of the state, which encourages managerialism throughout its public institutions by enacting policies which require the centralization of authority, resources, and decision-making processes. From this view, managerialism is a “necessary and honest admission that business practice, and the forces of the market, are the best guides for post-secondary education in all its aspects [...]”¹¹⁴ Since the transformation is global, it stands to reason that its driving force is also international in nature. Accordingly, globalization, competition and capitalism have become the three central culprits

¹¹² Ibid 279.

¹¹³ Ibid 268.

¹¹⁴ Hans G. Schuetze and William Bruneau, “Less State, More Market: University reform in Canada and abroad,” *Canadian Journal of Higher Education* 34.3 (2004): 11

mentioned in scholarly literature.¹¹⁵ Managerialism thus constitutes a complex government-sanctioned strategy to drive up productivity and increase efficiency within PSE institutions, thereby ensuring that these “engines of prosperity” are well-oiled for the benefit of the nation-state. This line of reasoning has been consistently employed by scholars of *Canadian* PSE in particular, who argue that both the retrenchment and reinvestment phases were characterized by government attempts to “restructure post-secondary education and force efficiencies”¹¹⁶ through earmarked funding and budgetary changes.

While governments constituted the original “author” of the trend there were also serious institutional reasons for its appropriation on campus. The goals of managerialism often gelled with the objectives of Boards of Governors, who throughout this period increased their supervision over the university’s internal financial affairs. These boards demanded more productivity of their appointees, resulting in “revolving door” positions for high administrative services whereby appointees were sacked if they failed to deliver expected returns in a timely fashion. During this period universities also faced increasing pressure to demonstrate they were fulfilling their expected responsibilities to the public at large. The province governments were the main instigator behind this change and often required detailed reports to show that their “investments” into universities and colleges were producing significant and tangible returns for their respective populations, and were therefore justified. To this end, the growth of global managerialism was aided by the need for greater reporting and accountability levels in all aspects of the PSE sector. Prior to the 1980’s there were relatively few feedback mechanisms from which to evaluate the productivity or efficiency of a professoriate. During periods of reduced state spending, however, such as Canada’s retrenchment period of the mid to late 1990s, both institution and government became increasingly interested in assessing the value of return that their investments had produced. This need coincided with the growth of the “research office” on campus which, though it’s structure also varied by nation and region, was universal in its mission to collect detailed statistics on research activity in order to generate performance indicators for its respective institution. These performance indicators soon became the brunt of scholarly criticism, with the charge that the levels of accountability they afforded to provincial officials,

¹¹⁵ Rosemary Deem, “Globalization, New Managerialism, Academic Capitalism and Entrepreneurialism in Universities: Is the local dimension still important?” *Comparative Education* 37.1 (2001): 7-20.

¹¹⁶ Snowdon, “without a map” 26.

boards of governors, and individual managers were not worth the changes they were making to the campus itself. While hyperbolic charges of the “weakening of the professoriate”¹¹⁷ abounded, however, few actual examples of any great change were given.

In their *Counting out the Scholars: The Case against Performance Indicators in Higher Education*, Canadian authors Bruneau and Savage attempt to argue that PSE performance indicators are the product of neo-conservative government practises,¹¹⁸ and as such constitute a tool for gaining control over general university activity. Far from providing useful measures, the authors “[d]eny outright neo-conservative claims that PIs are a means of assuring accountability [and instead] contend [that] they in fact weaken and even deny true public accountability in universities and colleges.”¹¹⁹ Unfortunately the authors provide scant evidence to support this position, save unsubstantiated argumentation, and thus fail to show how the use of such indicators “threaten[s] to force public higher education backward to an authoritarian past”¹²⁰ or even what such a dystopia would look like if it did exist. What the text does excel at demonstrating, however, is that such measures have increased the power of university administrators and managers in terms of directing most activity on campus. Through a case study analysis of the use of “PIs” in Canada, United States, New Zealand, and the United Kingdom, they find that many statistical measures of activity have “strengthened the hand of administrators, accountants, and business consultants”¹²¹ in determining university policy on a variety of issues. Accordingly, the managerialism that has grown in research production has also occurred for other PSE services, such as teaching.

The use of performance indicators for determining research activity in particular has the added problem of ensuring accuracy in capturing both the quantity and *quality* of institutional research output, and most of these measures are criticized for their failure to do so on the side of the latter. As some scholars have noted, strategies for increasing research productivity are “constrained by the limitations of their measurement”¹²² since, as governments and institutions

¹¹⁷ Schuetze and Bruneau 10.

¹¹⁸ Bruneau and Savage 65.

¹¹⁹ Ibid 1.

¹²⁰ Ibid 4.

¹²¹ Ibid 63.

¹²² Richard J. Meisinger Jr., et al., “Productivity from an Interorganizational Perspective” *New Directions for Institutional Research* 1975.8 (1975): 101.

adopt different schemes by which to capture professorial productivity, the suitability of the measures lead to divergent conclusions about what constitutes “performance” in a particular sector. While institutional measures vary by university, and are thus the product of administrative deliberation within respective research offices, state-employed indicators are much more centralized. Accordingly, these instruments constitute a more suitable subject of analysis when examining the effect of performance indicators on scholarly activity. Moreover, these same measures often act as the sole determinates of access to state funding, and as such have an important structuring effect on institutional measures. Thus in the United Kingdom the state employs the Research Assessment Exercise (RAE) which, among other things, aids in determining the government’s allocation of PSE funding for the eligible universities. This survey includes a myriad of measures in its formulation, such as publication output and impact factors, thereby imprinting the relevance of these indicators onto the institutions. It stands to reason that, as universities formulate their own internal statistics to measure their institutional performance, they will include these state-sanctioned indicators in their calculations as a means of ensuring access to external funding.

While the United Kingdom includes a number of factors in its allocation scheme, and thus arguably captures some semblance of quality in its measurement, Canada has taken a much more simplistic route to this end. Indeed, the measures employed by federal initiatives, specifically those created during the reinvestment phase, only employ two central indicators to determine their funding allocations: the total number of tri-council projects funded at an institution, and the total dollar amount of these funds. Aside from the peer review process that may accompany these figures, the new initiatives such as the CRC and ICP contain no mandate to evaluate quality in their allocation schemes and instead rely on the tri-council programming to ensure this element is present throughout the disbursement process. This is significant for a number of reasons. In its “great output search”¹²³ for a suitable research performance measure the government of Canada has showed something of an overreliance on pre-existing structures and initiatives created before the 1980s. As such, tri-council grant success now constitutes the basic building block for understanding all other state-directed research funding. Evidence of this can be seen in a number of ways: the CRC, for example, allocates the distribution of its chairs

¹²³ Eric Hanushek, “Learning by Observing the Performance of Schools,” *Measuring and Increasing Academic Productivity*, eds. Robert A. Wallhaus (San Francisco: Jossey-Bass, 1975): 23.

(and thus money) according to each institution's proportion of total dollar funding from the three granting councils for the past three fiscal years. While the nomination process is conducted via peer review, and is thus detached from that of the allocation, institutions cannot increase the total number of CRCs they may receive without first increasing their success at granting council competitions. Similarly, the ICP's monies are dispersed according to a scheme which is entirely determined by the institution's ability to secure tri-council funding. As we saw in chapter two, those institutions which receive a high proportion of tri-council money are allocated an even higher percentage of indirect cost funding. Likewise the CFI, though it relies heavily on a rigorous peer-review process and competitive programming, encourages its expert reviewers to take into account both the grant success ratings and the total dollar amount of tri-council funding at a university-applicant when determining the success of their applications for funding. In this manner by tying the allocation of research funding to a university's overall success in competitive grant programming the federal government has effectively demonstrated its commitment to view this measure as an indicator of both institutional research excellence and scholarly productivity. Such a policy has influenced the priorities of the institutions themselves, and the race is now on to increase the number and grant success of faculty-based applications for research funding in tri-council competitions.

Concern about the overall effects of managerialism on future research activity in Canada has generally been confined to one of three specific issues. First, there is the concern that the heavy reliance on tri-council success rates will result in a wave of internal programming within Canadian universities dedicated to increasing this measures. Polster argues that this strategy is more likely to occur in smaller, primarily undergraduate universities, where, "faced with the inability to apply or successfully compete for CFI, CRC, or other funds, frustrated administrations may decide to impose on their universities specialization plans or related policies and programs of their own making[.]"¹²⁴ thereby directing institutional research activity away from the traditional, faculty-directed model. Second, managerialism may lead to the rapid differentialization of research subjects. Institution-wide strategic research plans, such as those required by the CRC and CFI competitions, may push universities to change their internal allocation levels in order to better support priorities areas and subjects. Since these strategic

¹²⁴ Polster, "continuity and change" 195.

plans require a demonstration of a multidisciplinary “critical mass” of researchers in the chosen fields, more institutional emphasis (i.e. financial and structural support) will be given to those subjects, resulting in increased pressure for academics to ensure their research interests are congruent with that of the institutional plan. Such trends will also “raise the costs of their failing to do so,”¹²⁵ as funding for research activity becomes increasingly competitive. Finally, in addition to the inequality derived from the special emphasis given to priority subjects, managerialism is also feared to increase the differentialization between disciplines and faculties. Snowdon notes that the funding patterns which occurred during the retrenchment and reinvestment phases favoured specific disciplines over others. Accordingly, “[i]n a very short period of time internal resource allocation models that had been based on a variety of factors (including history) but often centrally controlled in the President or Provost’s Office, began to crumble under *ad hoc* modifications intended to respond to the new funding reality.”¹²⁶ This led to the creation of “have” and “have-not” disciplines, the former of which were believed to be in a better position to capture federal funds and private sector funding partners. Polster argues that this has had significant implications for the social sciences and humanities, as market-style research valuation, with its emphasis of supply (of researchers) and demand (of research output) “explain why the social sciences and humanities—the disciplines where the majority of faculty and students are concentrated (i.e., where the bulk of university teaching takes place)—are accorded the smallest allocation of research chairs.”¹²⁷ This is further exacerbated by the fact that social sciences and humanities research generally requires less dollar amounts to complete, and since the SSHRC receives less funding than its sister councils it constitutes a much lower proportion of a given institution’s total tri-council funding. Those institutions which are dominated by these disciplines will thus be awarded a lower level of indirect costs, despite their success at obtaining federal grants. These three concerns—that university administration is gaining control over research activity by way of grant success ratings, that the creation of strategic areas of research has lowered internal allocation levels to other subjects, and that cotemporary internal funding patterns have increase the stratification of the disciplines—frequent Canadian literature on professorial research, yet little actual evidence has been amassed to prove

¹²⁵ Ibid 186.

¹²⁶ Snowdon, “without a map” 43.

¹²⁷ Katherine Side and Wendy Robbins, “Institutionalizing Inequalities in Canadian Universities: The Canada research chairs program” *Feminist Formations* 19.3 (2007): 166.

their existence. If PSE managerialism is indeed a global phenomenon and its subsequent trends are as pervasive in the Canadian landscape as they are argued to be, they should be evident in all Canadian institutions, though with important local and institutional variations.

Methodology and Validity Issues

In order to examine the existence, extent, and implications of the three aforementioned suppositions, interviews were conducted with representatives from research administration offices in 10 Canadian universities. The interviews were conducted in a semi-formal manner, lasting on average one hour, with the added provision that neither the respondents nor the institution they were employed at would be identified throughout the thesis. Permission to employ tape recording was given for all but one interview, and the resulting data was transcribed, coded and analyzed using MAXQDA, transcription software. The codes employed during this process were based around the three themes, or fears, mentioned above and then sub-coded according to subjects which were internal to these themes. This method produced an excess of three hundred multi-coded segments and, because of this relative large segment to code ratio a fourth code was created during the process. The resulting theme—inequality in the growth of managerialism between institutions—became a subject of analysis in its own right.

The data collected during this research is seriously limited by its lack of institutional representation. As table 11 shows, the 10 institutions included in the respondent set only constitute somewhere between 15% and 20% of the total universities in Canada, depending on which listing is used to capture this measure. Because of this low percentage caution should be used when making generalizations about their situation into the wider PSE landscape. Instead of providing definitive proof concerning the existence and consequences of Canadian university managerialism, the findings of this chapter should thus be seen as exploratory, preliminary results. Such findings can point to the presence of managerialism in some institutions, and are therefore relevant, but cannot verify that the consequences of such managerialism are unified or national. This is not a particularly significant weakness however, as the existence or implications of research managerialism itself has not been well documented and so any evidence to this end is an improvement. It also reinforces the notion that further research is desperately needed to examine the growth and extent of these trends. In essence, this chapter examines whether research managerialism exists in the three aforementioned forms, whether it has grown in the last

ten years due to recent federal initiatives, and if it has had a significant effect on social sciences and humanities research activity within ten Canadian institutions surveyed.

Table 11: Sample Representation According to Select Populations

Universities Represented by:	Number of Institutions	Respondent Representation
Chapter 3 Interview Data	10	100.00%
Total Universities Listed in Table 32	66	15.15%
Labelled Universities Listed in Table 32	49	20.41%
AUCC Listings*	71	14.08%
CAUBO Survey†	65	15.38%
Chapter 4 Statistical Analysis	49	20.41%

* According to 2009-2010 Membership listing (includes non-labelled institutions)

† According to 2006-2007 fiscal year (includes non-labelled institutions).

While the sample should not be considered as particularly representative of the overall national landscape, it does capture the same distribution of characteristics as those found across the core Canadian PSE sector. A universities' "Category," or "Label" represents both size and core focus with regards to students. These classifications have been taken from McLean's Magazine Annual Universities Rankings, and are predominantly used by most all administrative officials in Canada. Table 12 and 13 give distributions for category and province across the respondents-institutions. These are compared against the labelled universities found within table 32 in the appendix, or the "core" set of Canadian institutions, which were determined by cross-referencing the institutions present in the AUCC membership roster, the CAUBO Survey, and those serviced by the tri-council granting programs.

Table 12: Distribution of Institutional Categories by Sample and Core Canadian Institutions

Category	Core Canadian Institutions		Sample	
	Actual	Percentage of Total	Actual	Percentage of Total
Primarily Undergraduate	23	46.93%	5	50.00%
Comprehensive	11	22.44%	2	20.00%
Medical / Doctoral	15	30.61%	3	30.00%
Total	49	100.00%	10	100.00%

Table 13: Distribution of Provinces by Sample and Core Canadian Institutions

Province	Core Canadian Institutions		Sample	
	Actual	Percentage of Total	Actual	Percentage of Total
Atlantic Region [*]	12	24.49%	4	40.00%
Quebec	6	12.24%	2	20.00%
Ontario	18	36.73%	3	30.00%
Prairies Region [†]	6	12.24%	1	10.00%
British Columbia	7	14.29%	0	0.00%
Total	49	100.00%	10	100.00%

^{*} Consists of Nova Scotia, Newfoundland, Prince Edward Island, and New Brunswick

[†] Consists of Saskatchewan, Alberta, and Manitoba

Some provinces in table 13 have been merged into regions in order to prevent respondent identification. In both tables the divisions are similar, though the distribution of the respondent set in table 13 is somewhat more favourable to the Atlantic regions than that of the core population. Regardless of the small divergences, the similarities in the distributions found between the population sets of these two tables speak to the study's high internal validity, as this apposite distribution of characteristics among the interview respondents captures the same level of variance in institutional qualities as that of the national landscape. Thus, while the data employed throughout this chapter cannot provide useful information on the extent of research managerialism throughout Canadian universities (without generalizing its findings), it does capture some semblance of the trend's manifestations and possible consequences.

Another research issue revolves around the significant de-centralization of the Canadian PSE organizational landscape, and of the higher educational organizational landscape in general. There is no federally or provincially-required structure of university organization among Canadian institutions and each university contains its own unique system for administering and organizing its professorial research activity. There does seem to be some level of convergence with regards to the patterning of these organizations. Smaller universities, for example, typically contain an "office" of research services with an executive director or Assistant Vice President (VP) directly responsible for its maintenance and programming. Some have also detached this office from the direct control of executive VPs, preferring instead to distance the notion and expenditures of research "services" from that of research "administration." The structures of larger, comprehensive or medical/doctoral universities are much more diffuse, and often merge

the authority of research administration *and* service with the office of the Academic VP, or the head of the office for graduate studies or continuing education.

Despite these similarities, this variation means that there no universal structure from which to select respondents who would be comparable to one another, and accordingly, no adequate method by which to formulate a scheme for determining a sample pool of interview subjects. In the absence of the suitability of a regulatory scheme for determining a sample population, interview respondents were determined on a case-by-case basis for each university using the institution's organizational flowchart. This chart provides a detailed breakdown of the university's administrative structure and is commonly found in Canadian institutions' financial statements. From these flowcharts individuals in positions directly responsible for research activity and administration were solicited for participation via email; preference was given to VPs, though executive directors and assistant VPs were also contacted if this was not reasonable. Admittedly, this method has serious issues for the replicability of the study and comparability of its respondents, but is an unfortunate and insurmountable by-product of the decentralization of the Canadian PSE organizational landscape. Even if the study had reserved its solicitation to only those in "VP of Research" positions, the comparability of the results would still be threatened by the fact that these positions are not accorded the same responsibilities or level of control in each university.

While the qualitative data produced from this method thus has a low level of internal comparability, in some ways this can be considered an asset to its original intention. Indeed, since managerialism is argued to be global and universal phenomenon, it should present itself in all manner of PSE organizations regardless of the possible variations in the authority systems of the institutions. Capturing its presence (or absence) at various locations of an organizational structure thus provides important insight into the extent of its inter-institutional reach. The consequences of this trend can also be captured by examining the reoccurring patterns found between these organizational differences. Put in this light, the significance of the problems stemming from this study's replicability and comparability are lessened by the characteristics of the theory that its data seeks to test.

Of the ten respondents interviewed for this study, all but one had previously held tenure track positions in the university system. Respondents averaged 4.3 years in their current position of employment, with a standard deviation of 1.9. Eight individuals were drawn from VP positions and though the title of these positions differed from one another, all had substantial influence and control over the research services and administration of their institution. All respondents had the word “research” in their title, and all showed considerable interest in this study with over a half requesting copies of the thesis when it was completed.

As evidence of the pervasive effect of the federal reinvestment phase, all respondents noted that the universities they represented had shown an increased attention to research funding and grant success rates within the past five years. One respondent argued that the change in institutional emphasis on this subject was “dramatic,” with new financial allocations, previously reserved for various ancillary enterprises around campus, now systematically redirected for use at the office of research services. Coupled with this change was a corresponding transformation in the mindset of new hires. At least three respondents noted that the changes occurring in the finances of their institutions were partially a reaction to the wishes of the faculty. A respondent at a comprehensive university noted that its faculty had been pushing the administration for more research support, particularly in the recent renegotiation of their collective agreement. This movement was produced by the recognition of the effects of grant success on career advancement in the professoriate:

When I was hired there was no pressure to apply for external funding. But now it’s really built into the interview process; it’s made clear what the expectations are. Here [at this university] contract renewal comes after three years and it’s basically based on research and teaching performance. For tenure, service comes later on, but research is more heavily valued. You *must* have a productive research program. In our science fields it’s basically inconceivable for a scholar to have a research program without funding. Certainly in the social science and humanities you were able to have a productive research program without funding in the past, but that is becoming less so as time goes on. One needs a SSHRC now. The expectation comes from the faculty itself, but it certainly benefits us an institution.

The respondent justified the reallocation by arguing that research output was becoming particularly important for the universities in his categorical cohort. It is pertinent to note,

however, that the push from both the carrot (of federal funding) and stick (of faculty wishes and research costs) are national developments, and so most Canadian universities have been more or less “forced” to adopt at least some new model of internal finance. One respondent at a medical/doctoral institution noted that his strategies for increasing grant success rates had resulted in an increase of over 20 million total sponsored research dollars in just under six years. Similarly, a respondent from an affluent primarily undergraduate university noted that his office of research services recently had its budget increased by almost 50% last year alone, and that this increase represented only a fraction of the previous increases from earlier years. In light of the drastic transformations occurring across most Canadian institutions on this subject, it stands to reason that while there may be significant local or regional variations of the manifestation, the overarching impetus behind these research funding trends cannot be confined to one category or size of institution.

Managerialism and Inequality

The size of a university plays an important role in determining the extent of its financial re-allocations. As smaller universities typically have lower levels of adjustable revenue, this limits their ability to redirect further funding towards funding individual research proposals or campus-wide research services. One respondent at a small institution argued that because undergraduate institutions relied heavily on tuition funds for general operating revenue, and because this source of funding was much more unreliable than others, such as provincial funding, primarily undergraduate institutions were hindered in their ability to consistently support research.

We simply don't have a lot of internal funding for it. I mean, what's been happening for many of the smaller universities is that the demographics are changing; the number of students have seen a drop and now we're seeing a bit of a climb back up, that has a huge impact on our resources. And even though they are climbing back up we are not the size that we were a few years ago. The impact of that is that results in us being asked to tighten our budget. In this office, when you are asked to tighten your budget you are taking money away from research. For me it's a snowballing effect and that's what is disconcerting. One VP's budget may not have it, another administrator's budget may not have it, and all of the sudden you have to reduce the number of awards you give to the departments. The predictable consequence of that is that everyone is doing the best job they

can, trying to make the best case they can, for getting the most money they can, and here you are fundamentally competing with one another. Every department is trying to make the case that they need more money for research activity and every case is a good one, quite frankly, and we don't have the resources.

Financial limitations may thus hinder the direct amount of internal funding an institution can provide to professorial research itself, but such trends may also affect the capabilities of the research office in terms of its overall productivity. The director of the Office of Research Services at another small university noted that the administrative leaders of his institution desperately wanted to increase their support for research activity, but because they were providing large amounts of funding to individual researchers they could not afford to invest in the research office itself:

[...] because of this we have had to rely on a lot of shared staffing to operate. We have one staffer, who is employed by the Department of Finance but works almost exclusively on research accounts—the CFI and that kind of stuff. Now we may work collaboratively on these things but she is still an employee of the department of finance, and that works against us in some ways. Same thing with administrative support or assistance—there is no secretary in the office of research services. Instead, we have shared administrative support with the three deans.

In this case the office's independence in “managing” research activity was mitigated by the financial realities of its university structure. In some ways the various initiatives established during reinvestment phase, when taken together, may actually work to hinder the development of output-based research production strategies at small universities. This is because many of the recent initiatives have come with increased reporting requirements, and since the requirements carry with them a certain level of financial cost these costs may tap out resources from accounts that would have otherwise been used to fund strategies aimed at increasing grant success ratings. A good example of this is the Tri-council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS), which was created in 2001 and requires all institutions receiving tri-council funds to create and administer Research Ethics Boards (REBs) for the purpose of ensuring that certain ethical standards are met in institutional research activity. A respondent at a small, primarily undergraduate university noted that the new reporting requirements, such as that

required by the TCPS, among others, had severely limited the financial flexibility of the institution's research office:

Our funding for the research office has not gone through the roof, or doubled or tripled or anything. I mean our total dollars have increased modestly over the years, but it hasn't been an exponential increase in terms of elastic amounts. Where we have seen an impact on our offices is in the amount of reporting requirements from the Tri-Council agencies and CFI and other similar types of bodies. These have put such a strain, primarily on our financial services, to the point where the internal research accounts have basically been maxed out. It's a real problem for us, to say the least, since it lowers our ability to do anything but the supplementary requirements we have been given for the funding [which] we already receive.

When stipulating about the growing importance of managerialism in directing research activity, it is vital that the analysis remain sensitive to the variations produced by the size of the institutions in question. In this manner the structure of the university plays an important role in determining the nature of its research administration; grant success ratings may constitute the primary determinate in examining recent federal funding, but such measures may provide little relatable insight for understanding the actions of small universities which do not have an adequate level of funding to properly engage with them.

Chapter four examines whether the reinvestment phase has produced an increased stratification between the institutional categories in terms of the SSHRC success ratings. With regards to managerial research control, however, some respondents argued that there was a corresponding stratification in institutional power over success ratings in general. Respondents in smaller universities argued that the funding landscape was such that there was discriminating factors which favoured the development of managerialism at large or medical doctoral universities. Primarily undergraduate institutions, typically characterized by a high level of faculty control, could thus not afford to drastically alter their financial or governing situations from their traditional models of allocation. Additionally, two other respondents in this category argued that the success in centralizing and directing research activity did not always lead to a higher level of grant success ratings in national competitions, and this was due to the structural differences of research activity between the categories. One of these respondents noted that:

We've known for a long time that if you're to capture students as future researchers, you have to take them in their third or fourth year of their undergraduate studies—that's sort of the opportune time. Yet the granting councils have not put a lot of money at the undergraduate level. So we worry, and many of the people on campus worry, that if they apply, and all they can say is that they've got a bunch of undergraduate students working with them, how does that compare with someone at a large or comprehensive institution that has doctoral students, post-docs, and equipment up the ying-yang? So yeah there is a concern that the small institutions are not going to be able to get more funding, won't be able to increase success. What is the word? I think I would use the term systemic discrimination. I think its discrimination in some ways that is not overt in some people's minds. But it's sort of somewhat built into the system. If our funding reduces, our ability to serve as a training ground is going to diminish, and then the fear is that you establish even more of a two-tier system, and quite frankly I think you've already got a two-tier system. It becomes exacerbated. If you can't carry on research at an institution like this, then this becomes, and this is pejorative and I don't mean it this way, you become a community college, in the minds of some.

In this interpretation no level of managerialism would be viable to change this outcome, since its presence is predominantly the result of the category of the institution itself and the nature of the students. The second respondent corroborated this notion, stating that new hires at his institution had “wonderful research but a horrible career.” Accordingly, research managerialism is in some ways stunted among smaller universities, leading to a significant differentialization of its manifestation across Canada.

Some respondents denied the “systematic bias” interpretation, preferring to view the developments across Canada and subsequent competition for success rates as a universal “level playing field.” A respondent from an affluent primarily undergraduate institution argued that the stratification of success was not the product of systematic discrimination on the part of federal initiatives, but was actually the result of the combination of inferior faculty and underdeveloped managerialism found in other small institutions. He pointed to the success of his administrative strategies to increase tri-council grants as evidence of this:

I think that in many of the small institutions there is just a culture of whining about this, and people look for excuses in competitive outcomes and contexts for what I think are their own shortcomings. How do you explain the great increase we [at this institution] have had if this really

is discrimination? That says, to me, that there is something in the culture of the institution, and in the mindset perhaps of some of the administrators and faculty at these institutions. Now, no question about this, that when you look at the data from the councils we smaller universities underperform. So size would seem to have an effect, yes but it only *seems* to have an effect. You have to keep your mind open on that. Now in the array of possibilities, I mean this is a non-random pattern of outcomes, either there is systemic assessment bias, which of course most at these institution would buy into, or we basically have a disproportionate number of lower quality staff. So even before we jump to conclusions with regards to systemic discrimination, even though the data will take us in that direction, I think we have to look at some of the characteristics of the quality of the faculty and the administrative culture of the institutions they come from.

This respondent went on argue that since the hiring demographics in the professoriate of larger institutions was different than that of the smaller, the systematic bias within national granting council results was due to purely academic factors, and was therefore justified.¹²⁸ Unfortunately, without a systematic method for capturing the quality of research output between the categories, it remains difficult to ascertain which of these interpretations—discrimination or excellence—is more correct.

Regardless of the root cause, discussion surrounding the variation of levels in grant success and managerialism across Canadian institutions highlights two important factors for future research on this topic. First, any analysis of PSE managerialism as a pan-national phenomenon is insufficient unless steps are taken to examine its manifestation according to institutional category or size, since the causes of this trend, such as the adoption of performance

¹²⁸ In this respondent's words; "There are significant differences. If you think about how these universities were staffed, beginning in the late 60's, if you look at the demographics of the small university professorship, there was a massive demand as the university systems were expanding for faculty. So much so that some universities, such as [this university] and others, actually sponsored people with their first graduate degree as they went away to get their PhD while ensuring they had a tenure track position when they came back. This was all done just to make sure that smaller universities had a significant number of degrees in its faculty. So ask yourself this question, what quality of faculty is going to end up in an institution like this at that time. Okay? And then ask what will that have as an effect on the intellectual scholarship and research culture from that time, the 1970s? Through those years I witnessed a very big change in the culture of those institutions. There has been a massive change in the mindset of the faculty at that time, the older faculty, dating to, well, the ones from the late 1960s and early 1970s who are by and large retired now, but their presence is felt from the point of view of the development of the culture of the institution and that is not been reflected in the orientation of many of the junior appoints from the early 1980s, when there were no faculty jobs to speak of. Faculty hired since the early 1980s and onward have an entirely different orientation from the point of view of research production, and since it's been a high supply, low opportunity market so it's been a much higher quality faculty from this. In my experience a lot of them have expressed frustration against the culture of scholarship and values from the older generation."

indicators including grant success rates, can also differentiate its presence between undergraduate, comprehensive, and medical/doctoral institutions. Secondly, discussion of managerialism must remain sensitive to the changing characteristics of university faculty. Although most literature on this subject argues that managerialism seeks to weaken the professoriate by placing control over academic labour with the institutional administration, the success of these strategies, and therefore their longevity, is highly related to the independent qualities of the actual scholars who perform the work. With these two qualifications spelt out, I now turn to an analysis of the three aforementioned concerns over the impact of PSE managerialism on professorial research activity.

Concern 1 - Internal Programming and Grant Success

As mentioned earlier, scholars such as Deem and Polster argue that the primacy of the “grant success rating” as an academic performance indicator may have a negative impact on traditional research activity. Briefly restated, this view holds that the large amount of funding distributed for research throughout the reinvestment phase has been much too tempting for most institutions to resist. Accordingly, all institutions have, to some extent, placed a greater financial emphasis on encouraging research output in the last ten years, but in order to adequately capitalize on these opportunities they must play by the rules of the federal government. Since the primary measure used in these initiatives has been tri-council grant success, scholars fear this one statistic, adopted into universities by the need for a suitable research performance indicator, may receive the brunt of administrative interest. Whether such a development will also lead to a decrease in research quality is unclear, though Polster in particular has argued that such trends have significant implications for the future of Canadian universities’ internal research financing.

All respondents questioned on this issue noted that research was an important activity on their respective campuses, and nine of the ten also argued that grant success ratings were an important measure for their research administration offices. Strategies employed to raise this indicator varied from the costly, such as purchasing new buildings and hiring employees to conduct grant application mentorship programs or workshops, to the modest, such as displaying the results of successful research ventures around campus in order to increase morale. When asked why such strategies were important, respondents frequently pointed to the fact that tri-council grant success determined indirect cost funding and CRC research chair allocations, not to

mention brought increased public prestige. The respondents representing the three medical-doctoral universities argued that the rising number of new PSE institutions meant that all players would be receiving less funding in the future, and so increasing their success rate was a significant strategy for staving off this re-appropriation. Similarly, respondents from smaller universities noted that the research funding environment was becoming more competitive at their categorical level, and so managerial strategies could potentially give them a “cost-efficient” edge. One of the respondents from a comprehensive university noted that its research office had recently begun attempting to dissuade its faculty from submitting sub-par tri-council applications, with minimal success, in order to ensure a high success rating for that fiscal year. Clearly, the prominence of grant success rates has led to the adoption of a wide variety of strategies for capitalizing on faculty labour.

With regards to categorical variation across this trend in the social science and humanities, two observations should be noted. First, it seems logical to assume that the developments which occur over funding trends for these disciplines lag behind those of others; although this study contained no attempt to compare institutional funding patterns between the three large disciplinary boundaries in Canada, the marginal size of the SSHRC funding as opposed to that of the NSERC and the CIHR means that social sciences and humanities scholars generally receive less institutional attention (and financing) for the purposes of increasing application success rates. This observation is particularly salient for larger, medical/doctoral institutions, which have monopolized medical research funding across Canada and therefore have a lower proportion of their total tri-council funding derived from SSHRC-based scholars. Secondly, the different categorical contexts and financial capabilities of Canadian universities have differentiated managerial reaction to the importance of grant success into two groups of strategies; indifference and pursuit, the latter of which can be further divided into two classifications: external pursuit and internal pursuit.

As mentioned earlier, one respondent noted that grant success ratings were not an important measure for the research administration at his university. This manager, a respondent from a small, primarily undergraduate university, typified “indifference” to the importance of tri-council grants by arguing that the needs of his university did not include staying competitive in

federal initiatives. After discussing the finances and activities of his research office he noted that his university was only interested in facilitating the organic research desires of its scholars;

...and so we haven't really done anything as an institution to increase the so-called success-rate of our faculty, I mean, we continue to provide the same support in and around research as we always have, and we offer occasionally grant writing seminars, but we don't have any great need to push faculty into them. It's true that our allotment of Canada Research Chairs is related to that, related to all three councils, but because we are a small university, with a very local focus, it doesn't really affect how we operate. Also with our location, we don't have a large amount of research partners knocking on our door that we can rely on for CFI work. It's all just a product, I think, of our size, our faculty, and our location.

This university had no expectation or intention of any large-scale financial transformation because it experienced no drastic change from its traditional levels of funding. As an extremely small university, it was somewhat inoculated from the larger trends affecting the wider PSE environment and since the institution drew primarily on a nearby city for its student population the notion of "national prestige" mattered little to its everyday operations. Similarly, since the funding levels were so low to begin with, this institution had little to lose *by not pursuing* federal initiatives. Hence, while it is true that some institutions may resist the managerial pull of recent federal initiatives, it is telling that such a position was only found in an extremely small, undergraduate university. It stands to reason, however, that in light of the competitive nature of the PSE sector, indifference is not a particularly viable strategy for those institutions who are concerned about increasing their allocation of federal funding or those who have a significant interest in the public perception of research activity on their campuses.

Nine out of the ten respondents actively "pursued" federal initiatives by actually employing strategies specifically designed to increase grant success ratings and total tri-council funding amounts. These strategies could be classified in a number of ways, though for the purposes of this study the most salient division was found to be "external" and "internal" tactics. Three respondents reported the use of external strategies, which primarily consisted of having institutional managers contact council or initiative officials, either in an attempt to convince these individuals of possible discrimination in the grant failure rates, or to better their understanding of the initiative's programming. One respondent reported using external strategies

to increase success rates at all three councils, including writing “letters of concern” to their executive presidents. With regards to the SSHRC, he stated;

We went over there to take the opportunity to meet with people at SSHRC because we had been concerned about our very low success rates at that council. Since 2000, success rates from SSHRC have not really been high, but you can really see a decrease in the last two or three years, and it’s inexplicable to us. You get some better grant writers than others, but the success rate really befuddles us, I mean we know all of them aren’t going to get it, but there are some outstanding applications in our opinion that aren’t being funded.

As exemplified above, all three respondents who pursued these strategies gave the same reasoning in the justification of their use. Their research offices calculated “expected” success rates based on a (formal or informal) judgment of the quality of all applications in a given year. The subsequent deviation of success from this measure was then interpreted as either error or discrimination on the part of the council’s peer review process, or the by-product of the council’s failure to accurately spell out the expectations of content for proposals in a specific competition. It is interesting to note that all three of these respondents represented smaller institutions with a low level of internal research funding and who had experienced decreasing success rates in the past four years.

By far, the majority of strategies reported were “internal” forms of pursuit. Seven respondents¹²⁹ reported these using these tactics at some point throughout their career. Internal strategies centered on increasing faculty success rates by promoting high-quality research and researchers throughout the campus, thereby indirectly encouraging higher quality proposals from other faculty. These strategies also helped to show institutional support for faculty research, which one respondent noted was vital for ensuring that his faculty produced a high volume of grant applications each year. Thanks to its increased spending on research support one of the universities represented in this study had seen a dramatic rise in external research income over the last seven years. When asked what the university did to produce such a rise in success, the respondent listed the more recent of his managerial developments, all of which constituted internal strategies;

¹²⁹ The distribution of respondents to strategies adds up to eleven, since one respondent reported using both internal and external tactics throughout his period of employment.

Well it had me, and the things I did. We [the research office] put a number of display cases in high traffic areas—I mean these didn't exist beforehand—so that faculty publications could be displayed. Those display cases went up three months after I arrived here, and you know something, they have been refreshed every year—the pieces within them have to be published within the last two years, and they have been refreshed entirely every year. So it's not as if the faculty were not engaged in scholarship, just that now it's part of the internal institutional values—I mean you display it for them you know? And then I instituted a “Research Day” in 2005. And that was essentially intended to provide a research “open house” with open access to the community, as a way of honouring and demonstrating the evaluation for ongoing research projects and their outcomes and to enable faculty and students to engage with each other in a research community. It's amazing how little this kind of work was celebrated before I came. We also started a dialogue series for faculty so they could make presentations, as a sort of a place they could go to give a dry run on their lectures. So that kind of stuff starts to ordinate change in the sense of how research is being honoured and the priorities and value its being given in the institutional culture. I think if you were to talk with some faculty they will tell you that it's made a difference, you know, being supported by the university, to the extent that the university can. It's really lead to better research in general, and so better proposals.

While most internal strategies contained significant cost, the majority of institutions who employed them had actually increased success or showed no decrease in their (already high) funding levels. One could argue that this finding may indicate the presence of a hierarchy in both the ability to employ internal or external strategies, *and in their relative success*. Internal strategies may have the greatest capacity for increasing grant success, but only those institutions with sizable internal research funding can adequately afford to pursue them. Those institutions which are limited in this resource must settle for external strategies, which are both less expensive and less successful.

For the social sciences and humanities in particular, the institutional emphasis on grant success rates has led to a number of problems. To begin with, the meagre size of total the SSHRC expenditures severely limits its influence over funding allocations from programs such as the ICP; since this program totals the dollar amount of all tri-council grants for each university, the SSHRC success constitutes on average only about 20% of a given institution's

allocation.¹³⁰ Secondly, many scholars in these disciplines do not require great amounts of money to complete their research. This may aggravate the objectives of the research administration, as scholars who look for external sources besides tri-council competitions or who self-fund do not contribute to the institution's tri-council grant success or total dollar funding. Finally, success rates at the SSHRC as a whole are much lower than those found at the other councils, primarily because the demand for funding is so much higher. One of the respondents argued that the council was "oversubscribed"—there were too many scholars and not enough money to adequately all supply them. All of these factors point to the larger issue that when it comes to capturing social sciences and humanities research performance, grant success and total dollar value may not constitute the best of measures for institutional research offices to employ. Respondents noted that social sciences and humanities scholars showed "morale" issues when it came to the SSHRC engagement, primarily for the reasons listed above. One respondent expressed frustration at the low level of the SSHRC applications coming from his university's social science and humanities scholars by combining managerial and academic sentiments;

It's quite a nuisance. I have to constantly remind the departments that it is their responsibility to subject their work to peer review. They have to test their ideas out on one another, and if they don't it's not worthy of advanced scholarship. This peer review is an obligation as a scholar, and so is securing funding for students who will be the next generation [of scholars]. If they are not going to apply to the council they should never have become professors.

Here the mindset is blatant: the only worthy peer-review is tri-council programming—a fact which coincides with the financial realities of the research office. Though the sentiments in this example are somewhat extreme, all respondents gave strategies which were in some ways directed at increasing faculty awareness about the importance of the SSHRC's funding.

One of the more interesting managerial developments with regards to social sciences and humanities research funding was the means by which administrators dealt with grant failure rates. Applications to the SSHRC are typically peer reviewed according to the evaluation schemes created from council programming. Those who are deemed successful are placed onto a list, known as the "category 1" list, with is then arranged by the numeric grade of the

¹³⁰ Obviously this percentage is much larger for primarily undergraduate universities, who have on average 60 percent of their faculty in social sciences and humanities disciplines as shown in table 1.

applications. Although all “1” scholars are in some ways “successful” in the peer review process, the actual money given to these applicants is awarded on the basis of available competition funds. As such, once the allocated funding for a given competition is spent, the remaining applications at the bottom of its graded list are placed into the “4A” category. Put simply, this category denotes that the researcher had submitted a successful application but that the council did not have enough money to fund the actual research. Each university deals with this “4A” category differently, with some combining the “1” and “4A” applications in their success rate calculations. Federal initiatives such as the ICP and CRC programs, however, equate “4A” applications with failure, and as such do not include these measures in their national funding formulas. Accordingly, and although they may have produced “success” in the traditional sense of peer reviewed scholarship, “4A” scholars do not readily contribute to their institution’s total tri-council funding levels. In 2008 the SSHRC organized the first official meeting of its “SSHRC Leaders” who were “senior university administrators appointed by their university presidents to serve as points of contact between SSHRC and their respective universities.”¹³¹ In the final report of this meeting it was noted that “[t]here was considerable discussion of the “4A” category used by SSHRC. [...] Some universities find that the 4A status serves to discourage scholars – notably newer scholars. There was some sense that this is particularly true at smaller institutions whose faculty may receive few or no grants and mainly 4As.”¹³² Devising tactics to put future 4A applications higher onto the category 1 lists were thus paramount to increasing the success rate at these institutions.

Since the category’s inception, the SSHRC has argued that 4A applications provide the opportunity for universities to invest in their “qualified faculty and to keep more university resources on the SSH “side” of the campus.”¹³³ Most institutions begrudgingly do this by providing a set amount of funding to each researcher who returns a 4A application; the individual funding amounts reported by the respondents averaged around \$5,000 for this service. While the purpose of this funding was to encourage the researcher(s) to enhance their research proposal, and subsequently return with a category 1 on their future submission, many of the

¹³¹ The Social Science and Humanities Research Council of Canada, *Meeting of SSHRC Leaders December 12th, 2008*: 1, accessed December 2nd, 2010, retrieved from http://www.sshrc-crsh.gc.ca/about-au_sujet/leaders_e.pdf.

¹³² Ibid 7.

¹³³ Ibid 7.

respondents noted that this strategy had a taxing effect on their institution's internal research funding. When the volume of 4A applications was high the sheer size of the reinvestment drew significant resources away from other services for research, particularly in smaller universities where social science and humanities scholars dominated the faculty counts. Accordingly, these administrators worried that the 4A category was serving only to offload the costs of research onto the institution, without providing any of the benefits of its success.

It was found that managerialism can in some ways reverse the trend around internal research expenses by forcing an institution's internal allocation mechanisms to converge with that of the granting councils, or in other words, to adopt internal competitive programming. As evidence of this, two of the three medical-doctoral universities and one of the two comprehensive universities included in the study had moved away from the traditional model of 4A compensation. In their place, internal funding was provided on the basis of competitive peer review, with the justification that applications which show success at the university level would have a higher chance of success in future federal competitions. One respondent justified this change in strategy by directly referring to its effect on the institution's success rates;

We used to do that [i.e. internally fund 4As], but it was incredibly and hugely costly. When I became associate dean for research and graduate students, there was a policy that if you didn't get SSHRC funding but got a 4A, you would get \$5,000 or \$6,000 automatically. Well the cost just ballooned on us because the number of 4As became huge. We were also not convinced about the utility of this policy. 4A is a huge category; you could be the next person on the list to be funded, yet be 4A, but you could also be the 60th or 70th down the list and be 4A. There is a high variation in the *potential* success rate of applicants in the 4A category. So one of the things is that we went back and did an analysis of those 4A researchers who did get the automatic internal funding just to see what their subsequent success rate was. We concluded that it was not a good investment. If you are providing the additional funding to someone who has a 4A what you are hoping is that they will take the criticism and experience they receive and next year get success. It wasn't happening—at least not to a large enough degree to justify the costs.

This respondent went on to note that the new policy of competitive programming was intended to increase success by reinforcing the importance of quality proposals in the minds of social sciences and humanities faculty. Individuals would submit to the SSHRC programs, and if they

received a 4A categorisation, could then submit to this university's internal peer review program to obtain research seed money. Their next SSHRC submission was then expected to be more successful than the last;

The perception was that we would be identifying those projects that had a higher degree of potential to secure external funding in subsequent years, but it's too early to say what the impact or success of this policy is. The purpose was for the institution to try and get away from the automatic entitlement model since, before, if a researcher came back with a 4A, said "give me money," there was no follow-up. The expectations were probably not clear in the dissemination of this money, I mean we were interested in promoting success rates but it never happened. So by creating a more competitive peer review for the internal funding, I think it should, intuitively, be more successful.

The strategies and tactics surrounding 4A compensation provide interesting insight into the presence and effects of research managerialism on internal programming, since the various strategies discussed—centralizing control over research funding, moving away from automatic financial entitlement for faculty members, and modeling internal allocations on competitive federal programming—all demonstrate the growing importance of grant success ratings and total tri-council funding measures to research administrators.

This analysis and discussion of the trends surrounding institutional interest in grant success rates highlights a number of conclusions. To begin with, scholarly literature which posits that the recent round of federal funding has had a corresponding effect on research managerialism is well founded. Institutions have indeed adopted a number of managerial strategies dedicated to increase grant success, though their choices on this matter are constrained by their size and internal financial flexibility. Additionally, this trend is an emerging one since the majority of respondents noted that their institution's interest in this measure was both "new" and, in some cases, "dramatic." There is also some evidence to suggest that the interest in grant success rates has also affected the mechanisms of internal research funding, since a number of institutions included in the study had, during the reinvestment period, moved away from the traditional financial entitlement model for 4A SSHRC scholars and towards allocation systems based on internal grant success. The success of these strategies, however, is tempered by the nature of the national social sciences and humanities research culture. Of the three funding

councils, for example, the SSHRC has the lowest average success rates, provides the lowest level of funding for research, and has the lowest engagement¹³⁴ from the scholars it serves. Those who argue that such practises will have a direct effect on the overall quality of faculty research must thus take caution, as the unique financial character of each tri-council and different qualities of the research activities they serve may significantly differentiate these results. As such, more research is needed to assess the argument that managerial trends have negative implications on research activity at large.

Concern 2 - Subject Differentialization

The second concern over the implications of research managerialism revolves around the increasing subject selectivity of research support. As earlier noted, research offices have an important role in promoting research culture on campus, yet there is no means by which faculty can ensure this is done equitably between faculty research topics. This fear is similar to the concern surrounding targeting—more money is going to support certain research subjects—but is localized at the university's internal funding level. Unlike targeting, however, here there is the added concern that such practises may institutionalize a hierarchy of funding between subjects, with more money being given to the priority areas which the research administration selects. The primary culprit behind such a pattern is supposedly the institution's "strategic plan"—a detailed document which identifies the university's main subject strengths, or areas which it commands a critical mass of productive scholars. This document also describes how the institution will financially promote this research, usually in the form of a five-year fiscal plan. Strategic plans are required before an institution can receive any CRC allocations. They also help to determine the success of chair nomination proposals, as well as the success of applications in some CFI and tri-council competitions.

All but one respondent reported that their university's strategic plan had significantly changed the way its research finances operated. The most immediate of changes was the increased amount of time spent on organizing academic committees and teams for the purposes of determining priority areas. Research offices were also tasked with determining the financial needs of the research, and thereby helped to influence their institution's financial level of

¹³⁴ Engagement rates are understood as the number of scholars who apply to a council's competitions as a proportion of the total number of scholars who fall under its subject mandate.

commitment as well. With regards to the amounts of money now supplied to the research office as a result of the CRC initiative, a respondent from a medical/doctoral institution noted that;

There is definitively a higher-dollar investment and a much more tactical and strategic use of funds. In terms of using funds internally to position researchers and get them to a point where they can legitimately come and apply for CRC nominations, and in terms of positioning researchers to lead and collaborate on internal projects, or participate in internal research initiatives, there is definitely been a large change in the last five or six years here.

The majority of respondents expressed similar sentiments, noting that the non-competitive nature of the CRC nomination peer review process, at least at the final proposal level, encouraged a high level of institutional commitment to ensure success, as nomination failure could only be due to underdeveloped proposals rather than the success of other institutions. An additional benefit of this funding was its general flexibility; CRC funding can be used to pay for a wide range of eligible expenses, provided these expenses are related to the research which was nominated in proposal. The amount of money not given to the actual Chair holders (around 25% of the total CRC funding) was in 2007-2008 distributed accordingly:

Table 14: Allocation of all CRC Funds Not Given Directly to Chair Holders, 2007-2008

Expense	Dollar Amount	Percentage of Total
Student salaries	8,215,335	13.07%
Non-student salaries	23,584,483	37.52%
Professional services or contracts and technology	1,695,299	2.70%
Equipment (including motor vehicles)	1,625,422	2.59%
Materials, supplies and other expenses	6,888,930	10.96%
Administration costs related to the Chair	16,742,708	26.63%
Travel expenses	3,706,101	5.90%
Allocation for teaching replacement to allow for research	405,421	0.64%
Total	62,863,699	100.00%

Source: CRC 2007-2008 Year in Review Report

While one respondent cautioned against using CRC money to supplement general operating expenses (on account of its temporality), all noted that the funding was integral to various research-supporting activities on their campus, such as building maintenance or library subscription costs.

As noted in chapter 2, scholars should take caution when emphasizing the importance of a university's strategic plan. This fields and subjects specified in this document are often much too broad to have a relevant effect on managerial practises. Rather, the effects of the strategic plan work in a two step process whereby the administrators who create the strategic plan also specify lucrative subjects to support in their CRC applications. The strategic plan is thus a vital link in the chain of this process, but not sufficient by itself to change university practices.

The majority of respondents acknowledged that the use of this two step process inadvertently led to some level of inequality in their institution's internal funding allocations, though in some ways, they noted, this discrimination could be justified since the priority areas were determined by the research strengths already present at the university, and were therefore a product of the organic, pre-established interests of their faculty. One respondent encouraged this inequality, arguing that those institutions which had a tighter array of priority areas received better success in the CRC nomination process than others. In support of this, his institution had recently revamped its strategic plan to specifically target those subjects which had been deemed to have the highest potential for application success. Instead of being determined organically, priority areas were now "constructed" in the research office;

I mean it was always strategic before at some level, but we re-designed our strategic research plan in the last two years and there is a whole new process for developing letters of intent. Now what has happened with the strategic research plan is that we tried to take a global landscape in the university and develop research strengths that were cross-disciplinary, cross-faculty and that clearly identified areas that had established strengths—for tier one—and we also identified areas where we had emerging strengths that would be suitable for hiring tier two. So in a nutshell, we basically mashed together two major research thrusts and within that, produced a series of "axis of research" that would pull together different disciplines. We attempted to be more comprehensive in terms of mapping what our research strengths were, you know, to see the subject complementarities going beyond just the disciplines, since we knew these areas would be getting a lot more funding.

Another respondent at a medical/doctoral institution noted that the inequality produced by the strategic plan was beginning to have an effect on the hiring policies at the university. New hires were seen to be a significant tool to increase the success of the administration's strategic

development, since by replacing retiring faculty with scholars who fit into priority areas, administrators could effectively increase their critical mass of scholarly output in specific departments;

To some extent the hiring now is increasingly getting into that. If someone retires you are not necessarily going to replace them because you may in fact want to take your research and graduate training programs in another direction as an institution. And I certainly don't think our university is unique in that. I think that others are behaving in exactly the same way. Now my office doesn't control that, [a different office] does, but this kind of policy is meant to support the cultivation of our strategic research activity. And for competitions for things like CFIs and CRCs or any of the tri-council or provincial programs they require a significant institutional commitment. So before you commit funds, you need to have a pretty clear sense of what your base is in terms of faculty, what your base could be, and what the benefit of that research is going to be for the institution.

Although such sentiments were only found at one university, they substantiate the fear surrounding the differential treatment of research subjects by university managers. In this example the institutional emphasis on certain subjects has influenced not only the university's internal research allocations, producing differential treatment in financial support between those areas prioritized and those not, but also its control over faculty employment. When taken together, such trends highlight the growing power of managerialism to direct and control the otherwise organic direction of academic scholarship in order to secure new federal funding.

While the original selection of an institution's priority areas is a product of its faculty strengths, there is evidence to suggest that, once created, the strategic plan may have an institutionalizing effect on future research activity. At least five respondents, representing all three categories, observed evidence of individual faculty members consciously changing their research subject to suit the institution's strategic plan. One respondent expressed uneasiness about this development, which was relatively new on his campus:

I mean we have some people now who are rethinking their research and are realizing that they need to go in a new direction, and see if they can get funding there. Well, some are making very strategic decisions. Some are saying that since they are not getting funded with certain proposals that they should change their research topic. In one sense it's disconcerting because we want all

of our departments to have some level of research autonomy. But in another that's just the nature of the funding reality, and it helps us if there are more scholars working near our priority areas. And so some of them are saying, well, maybe this is my future for research. I see that happening for some people, mostly the scientists, just because of the nature of [this institution's] research plan, but it is also occurring in the arts and humanities. I'm not sure what we can do about it, I'm not sure we *should* do anything about it.

Other respondents took a more apathetic view of such developments, noting that the nature of the funding world had always been slightly selective with regards to certain subjects, and CRC programming was simply an intensification of this trend. At one university the administration had created its own institutional research chairs, modeled after the CRC program, which were given to pre-established academics already working at the university. CRC allocations were then purely used for external hires and those departments which wished to hire a potential candidate into an allocation had to demonstrate their overarching commitment to the institution's research plan in the internal competition;

When they say that they would like the opportunity to advertise for, let's say, a SSHRC-sponsored tier 2 CRC position, they must demonstrate both what the fit will be with the institution's strategic plan, and how the department's past work has fit with the research plan otherwise we won't give them the allocation. If we don't do that at the outset, we won't get the CRC nomination itself and that's a critical element of CRC applications. So the faculties, departments and programs have to be thinking in those terms when they go through the internal application process. So in that way, what's going on is that people are internalizing what the university's strategic plan is and tailoring their research towards it.

Here the reasoning was straightforward: since CRC nominations could only be used to hire external candidates, the entire department had to harmonize its research's program with the strategic plan if it wished to receive an allocation. In this manner subject differentiation occurred at both the administrative and departmental level, pushed by the nuances of administrative programming aimed at securing federal funding.

Of all the issues discussed during the interviews, subject differentiation raised the most alarm from the respondents. Most administrators seemed concerned about its presence, yet were also reluctant to take steps to alleviate this problem, such as providing extra funding to non-

prioritized subjects. In many ways the CRC program discourages these types of tactics, since institutions must centralize their internal funding if their nominations are to be successful. The institutionalization of these trends may help to further differentiate the value of subjects at the department or faculty level as well leading to higher nomination success but less diverse research activity across Canadian campuses.

Concern 3 - Disciplinary Hierarchy

Similar to the concern surrounding subject differentialization, scholars of higher education also fear that recent federal expenditures may lead to an increase in the stratification of funding between the academic disciplines. This fear is logical, given the emphasis placed on total tri-council funding amounts in determining ICP and CRC funding. The disciplines which pull in the most tri-council funding, such as those served by the NSERC or the CIHR, will consequently be given institutional support. Snowdon argues that this trend has directly led to the development “have” and “have-not” disciplines, the former being most sciences and health-related fields while the latter the social sciences and humanities. From this perspective administrative managerialism consciously impoverishes some departments for the benefit of others in order to maximize the institution’s external return on its internal research investments.

Although respondents were questioned at length on this issue, none reported pursuing stratification as a viable strategy or witnessing its presence on campus. One possible explanation for this absence is that it represents a form of selectivity bias on the part of interviewee responses since publicly admitting to favouring some disciplines over others would open these administrators to criticism from faculty members. Another explanation is that such a finding may be a product of the qualities of institutions surveyed in this study—many had sizeable faculties in the social sciences and humanities and strong liberal arts traditions throughout their history. When questioned on this issue, however, most respondents spoke at length about their university’s obligation to its departments, noting that their institution’s public standing was directly tied to the work of its entire faculty, and not just those applying under specific councils. One justified his research office’s commitment to equity by directly referencing the size of his institution;

That's sort of an unwritten policy that we have, you know, treating people universally. It's just a reality at our institution that we value all the disciplines, it's got nothing to do with the amount of money that people are bringing in on their own. Some would make the argument that because we are getting so much research at NSERC why should we continue to give money from internal resources to science? Why not put it all into other disciplines? I mean, those debates happen once in a while and I'm not saying it's wrong. But the reality is we're a very small university and when we value people's research potential, we really try to be fairly equalitarian about it. Some science faculty are not happy. They say "we are generating a lot of money; the cost of indirect research coming in is driven by our success, we should be seeing some of that." Or they say "that the success of our internal discovery grants dictates the allocations for how many summer student positions are available. So those should be treated separate, so take those out of the equation and then split the money 50/50" [this institution had no faculty in the health or medical fields]. So there are those discussions, yes, but we still make a concerted effort to stay equitable.

Regardless of the size of the institutions they represented, however, most respondents used similar arguments surrounding their "unwritten" commitment to equality between the disciplines. As such, one final explanation for the absence of increased disciplinary stratification is that *it simply didn't exist*; the reinvestment phase did not produce a significant increase in disciplinary stratification because the traditional distribution of internal funding for the disciplines was not altered in Canadian universities during this period. This explanation is further supported by the fact that the SSHRC's total funding has increased in the last ten years as has its proportion of the NSERC's funding, pointing to a congruence of equality between the institutional and federal levels of expenditures.

Conclusion

As the federal government increased the amount of funding it provided for university research during the reinvestment period, it created new initiatives which required high tri-council grant success and university-wide applications to compete for the money. These events came on the heels of the retrenchment period, when provincial expenditures on general operating expenses had been slashed and universities were forced to compensate by raising tuition. Universities reacted to the new influx of money by employing managerial strategies to centralize and strengthen research productivity on their campuses. Each institution's choice of strategy was largely determined by their overall financial situation, with the more affluent investing in

“internal” strategies to increase research output. The dominance of tri-council grant success rates in reinvestment programming ensured that this measure received the brunt of institutional administrative interest. Accordingly, universities adopted new systems of internal programming dedicated to increasing this measure. The two step process produced by university-wide strategic plans in some competitions encouraged the development of “subject differentiation” on campus by forcing administrators to highlight priority areas for extra funding. In some cases, this has also affected faculty hiring policies. As the faculty come to internalize the value of research in these subjects and its success, the whole system works to reinforce administrative control over research activity and erodes the traditional faculty-directed structure of academic labour.

Although the data captured during this study cannot accurately speak to the national implications of the trends it describes, it does demonstrate the presence and some of the variations of research managerialism on Canadian campuses. Through a discussion of funding patterns with just ten research administrators representing undergraduate, comprehensive, and medical/doctoral institutions, a number of the concerns behind the use of research managerialism were substantiated. The respondents in this survey provided the same causal narrative as most scholars on this subject, arguing that their actions at the administrative level were the product of recent trends in research funding on the national level. Thus, and although no substantial evidence was found to support the concern regarding increased discipline stratification, it would seem that managerialism does constitute a significant recent development for research funding in all disciplines, including the social sciences and humanities. More research, however, is desperately needed on its actual effects on research output.

Chapter 4 – Grant Success Stratification

This chapter takes an in-depth look at the SSHRC's competition result to determine if stratification is occurring in research funding across Canadian institutions. Using three interpretations of success—success rates (as a function of awarded application per submitted application or awarded funding per requested funding), engagement levels (as a function of applications per faculty) and average award amount (as a function of awarded funding per awarded application) to show that stratification in the social sciences and humanities is not occurring at the university level and accordingly that this concern cannot be supported.

Introduction and Methodology

Despite the growing relevance of tri-council grants to universities and academics alike, few scholars of higher education have actually written about the subject in Canada. In her recent work Polster recognizes this curious shortage, noting that “although research grants are clearly a matter of great concern to those within Canadian universities, they do not appear to be of particular concern to those who study Canadian higher education.”¹³⁵ As such, there is little on this subject by way relevant literature to guide one in its analysis. Polster argues that in the absence of such backing one is justified in drawing on resources from outside the academy, such as newspaper articles or opinion reports, and that, “indeed, when tracking changes in social relations [these sources] often yield superior results to literature reviews.”¹³⁶ However, if one performs a careful enough review one will find that much of the discussion surrounding the growing significance of federal grants is simply hidden, either dispersed into a wide array of publications on PSE or absorbed into number of other debates. Therefore, before analysis can be done (whether guided by “opinion reports” or not), one must first tease out the “fear” that guides these assumptions to ensure that the subsequent test accurately captures the suppositions of what little literature does exist.

The major concern surrounding the growing importance of federal grants is arguably its subsequent affect on the stratification of both success rates and total tri-council funding between Canadian institutions. This concern is central in that it is both the dominant theme on this topic

¹³⁵ Claire Polster, “The Nature and Implications of the Growing Importance of Research Grants to Canadian Universities and Academics.” *Higher Education* 53 (2007): 600.

¹³⁶ Ibid 600.

and constitutes the focal point from which all other discussion is oriented. The fear is quite simple; government programming during the reinvestment phase has not been egalitarian about the mechanisms of its funding distribution—quite the opposite. Institutions must transform themselves in a managerial or strategic manner if they are to be successful in acquiring these new funds. They are, however, constrained in their ability to do so by their financial flexibility and traditional patterns of funding. Those who are better able to pursue success through either external or internal strategies will increase their funding and financial flexibility, and will in turn be in a better standing to secure future amounts. As success begets success and resources beget resources these developments harden and institutionalize over time, leading to a two-tier system of “haves” and “have-nots” universities, the latter of which constitute the majority. In essence, the trends threaten to centralize both success rates and research funding in a handful of successful institutions—the medical/doctoral—at the expense of all the others. This is both the concern and trajectory of argument found in the work of Jones and Young¹³⁷, Marginson,¹³⁸ and Side and Robbins,¹³⁹ among others. Polster herself has also contributed to this position, arguing that the trends accrued from the stratification has contributed to a number of problematic developments in higher education, most notably a “new survivalism”¹⁴⁰ in the mindset of faculty and administrators alike. Polster then moves to argue that the managerialism behind such success is in some ways transforming hiring criteria for contemporary scholars, “so that financial considerations are diluting if not trumping traditional academic considerations, such as ability to teach, potential contribution to scholarship, and commitment to public service.”¹⁴¹ Chapter three dealt with such trends, providing some substantiation of these fears. Still, the existence of success stratification as such has yet to be proven.

¹³⁷ Jones and Young 196, 203-4.

¹³⁸ Marginson 5.

¹³⁹ Side and Robbins 163-75.

¹⁴⁰ “By a new survivalism, I am referring to a new context, and a new state of mind, in which institutions and individuals are simultaneously more at risk and more open to new opportunities for advancement than they have been before. As research grants become more important to universities’ finances, reputations, and future prospects, administrators experience their institutions as being both more precarious and more poised to expand and excel relative to their counterparts. Similarly, as grants become more important to academics’ standing in their institutions, professors feel more vulnerable but also more open to advancement relative to their colleagues. This new and contradictory situation is altering the ways in which university administrators and faculty relate to and interact with one another, with external parties, and among themselves.” Polster “grants” 603.

¹⁴¹ Ibid 604.

There has always been a significant effect of past distributional history on the programming at the SSHRC's competitions. As such, when financial increases are given to the council's operating budget, whether through parliamentary appropriations or any other form of income, they tend to trickle down to the universities in the same levels of categorical distribution that they have in the past. Inequality thus may not mean disparity, since large increases over time may follow the same categorical distribution even while the difference between these amounts increases. Accordingly, in order to confirm the existence of increasing stratification one must not only establish a measurable difference between categories, but also a growing disproportion. In this case disproportion can be understood as the change in one category's percentage of another. If there is more disproportion this percentage will decrease and if there is convergence it will grow.

For the SSHRC, "standard research grants" represent the most obvious subject to capture these measures. To begin with, the council only reports success rates for this class of grant in its public resources. All other classes, including targeted funding and awards/scholarships, are reported primarily using awarded applications and awarded total dollars. While these two descriptors by themselves are useful for analysis, they do not capture grant "success" as a function of the applied proposals and funding divided by the awarded proposals and funding. Secondly, the SSHRC's commitment to providing standard research grants for Canadian faculty is of central importance to its federal mandate of supporting independent professorial research. These grants have often been called "the lifeblood" of the disciplines, since their funding enables much of the sponsored research activity in the social sciences and humanities across the nation. Accordingly, although it was surpassed in total dollars by the "Fellowships, Scholarships and Prizes" class from 2006 onwards, "Investigator-framed research" averages 39.92% of all the SSHRC's funding during the reinvestment period—the highest of all the funding classes created by the council. This class also averages the highest percentage of expenditures for all periods before this as well, including the retrenchment phase. Finally, investigator-framed research is the obvious choice for this analysis because no other class is suitable. The two running contenders – "Fellowships, Scholarships and Prizes" and targeted or strategic initiatives are inadequate for other reasons. The prize class is primarily dedicated to students, many of whom are moving between universities for their degrees when they apply. In these applications both the original

and destined institution are considered when determining success, thereby confusing which is actually responsible for the measure. The two targeted classes—“Strategic Research Development” and “Targeted Research and Training Initiatives” are not open competitions in the strictest sense of the word, and therefore do not constitute an equal playing field from which to capture changes in success. The measure of “total council funding”—summing the funding amount for all the categories—is another possible option. However, as mentioned this measure earlier this does not provide any level of “success rates” in the proper sense. Moreover using such a measure is problematic since some of the classes included within, such as that of “Fellowships, Scholarships and Prizes” or “Research Communication,” are not awarded on the basis of individual applications. In light of this, standard research grant or “investigator-led research” represents the most obvious measure, and analysis therefore takes the form of tracking the changes in success rates between the three categories of institution within this competition.

Before this can be done, however, one qualification of note should be made. Snowdon has correctly argued that part of the current stratification in the Canadian PSE sector at large has been due to the recent increase in the number of small or primarily undergraduate institutions across the nation. This increase and its effect have been quite significant, as “the creation of the university colleges and the specialized universities added numerical capacity but also hastened qualitative stratification of the system.”¹⁴² As evidence of this one need only look to the records of the funding initiatives themselves: In 2001-2002 62 universities were eligible for CRC allocations, yet by 2010-2011 that number had increased by 10. Similarly, the ICP program now provides funding to 46 more institutions than it did in 2001-2002. For the SSHRC itself, 38 new independent institutions were served by council programming during this period. With more players at the small or primarily undergraduate level of analysis this will undoubtedly affect this categories’ aggregated success rate. In order to control for this issue a sample set of 49 institutions were taken for analysis. Tables 15 and 16 show the generalizability of this set compared to Canada as a whole. It should be noted that the 49 universities in this set represent the same 49 labelled institutions in table 35 of the appendix.¹⁴³ For this reason the distribution of qualities (by category and province) are the same. The reasoning behind this method is to argue

¹⁴² Snowdon “without a map” 35.

¹⁴³ Due to the fact that this analysis relies solely on public documents, no attempt to ensure institutional anonymity is needed or has been pursued.

that if success stratification occurs within this consistent set of institutions it also occurs on the larger non-consistent whole.

Table 15: Sample Representation According to Select Populations

Universities Represented by:	Number of Institutions	Respondent Representation
Chapter 4 Statistical Data	49	100.00%
Total Universities Listed in Table 32	66	74.24%
Labelled Universities Listed in Table 32	49	100.00%
AUCC Listings*	71	69.01%
CAUBO Survey [†]	65	75.38%

* According to 2009-2010 Membership listing (includes non-labelled institutions)

[†]According to 2006-2007 fiscal year (includes non-labelled institutions).

Table 16: Sample Characteristics by Provinces[†]

Province	Primarily Undergraduate		Comprehensive		Medical/Doctoral		Total	
	#	%	#	%	#	%	#	%
Newfoundland	0	0.00%	1	2.04%	0	0.00%	1	2.04%
Prince Edward Island	1	2.04%	0	0.00%	0	0.00%	1	2.04%
Nova Scotia	6	12.24%	0	0.00%	1	2.04%	7	14.29%
New Brunswick	3	6.12%	1	2.04%	0	0.00%	4	8.16%
Quebec	1	2.04%	1	2.04%	4	8.16%	6	12.24%
Ontario	7	14.29%	6	12.24%	5	10.20%	18	36.73%
Manitoba	1	2.04%	0	0.00%	1	2.04%	2	4.08%
Saskatchewan	0	0.00%	1	2.04%	1	2.04%	2	4.08%
Alberta	1	2.04%	0	0.00%	2	4.08%	3	6.12%
British Columbia	3	6.12%	1	2.04%	1	2.04%	5	10.20%
Total	23	46.94%	11	22.45%	15	30.61%	49	100.00%

[†]Non-labelled universities were not included in this sample set.

From this sample set of institutions a number of measures were taken. Between the fiscal years 1999-2000 and 2007-2008 the SSHRC received 16,322 standard research grant applications from the universities within the sample, with 6,679 of these proposals being awarded. The total monies requested were \$1,665,522,575 and the total awarded \$521,876,892. In any grant competition there are always two success levels; one based on the awarding success of the proposals (applications divided by awards) and the other based on the awarding success of the funding (requested money divided by awarded money). In this study both are significant, since both are capable of highlighting different types of stratification over time. The first form is a calculation with a dichotomous variable—a proposal can only ever be successful or

unsuccessful—and while aggregating this measure for a category may mean deriving a proportion (of total success for each institution), it is only ever the proportion of success along this ordinal continuum. By contrast the second form is a calculation with an interval variable since the level of success in this instance is determined by the proportion of funding a given proposal receives from its requested total. Additionally, although both are based on the quality of the proposal as determined by the peer review process, the first type of success is essentially a prerequisite for the second. As such, institutions which fail to submit a successful proposal will not be awarded any funding in the competition, regardless of the size of their requested money. In this manner one can conceptualize application and money success rates as first and second order events, highlighting a sequential element to any possible stratification. Since a sample set was used in this study rather than the actual population, categorical measures were determined by averaging rather than summing the results of all institutions with the same label.

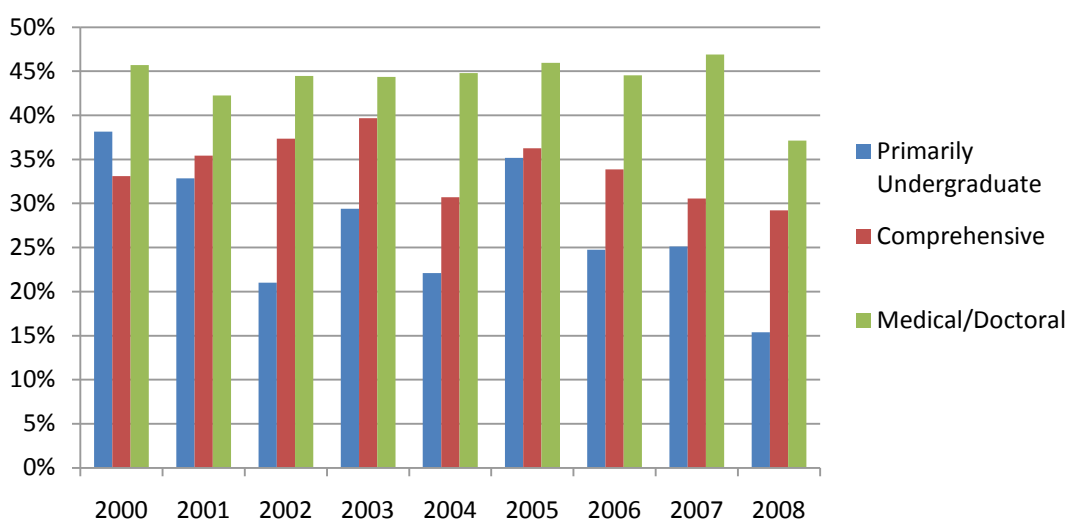
Analysis was also done using other interpretations of the notion of “success” with regards to grants activity. If there is indeed systemic discrimination regarding the evaluation of categorical research quality on the part of council peer reviewers, success as such may be interpreted differently for the research offices of the smaller, primarily undergraduate institutions. Accordingly, similar analysis was performed on engagement levels (submitted applications per faculty) and average award amounts (awarded funding per awarded application) to determine if these measure could provide additional support for the existence of increased institutional stratification. Finally, to ensure that the patterns discovered through this analysis were salient with the wider trends affecting the SSHRC’s funding in general, average funding and application amounts were compared with the distribution of total SSHRC expenditures between the categories, demonstrating a high correlation between these measures.

Most statistics for this analysis have been taken from the SSHRC’s internal award database on the council’s website. This database presents public information on competition results by province, university, category of competition, year and a host of other factors. Faculty size measures were provided by the AUCC’s research office. Total SSHRC funding amounts were tabulated using FIUC survey data.

Findings 1 - Success as Proposal Acceptance

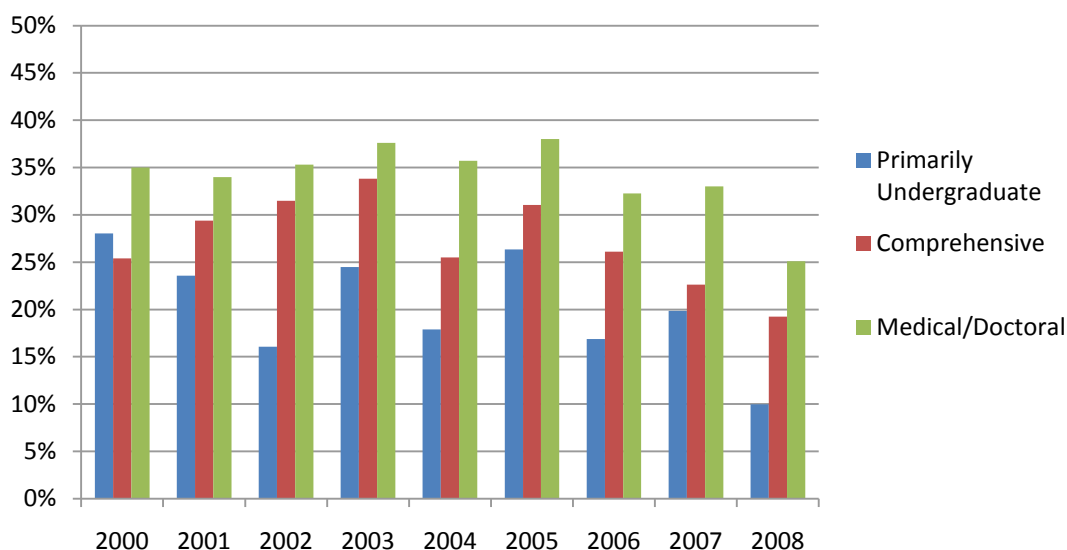
To begin with, it is blatantly true that there is a pre-existing categorical difference of success in both application and funding levels. This can be clearly seen in figures 6 and 7, which present the fluctuations in this measure for all three categories during the reinvestment period.

Figure 6: Application Success Rates by Category of Institution, 1999-2000 to 2007-2008



Source: SSHRC Internal Calculations

Figure 7: Funding Success Rates by Category of Institution, 1999-2000 to 2007-2008



Source: SSHRC Internal Calculations

From these figures a number of observations can be made. First, the categories in many ways follow a rank order hierarchy with medical/doctoral being both the most stable and receiving the

greatest success in both forms of the term. Second, funding success rates are lower than those of applications for all institutions, though this is primarily due to the fact that they represent different levels of measurement. Since the measure is in some ways a compromise between requested and available funds, it could also allude to the fact that scholars frequently ask for more money than they realistically expect to receive as a tactic for increasing their awarded funding. Third, it is interesting to note that the fluctuations between both the categories and the forms of success are highly consistent with one another. The following table presents fluctuation correlations which demonstrate this fact:

Table 17: Correlates of Funding Success Rates by Category of Institution, 1999-2000 to 2007-2008 (years aggregated)

	Category*	Application			Funding		
		PU	COMP	MED/DOC	PU	COMP	MED/DOC
Application	PU	<i>1.00</i>	0.42	0.54	0.97	0.46	0.63
	COMP	0.42	<i>1.00</i>	0.27	0.48	0.96	0.70
	MED/DOC	0.54	0.27	<i>1.00</i>	0.62	0.36	0.74
Funding	PU	0.97	0.48	0.62	<i>1.00</i>	0.54	0.75
	COMP	0.46	0.96	0.36	0.54	<i>1.00</i>	0.81
	MED/DOC	0.63	0.70	0.74	0.75	0.81	<i>1.00</i>

*PU = Primarily Undergraduate; COMP = Comprehensive, MED/DOC = Medical/Doctoral

Most correlations within this table are significantly robust (minus the self correlates, 93% are from .36 and up), but the strongest are found between each individual category's application and funding success rates. For the purposes of visibility these measures have been bolded in the table. The high correlations in this relationship are in many ways expected, since those who receive a high change in application success will by default will also receive a high change in funding success—more awards generally mean more money. The relatively strong correlations found in all other categories, however, are especially noteworthy because they demonstrate that within the SSHRC's yearly competitions the categorical fluctuations in grant success are highly consistent with one another, despite the sometimes large differences in the actual rates. Accordingly, when one category of institution receives a large change in its success rates, whether positive or negative, the others will likely experience a significant change in the same direction as well. This speaks to a certain level of stability in grant programming, as changes more or less occur across the board for all institutions which submit applications. As shown by their difference in correlations, this pattern is substantially more true for funding success (minus

the self correlates, there is an average correlation of .70 between the three categories in the bottom right square) than it is for application success (minus the self correlates, there is an average correlation of .41 in the top left square).

While they may help to indicate the answer, these observations do not speak to whether such trends constitute stratification or not. In order to determine this, one must first analyze whether there has been a difference of funding between the categories. As noted earlier, the categories are in rank order and this aids analysis, since in order to determine the existence and strength of a inequality one need *only subtract the success rates of the lower ranks from those of the upper*. This has been done for application and funding success in tables 18 and 19, respectively.

Table 18: Comparison of Application Success Rates by Institutional Category, 1999-2000 to 2007-2008

Year*	Primarily Undergraduate		Comprehensive		Medical/ Doctoral
	Success Rate	Difference from Medical/Doctoral Success	Success Rate	Difference from Medical/Doctoral Success	Success Rate
2000	38%	8%	33%	13%	46%
2001	33%	9%	35%	7%	42%
2002	21%	23%	37%	7%	44%
2003	29%	15%	40%	5%	44%
2004	22%	23%	31%	14%	45%
2005	35%	11%	36%	10%	46%
2006	25%	20%	34%	11%	45%
2007	25%	22%	31%	16%	47%
2008	15%	22%	29%	8%	37%

* Years presented are ending fiscal years.

Source: SSHRC Internal Calculations

Table 19: Comparison of Funding Success Rates by Institutional Category, 1999-2000 to 2007-2008

Year*	Primarily Undergraduate		Comprehensive		Medical/ Doctoral
	Success Rate	Difference from Medical/Doctoral Success Rate	Success Rate	Difference from Medical/Doctoral Success Rate	Success Rate
2000	28%	7%	25%	10%	35%
2001	24%	10%	29%	5%	34%
2002	16%	19%	31%	4%	35%
2003	24%	13%	34%	4%	38%
2004	18%	18%	25%	10%	36%
2005	26%	12%	31%	7%	38%
2006	17%	15%	26%	6%	32%
2007	20%	13%	23%	10%	33%
2008	10%	15%	19%	6%	25%

* Years presented are ending fiscal years.

Source: SSHRC Internal Calculations

Here we can see that there has not been a significant difference in either application or funding success over the time period in question. While the difference in both measures are certainly higher in 2007-2008 than they were in 1999-2000 (mostly due to the fact that inequality was significantly low in the first two years), the high level of fluctuation in this measure negates any form of stratification “trend” as such. If stratification were indeed occurring we would expect the yearly changes to be more directionally significant and more linear. As evidence of this, regressing category rates by year for both types of success produced no statistically significant results. The reason for this was again that the measures fluctuated too greatly during the time period to produce significant p values. Arguments positing that the reinvestment phase has directly contributed to increased stratification in grant success, at least at the SSHRC, are thus either premature or erroneous since there has not been a forceful enough difference, let alone unequal distribution, in this measure.

While categorical stratification has not increased over this period, there have been significant developments *within* the categories rather than *between* them. If we examine success rates by their categorical standard deviations it becomes clear that primarily undergraduate universities as a unit have experienced significant equalization over the reinvestment period. Table 20 presents this phenomenon by both forms of success.

Table 20: Standard Deviation of Application and Funding Success by Institutional Category, 1999-2000 to 2007-2008

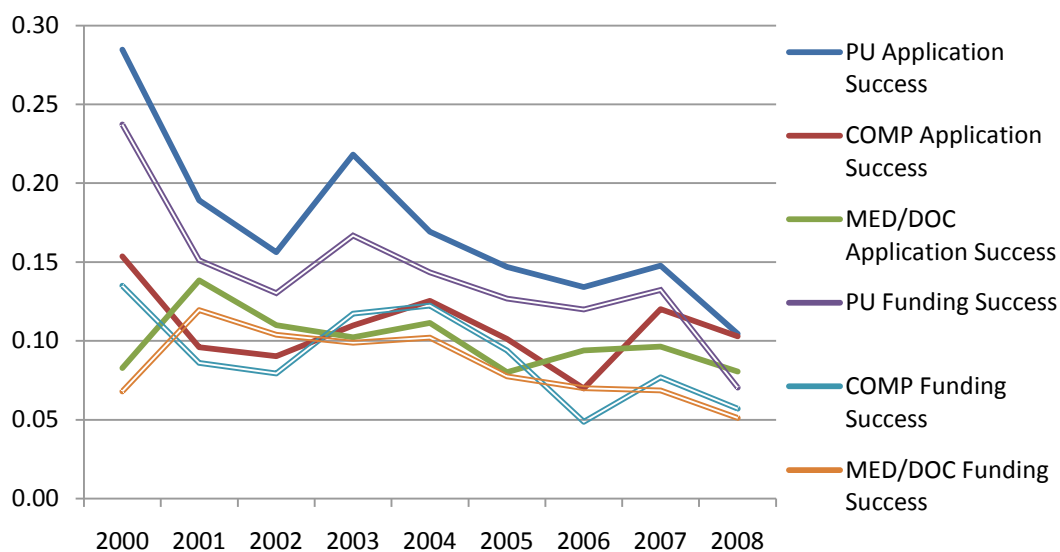
Year	Applications			Funding		
	PU*	COMP*	MED/DOC*	PU*	COMP*	MED/DOC*
2000	28%	15%	8%	24%	13%	7%
2001	19%	10%	14%	15%	9%	12%
2002	16%	9%	11%	13%	8%	10%
2003	22%	11%	10%	17%	12%	10%
2004	17%	13%	11%	14%	12%	10%
2005	15%	10%	8%	13%	9%	8%
2006	13%	7%	9%	12%	5%	7%
2007	15%	12%	10%	13%	8%	7%
2008	10%	10%	8%	7%	6%	5%

*PU = Primarily Undergraduate; COMP = Comprehensive; MED/DOC = Medical Doctoral

Source: SSHRC Internal Calculations

In both forms of success the deviation in the primarily undergraduate category has greatly decreased, meaning the success rates of the universities within this category are becoming similar when their statistics have been aggregated. As evidence of this, regressing this category's deviation measures by year yields two particularly strong p values (.006 for application success and .009 for funding success), both under the second level of statistical significance. In fact one might argue that there has been something of a convergence on low deviation for all categories in both forms of success. Figure 8 presents these measures in a more visual manner so that this convergence can more easily be identified.

Figure 8: Standard Deviations of Grant Success by Category, 1999-2000 to 2007-2008



Source: SSHRC Internal Calculations

In this manner it would appear that categorical success rates are indeed solidifying in council competitions. While regressing the deviations of any other category besides primarily undergraduate for either form of success does not produce statistically significant evidence for this trend, this may be due to the fact that comprehensive and medical/doctoral universities already experience low deviation rates as such. The addition of primarily undergraduate institutions to these low rates may allude to a number of possible developments during this period, the first being a growing evaluation bias on the part of council peer reviewers. In this interpretation more and more scholars are taking the size of the university that an application comes from into account when evaluating a given proposal. This has led to a certain “category effect” on the resulting success, influencing all submissions from smaller institutions, for example, to be deemed as having the same (low) level of quality. Another possible explanation could be the changing value of research activity at smaller institutions; as undergraduate institutions have mobilized to capitalize on recent federal expenditures they have been financially limited in the proportion of general operating expenses they can invest in their research offices and professorial research in general. Since this proportion is generally the same for all institutions in the category, it aids in equalizing the resulting success for their scholars, and thus leads to lower variance rates for the category. Finally, these patterns may be the result of the trends in new academic hires in smaller institutions. As employment to academic positions has become increasingly competitive the quality of academic scholars in terms of research output has risen. These scholars have internalized the value of research and have begun to replace the older generations which were more focused on teaching. By contrast, comprehensive and medical/doctoral institutions have experienced little relative change in their deviation because their scholars have always shown high levels of research production. All three positions on this matter are feasible and may actually work in tandem help to explain why success rates in general have experienced convergence without stratification while the categories show signs of increased internal similarities without much increased inequality.

Findings 2 - Success as Engagement or Average Award Amounts

Success need not just be a measure of proposal or funding level acceptance. If there is indeed a “category effect” during peer review or systemic discrimination in grant success as one respondent argued in chapter 2, the concept of “success” for the smaller institutions may simply

be understood as their ability to get a larger percentage of their scholars to actually apply for standard research grants, regardless of whether such a result is produced by research office strategies or the changing mindset of new hires. This type of “success” can effectively be described as a growth in council engagement levels,¹⁴⁴ since an increase in the number of proposals from a university means more chances of receiving a successful award and shows that the institution has a growing interest in the SSHRC’s programming. The formula for such a measure is relatively simple—an engagement level equals the number of an institution’s applications to the SSHRC divided by its total social sciences and humanities faculty size (times 100). If engagement levels have been shown to have increased at a given institution we can effectively say that the value of research activity and its expense at that location has gone up. If done at the categorical level, however, such trends may reveal important insights into yet another potential area of stratification.

Table 21: Comparison of Engagement Rates by Institutional Category, 1999-2000 to 2007-2008

Year*	Primarily Undergraduate		Comprehensive		Medical/Doctoral
	Engagement Rate	Difference from Medical/Doctoral Engagement Rate	Engagement Rate	Difference from Medical/Doctoral Engagement Rate	Engagement Rate
2000	5.55%	4.89%	8.29%	2.16%	10.44%
2001	5.28%	5.20%	7.86%	2.62%	10.48%
2002	6.28%	5.50%	8.81%	2.97%	11.78%
2003	6.59%	4.93%	8.84%	2.68%	11.52%
2004	6.60%	5.31%	8.85%	3.06%	11.90%
2005	7.02%	6.53%	9.54%	4.01%	13.55%
2006	7.31%	6.65%	11.62%	2.33%	13.96%
2007	8.64%	5.30%	11.09%	2.84%	13.93%
2008	8.64%	4.74%	11.21%	2.17%	13.38%

* Years presented are ending fiscal years.

Source: Cross Tabulations of SSHRC Internal Calculations (Applied PIs) and AUCC Estimates (Faculty Size)

Since the categories are once again in rank order difference can be calculated by subtracting the levels of the two lower ranking categories from those of medical/doctoral institutions. Table 21 presents these figures, and shows that although engagement levels are increasing at all institutions, there has been no comparative change between the categories. The difference between the categories has also gone unchanged, though there seems to be something of a

¹⁴⁴ As noted in chapter 3, an engagement rate is understood as the number of scholars actively applying for grants as a proportion of the total scholars who could apply.

nonlinear trend regarding this development. Here we can safely say that stratification is not occurring, as trends on this measure during the reinvestment period have stayed more or less consistent between the categories.

If discrimination is indeed occurring at the peer review level and thereby lowering small institution award levels, another measure of institutional success could be an increase in average awards amounts. Since many of the recent federal initiatives rely on total tri-council funding for their disbursement calculations, and since smaller institutions are inherently restricted in their application success rates at federal competition, primarily undergraduate universities can effectively increase their allocation of new federal funding by having a higher a level of total money from the awards which do receive success. Such trends could be the product of internal managerial strategies intentionally following this line of logic, or may also be the organic result of the changing cost of research for scholars across the nation. Average award amounts, as shown in table 22, can be calculated by dividing the total money awarded at an institution by the number of its successful applications. Since much of the funding in any grant goes to pay the wages of student research assistants, inflation has also been factored into these estimates.

Table 22: Average Award Amounts in Constant 2009 Dollars by Institutional Category, 1999-2000 to 2007-2008

Year*	Primarily Undergraduate	Comprehensive	Medical/Doctoral
2000	\$56,830.94	\$66,514.53	\$75,928.19
2001	\$59,867.42	\$77,048.84	\$84,529.43
2002	\$61,881.24	\$78,903.52	\$88,997.86
2003	\$79,025.47	\$89,128.70	\$95,155.06
2004	\$75,031.42	\$86,959.81	\$94,125.05
2005	\$78,937.08	\$96,922.61	\$102,519.52
2006	\$71,447.83	\$88,622.03	\$91,237.15
2007	\$74,043.80	\$85,212.01	\$88,604.93
2008	\$72,846.46	\$76,200.90	\$81,819.28

* Years shown are ending fiscal years.

Source: SSHRC Internal Calculations

The only statistically significant trend in the resulting measures is the increase in the average award amounts of primarily undergraduate institutions, which when regressed by year show a p value of .04. This table primarily demonstrates that there has been no pervasive stratification in these measures. It is true that smaller universities have consistently increased their average award

dollars, but this increase has not equalized their measures with those of their peers as all categories have to some extent seen an increase over this period.

Findings 3 – Stratification and Total Council Funding

Finally, it is suitable to say something about the possible stratification in the SSHRC's total funding between the institutional categories. Although, as mentioned earlier, this measure does not capture "success" as such, drastic changes in overall funding patterns may highlight an important weaknesses in this study's methodology as success and total funding are highly correlated. Conversely, if the distribution of overall funds and standard research grants are similar between the categories, this adds further evidence to the argument that federal grant stratification has not occurred for scholars in the social sciences and humanities, whether in terms of success or total dollar values. In order to determine this, table 33 and 34 in the appendix present averaged categorical application and funding amounts for the SSHRC's annual standard research grant competition. Total SSHRC funding is shown in table 35 and has been calculated using FIUC data, which captures institutional income rather than the funding given to individual researchers. Because this dataset publishes its statistics in the form of thousands (000's) table 34 has been presented in a similar manner to encourage comparison.

When taken together these statistics corroborate earlier findings with few qualifications. There has been some stratification in terms of total volume of applications from the categories; while the average number of application submitted by primarily undergraduate universities has increased, its level as a proportion of medical/doctoral amounts has not kept pace. However, since it was shown that engagement levels have significantly increased at smaller institutions, this result is undoubtedly due to the growth in faculty size at medical/doctoral universities. The total number of application submitted by the comprehensive institutions has followed similar patterns, though the high level of fluctuation negates the existence of any significant trend. Examining total categorical grant funding amounts (table 34) reveals that both primarily undergraduate and comprehensive measures have experienced a greater difference from those of medical/doctoral. As a proportion of that funding, however, both categories have seen a consistent increase, with comprehensive universities gaining a significant growth of 10% by the end of 2007-2008 despite minor fluctuations earlier in the period. Examining the averaged total council funding between the institutional categories (table 35) reveals a higher level of difference

between the institutions but no subsequent change in proportion, which have remained relatively stagnant after some minor growth between 1999-2000 and 2001-2002. The fluctuation between the two tables which capture actual dollar amounts (tables 34 and 35) is highly correlated, providing significant evidence that the trends occurring in standard research grant competitions also typify the trends occurring throughout the SSHRC's total funding for this period. As table 26 shows, all correlates are above the .30 level of strength.

Table 23: Correlates of Fluctuation in SSHRC Funding between Institutional Income and Standard Research Grant Results by Institutional Category, 1999-2000 to 2007-2008 (Aggregated)

<u>Primarily Undergraduate</u>	
Funding	0.97
Difference (from Medical Doctoral)	0.96
Proportion (of Medical/Doctoral)	0.44
<u>Comprehensive</u>	
Funding	0.98
Difference (from Medical Doctoral)	0.82
Proportion (of Medical/Doctoral)	0.52
<u>Medical Doctoral</u>	
Funding	0.97

Source: SSHRC Internal Calculations and FIUC Annual Data

Conclusion

From an analysis of 49 universities there was found to be little evidence to support the notion of an increasing stratification of the SSHRC's funding between institutional categories. While the trends occurring at the SSHRC should not be generalized to those of the other councils, they clearly show that funding patterns contain a higher level of historical endurance than most scholars recognize. Success rates in both application and funding forms have traditionally fallen unevenly across the categories and the reinvestment phase saw no great change in this phenomenon in either difference or proportion. The size and direction of the fluctuations occurring between these categories are also highly correlated with one another, though funding success fluctuations have a much closer association than those of application success. This further supports the finding that stratification has not occurred, since if success rates were indeed stratifying we not expect to see such a positive convergence in their fluctuation. When analysis was redone using different conceptions of success – such as

engagement levels or average award amounts—no significant differences were discovered. In order to show that the trends occurring (or not occurring, depending on your perspective) in standard research grant programming was similar to those of total tri-council funding correlations were taken between the fluctuations occurring in the total dollar amounts for both. Analysis showed strong correlations of .44 and above for the average amount, difference, and proportion in these two measures.

The one significant trend which *was* discovered from this process was that there has been a significant change in success deviation within the primarily undergraduate category, wherein universities are congregating upon the same general application and funding success levels. This in no way validates stratification, though it may speak to the categorical institutionalization of success rate in council competitions. In essence, the major finding of this study to signify that although inequality has increased between the categories on almost all measures nowhere was that inequality of a significant difference to what had existed before it, save total funding amounts where the disproportion had actually decreased.

Concluding Statements

Although there are few scholars actively exploring research funding trends in Canada, and even fewer examining the mechanisms of its disbursement, this thesis has drawn on this small body of literature to identify and test five key arguments made concerning the possible implications of recent federal initiatives for social sciences and humanities research. Of these five, only one was found to have any substance. These findings suggest that more rigorous work needs to be done from academics on these topics, especially for those trends which do hold significant substance, such as Managerialism.

This research has also shown that many of the assumption which academics writing on this issue have taken for granted (some of which have been directly incompatible with one another) have no footing in reality. Thus we have scholars erroneously positing that federal funding for the SSHRC has decreased in either total amount or in proportion to other granting councils. The reality, however, has been the exact opposite, with the SSHRC now receiving an even greater proportion of NSERC's budget than it did before the reinvestment phase. Concern that recent trends have contributed to the so-called private sector "takeover" of social science and humanities research is also unfounded. This analysis has shown that private sector expenditures into research in the social sciences and humanities research have been decreasing in the last ten years. Further still, private sector involvement into university research as a whole is decreasing in proportion and especially when compared to other sources, such as non-profits. Institutional interest in commercialization for all disciplines grew rapidly at the beginning of the reinvestment phase but has since become stagnant, thereby negating the relevance of "academic capitalism" to the Canadian context, despite arguments to the contrary.¹⁴⁵ Concern that the reinvestment phase has led to a significant level of subject targeting in the SSHRC's expenditures demonstrates a lack of knowledge for the council's actual financial programming. The public documents which do exist concerning this trend show that targeting has gone up significantly at the start of 2000, but then tapers off as the years go by. Moreover scholars researching such trends in the future should make a greater attempt to differentiate between those targeting initiatives which stem from government directives and those which are the product of the SSHRC's internal

¹⁴⁵ Amy S. Metcalfe, "Revisiting Academic Capitalism in Canada: No Longer the Exception." *The Journal of Higher Education* 81.4 (2010): 489-514.

programming, since the two types of “targeting” are determined by two very different processes. Those scholars who have argued that the sheer size of the SSHRC’s funding during the reinvestment phase has led to an inequality in both total amounts and and disproportion in institutional success rates have made either premature or erroneous assumptions on this issue. This thesis analyzed three conceptions of success to show that such stratification was not occurring, and that the total distribution of the SSHRC’s funding during this period had not proportionally changed between the categories.

Although analysis into Canadian research funding is a relatively new academic subject with very few scholars actively studying its implications these findings show that greater rigor is needed within this literature. This is especially true if such publications hope to help academics understand future changes on this issue. Quantitative and qualitative changes in research funding *do* have serious implications for the research activity of the disciplines at large. Unfortunately, to date, these implications have neither been well described nor accurately represented by the scholars devoted to their exposition.

Appendix

Table 24: Federal Cash Transfers to Provinces in Constant 2009 Dollars, 1971-1972 to 2008-2009 (in millions)

Year*	Canada Health and Social Transfer		Total Transfer	Expected Amount Given to PSE [†]
	Total Transfer	Expected Amount Given to PSE [†]		
1972	---	---	\$19,760	\$2,463
1973	---	---	\$21,595	\$2,513
1974	---	---	\$22,226	\$2,351
1975	---	---	\$25,692	\$2,201
1976	---	---	\$27,117	\$2,110
1977	---	---	\$30,896	\$2,387
1978	---	---	\$28,982	\$3,732
1979	---	---	\$29,854	\$4,267
1980	---	---	\$30,319	\$4,333
1981	---	---	\$30,103	\$4,160
1982	---	---	\$30,248	\$3,762
1983	---	---	\$29,542	\$3,192
1984	---	---	\$33,719	\$4,066
1985	---	---	\$35,015	\$4,276
1986	---	---	\$34,282	\$4,135
1987	---	---	\$34,126	\$3,892
1988	---	---	\$34,267	\$3,744
1989	---	---	\$35,580	\$3,578
1990	---	---	\$35,814	\$3,313
1991	---	---	\$33,457	\$2,717
1992	---	---	\$34,353	\$2,959
1993	---	---	\$36,150	\$3,932
1994	---	---	\$36,012	\$3,178
1995	---	---	\$35,125	\$3,319
1996	---	---	\$34,053	\$3,088
1997	\$19,187	---	---	---
1998	\$15,719	---	---	---
1999	\$20,071	---	---	---
2000	\$18,358	---	---	---
2001	\$16,189	---	---	---
2002	\$20,236	---	---	---
2003	\$24,138	---	---	---
2004	\$24,861	---	---	---
2005	\$30,627	---	---	---
2006	\$29,109	---	---	---
2007	\$30,032	---	---	---
2008	\$32,161	\$2,498	---	---
2009	\$33,414	\$3,243	---	---
2010	\$35,678	\$3,332	---	---

* Years shown are ending fiscal years.

† CHST does not allocate a specific amount for education until 2007-2008 (25%). This jumps to 31% in 2008-2009.

† As mentioned in text, the year 1977-78 witnessed a major federal restructuring and change in the calculations of amount, which may help to explain the significant jump in amount educational support despite negligible increase in total amounts.

Source: Department of Finance Canada

Table 25: Federal Expenditures for Canadian Universities by Purpose in Constant 2009 Dollars, 1979-1980 to 2006-2007 (in 000's)

Year*	Research		All Other [†]		Total	
	Dollar Amount	Percent of Total Expenditures	Dollar Amount	Percent of Total Expenditures	Dollar Amount	Percent of Total Expenditures
1980	\$694,482	84.61%	\$126,332	15.39%	\$820,814	100.00%
1981	\$754,060	84.50%	\$138,356	15.50%	\$892,416	100.00%
1982	\$826,366	82.73%	\$172,563	17.27%	\$998,929	100.00%
1983	\$825,412	79.54%	\$212,302	20.46%	\$1,037,714	100.00%
1984	\$908,871	79.67%	\$231,976	20.33%	\$1,140,846	100.00%
1985	\$985,313	82.00%	\$216,229	18.00%	\$1,201,541	100.00%
1986	\$942,804	78.17%	\$263,217	21.83%	\$1,206,021	100.00%
1987	\$919,304	77.07%	\$273,478	22.93%	\$1,192,782	100.00%
1988	\$945,071	78.42%	\$260,036	21.58%	\$1,205,107	100.00%
1989	\$1,012,187	77.08%	\$301,002	22.92%	\$1,313,190	100.00%
1990	\$1,030,574	77.99%	\$290,773	22.01%	\$1,321,347	100.00%
1991	\$1,200,148	79.66%	\$306,429	20.34%	\$1,506,577	100.00%
1992	\$1,153,181	83.81%	\$222,782	16.19%	\$1,375,963	100.00%
1993	\$1,184,612	80.29%	\$290,807	19.71%	\$1,475,418	100.00%
1994	\$1,170,510	80.70%	\$279,960	19.30%	\$1,450,470	100.00%
1995	\$1,183,501	85.30%	\$204,003	14.70%	\$1,387,504	100.00%
1996	\$1,117,115	86.87%	\$168,880	13.13%	\$1,285,995	100.00%
1997	\$1,065,174	86.74%	\$162,790	13.26%	\$1,227,965	100.00%
1998	\$1,004,170	87.20%	\$147,375	12.80%	\$1,151,546	100.00%
1999	\$1,156,246	87.89%	\$159,244	12.11%	\$1,315,490	100.00%
2000	\$1,477,097	90.17%	\$161,073	9.83%	\$1,638,169	100.00%
2001	\$1,730,659	91.33%	\$164,200	8.67%	\$1,894,860	100.00%
2002	\$1,972,977	90.25%	\$213,089	9.75%	\$2,186,066	100.00%
2003	\$2,219,544	87.19%	\$325,981	12.81%	\$2,545,525	100.00%
2004	\$2,619,517	92.86%	\$201,391	7.14%	\$2,820,908	100.00%
2005	\$2,679,593	93.05%	\$200,236	6.95%	\$2,879,829	100.00%
2006	\$2,871,517	94.79%	\$157,841	5.21%	\$3,029,358	100.00%
2007	\$2,834,990	94.05%	\$179,370	5.95%	\$3,014,360	100.00%
2008	\$3,005,510	95.72%	\$134,395	4.28%	\$3,139,905	100.00%

* Years presented are ending fiscal years

[†] "All Other" includes: General Operating, Special Purpose and Trust, Plant, Capital, Ancillary Enterprises, and Endowment.

Source: FIUC Annual Data

Table 26: Distribution of Government Funding for All Canadian Universities in Constant 2009 Dollars, 1979-1980 to 2006-2007 (in 000's)

Year*	Federal Government		Non-Federal Government†		Total Government	
	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total
1980	\$820,814	10.23%	\$7,204,119	89.77%	\$8,024,934	100%
1981	\$892,416	10.95%	\$7,255,822	89.05%	\$8,148,238	100%
1982	\$998,929	12.15%	\$7,220,262	87.85%	\$8,219,191	100%
1983	\$1,037,713	12.29%	\$7,407,035	87.71%	\$8,444,749	100%
1984	\$1,140,846	13.29%	\$7,444,503	86.71%	\$8,585,349	100%
1985	\$1,201,541	14.24%	\$7,233,558	85.76%	\$8,435,100	100%
1986	\$1,206,020	14.10%	\$7,349,956	85.90%	\$8,555,977	100%
1987	\$1,192,782	13.30%	\$7,777,225	86.70%	\$8,970,007	100%
1988	\$1,205,107	13.35%	\$7,818,710	86.65%	\$9,023,817	100%
1989	\$1,313,189	13.85%	\$8,167,916	86.15%	\$9,481,106	100%
1990	\$1,321,346	13.80%	\$8,256,631	86.20%	\$9,577,977	100%
1991	\$1,506,577	15.15%	\$8,440,819	84.85%	\$9,947,397	100%
1992	\$1,375,963	13.92%	\$8,506,920	86.08%	\$9,882,883	100%
1993	\$1,475,418	14.66%	\$8,588,393	85.34%	\$10,063,811	100%
1994	\$1,450,469	15.03%	\$8,201,790	84.97%	\$9,652,259	100%
1995	\$1,387,504	14.46%	\$8,208,612	85.54%	\$9,596,116	100%
1996	\$1,285,995	14.02%	\$7,883,638	85.98%	\$9,169,634	100%
1997	\$1,227,964	14.44%	\$7,278,450	85.56%	\$8,506,415	100%
1998	\$1,151,545	13.65%	\$7,284,111	86.35%	\$8,435,657	100%
1999	\$1,315,489	15.07%	\$7,416,267	84.93%	\$8,731,757	100%
2000	\$1,638,169	16.09%	\$8,541,781	83.91%	\$10,179,950	100%
2001	\$1,894,859	18.23%	\$8,498,726	81.77%	\$10,393,586	100%
2002	\$2,186,066	19.97%	\$8,758,744	80.03%	\$10,944,810	100%
2003	\$2,545,524	21.33%	\$9,387,480	78.67%	\$11,933,005	100%
2004	\$2,820,907	22.13%	\$9,926,278	77.87%	\$12,747,186	100%
2005	\$2,879,829	21.42%	\$10,562,639	78.58%	\$13,442,468	100%
2006	\$3,029,357	21.61%	\$10,987,471	78.39%	\$14,016,829	100%
2007	\$3,014,360	20.51%	\$11,685,112	79.49%	\$14,699,472	100%
2008	\$3,139,904	19.89%	\$12,645,828	80.11%	\$15,785,733	100%

*Years shown are ending fiscal years.

† Non-Federal Government Funding consists of provincial, municipal, and foreign government amounts, the last two of which constitute on average less than 1% of the measure and less than 0.5% of total government funding for all years.

Source: FICU Annual Data

Table 27: FIUC Reported Tri-Council Expenditures for all Canadian PSE Institutions in Constant 2009 Dollars, 1990-1991 to 2007-2008 (in 000's)

Year*	SSHRC		MRC / CIHR		NSERC		All Councils	
	Total Dollar Amount	Percentage of Total	Total Dollar Amount	Percentage of Total	Total Dollar Amount	Percentage of Total	Total Dollar Amount	Percentage of Total
1991	\$76,518	7.94%	\$349,224	36.24%	\$538,030	55.83%	\$963,772	100.00%
1992	\$80,540	8.54%	\$316,969	33.60%	\$545,829	57.86%	\$943,339	100.00%
1993	\$89,546	9.55%	\$318,446	33.96%	\$529,677	56.49%	\$937,670	100.00%
1994	\$80,430	8.41%	\$360,033	37.66%	\$515,665	53.93%	\$956,127	100.00%
1995	\$83,591	8.46%	\$370,122	37.44%	\$534,789	54.10%	\$988,503	100.00%
1996	\$77,411	8.40%	\$375,152	40.69%	\$469,338	50.91%	\$921,901	100.00%
1997	\$71,940	8.28%	\$321,642	37.02%	\$475,165	54.70%	\$868,747	100.00%
1998	\$68,499	8.41%	\$316,872	38.92%	\$428,802	52.67%	\$814,173	100.00%
1999	\$80,912	8.71%	\$346,651	37.33%	\$501,056	53.96%	\$928,620	100.00%
2000	\$119,426	10.80%	\$416,985	37.70%	\$569,782	51.51%	\$1,106,193	100.00%
2001	\$132,736	11.36%	\$445,521	38.14%	\$590,012	50.50%	\$1,168,269	100.00%
2002	\$134,742	10.73%	\$535,240	42.63%	\$585,540	46.64%	\$1,255,522	100.00%
2003	\$154,626	11.29%	\$631,403	46.09%	\$583,789	42.62%	\$1,369,819	100.00%
2004	\$198,972	13.30%	\$657,727	43.98%	\$638,868	42.72%	\$1,495,568	100.00%
2005	\$221,887	13.81%	\$703,020	43.77%	\$681,425	42.42%	\$1,606,333	100.00%
2006	\$236,939	13.99%	\$781,969	46.18%	\$674,283	39.82%	\$1,693,192	100.00%
2007	\$232,800	13.57%	\$762,343	44.43%	\$720,744	42.00%	\$1,715,886	100.00%
2008	\$226,519	12.70%	\$803,270	45.03%	\$753,973	42.27%	\$1,783,762	100.00%

* Ending Fiscal Years

Source: FIUC Annual Data

Table 28: Estimates of Social Sciences and Humanities R&D Expenditures in the Higher Education Sector by Source of Funds in
Constant 2009 Dollars, 1998-1999 to 2008-2009 (in millions)

Year*	Federal		Provincial		Business		Universities		Non-Profit		Total	
	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total
1999	\$140.0	14.78%	\$92.7	9.79%	\$53.5	5.65%	\$578.6	61.09%	\$82.3	8.69%	\$947.1	100.00%
2000	\$174.6	13.40%	\$118.5	9.09%	\$25.0	1.92%	\$906.1	69.56%	\$78.5	6.03%	\$1,302.7	100.00%
2001	\$223.9	14.99%	\$140.8	9.43%	\$60.0	4.02%	\$969.7	64.94%	\$98.9	6.63%	\$1,493.2	100.00%
2002	\$270.4	18.14%	\$166.6	11.17%	\$29.6	1.99%	\$910.1	61.05%	\$114.0	7.65%	\$1,490.8	100.00%
2003	\$261.4	16.16%	\$189.6	11.72%	\$27.1	1.68%	\$1,012.6	62.59%	\$127.1	7.86%	\$1,617.7	100.00%
2004	\$374.1	21.10%	\$226.7	12.78%	\$27.7	1.56%	\$1,017.7	57.39%	\$127.0	7.16%	\$1,773.1	100.00%
2005	\$412.2	21.23%	\$227.0	11.70%	\$27.1	1.40%	\$1,131.2	58.27%	\$143.8	7.41%	\$1,941.3	100.00%
2006	\$445.9	21.99%	\$208.2	10.27%	\$31.3	1.55%	\$1,192.9	58.84%	\$149.0	7.35%	\$2,027.3	100.00%
2007	\$420.7	21.01%	\$208.1	10.40%	\$34.4	1.72%	\$1,187.2	59.30%	\$151.5	7.57%	\$2,002.0	100.00%
2008	\$459.5	21.72%	\$212.2	10.03%	\$37.3	1.77%	\$1,237.5	58.49%	\$169.2	8.00%	\$2,115.7	100.00%
2009	\$460.3	20.82%	\$221.6	10.02%	\$36.6	1.66%	\$1,318.0	59.61%	\$174.7	7.90%	\$2,211.1	100.00%

* Years shown are ending fiscal years.

Source: Statistics Canada Annual HERD Estimates

Table 29: Estimates of Total R&D Expenditures in the Higher Education Sector by Source of Funds in Constant 2009 Dollars, 1998-2008 (in millions)

Year*	Federal		Provincial		Business		Universities		Non-Profit		Total [†]	
	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total
1999	\$1081.2	19.75%	\$465.6	8.50%	\$515.0	9.41%	\$2931.3	53.54%	\$419.9	7.67%	\$5475.0	99.27%
2000	\$1337.1	21.34%	\$594.5	9.49%	\$567.5	9.06%	\$3265.4	52.12%	\$430.5	6.87%	\$6264.7	99.32%
2001	\$1550.3	22.32%	\$704.2	10.14%	\$663.6	9.55%	\$3468.2	49.92%	\$501.5	7.22%	\$6947.3	99.56%
2002	\$1856.1	24.70%	\$832.8	11.08%	\$705.7	9.39%	\$3425.9	45.59%	\$595.5	7.92%	\$7514.4	99.23%
2003	\$2078.8	24.37%	\$947.9	11.11%	\$735.8	8.63%	\$3960.3	46.43%	\$691.5	8.11%	\$8528.9	98.89%
2004	\$2427.8	26.79%	\$1132.9	12.50%	\$755.7	8.34%	\$3994.2	44.08%	\$667.0	7.36%	\$9061.9	99.25%
2005	\$2553.3	25.80%	\$1135.2	11.47%	\$824.6	8.33%	\$4530.7	45.78%	\$748.3	7.56%	\$9896.7	99.24%
2006	\$2718.3	26.71%	\$1040.7	10.23%	\$858.9	8.44%	\$4641.3	45.61%	\$793.3	7.80%	\$10176.9	98.67%
2007	\$2608.4	25.84%	\$1040.9	10.31%	\$847.5	8.40%	\$4650.4	46.08%	\$813.4	8.06%	\$10092.6	99.56%
2008	\$2790.9	26.70%	\$1060.9	10.15%	\$892.7	8.54%	\$4693.0	46.90%	\$912.8	8.73%	\$10452.2	98.87%
2009	\$2818.8	25.75%	\$1108.0	10.11%	\$894.7	8.16%	\$5073.0	46.28%	\$951.2	8.68%	\$10960.3	99.54%

* Years shown are ending fiscal years.

[†]Totals do not equal 100% because foreign amounts have been removed from the column categories. This source averages 1% of the total R&D funding, and 0% of total social sciences and humanities R&D funding.

Source: Statistics Canada Annual HERD Estimates

Table 30: Breakdown of the SSHRC's Grant Expenses by Financial Grouping in Constant 2009 Dollars, 1998-1999 to 2008-2009

Year*	Fellowships, Scholarships and Prizes		Investigator-Framed Research		Research Communication and Interaction		Strategic Research Development		Targeted Research and Training Initiatives		Column Totals†	
	Dollar Amount	%	Dollar Amount	%	Dollar Amount	%	Dollar Amount	%	Dollar Amount	%	Dollar Amount	%
1999	\$39,608,042	36.25%	\$46,748,203	42.79%	\$6,948,341	6.36%	\$8,876,317	8.12%	\$7,076,940	6.48%	\$109,257,844	100.00%
2000	\$37,597,542	28.36%	\$51,997,153	39.22%	\$6,598,741	4.98%	\$16,425,718	12.39%	\$19,968,779	15.06%	\$132,587,933	100.00%
2001	\$40,367,781	29.13%	\$57,010,906	41.14%	\$6,492,065	4.69%	\$17,534,444	12.65%	\$17,161,188	12.38%	\$138,566,383	100.00%
2002	\$34,869,467	24.55%	\$61,679,461	43.42%	\$5,591,237	3.94%	\$18,714,748	13.18%	\$21,189,106	14.92%	\$142,044,020	100.00%
2003	\$37,052,025	23.96%	\$71,828,588	46.46%	\$5,979,982	3.87%	\$15,867,289	10.26%	\$23,887,147	15.45%	\$154,615,031	100.00%
2004	\$54,391,512	28.97%	\$79,238,997	42.20%	\$6,311,989	3.36%	\$17,145,844	9.13%	\$30,672,252	16.34%	\$187,760,593	100.00%
2005	\$73,268,403	33.50%	\$86,485,984	39.54%	\$8,321,174	3.80%	\$18,692,287	8.55%	\$31,972,761	14.62%	\$218,740,610	100.00%
2006	\$90,766,362	36.91%	\$93,284,607	37.93%	\$10,008,605	4.07%	\$18,734,960	7.62%	\$33,141,722	13.48%	\$245,936,256	100.00%
2007	\$98,881,233	39.37%	\$97,821,107	38.95%	\$9,709,458	3.87%	\$20,163,271	8.03%	\$24,573,751	9.78%	\$251,148,820	100.00%
2008	\$100,225,863	40.08%	\$87,083,808	34.82%	\$14,567,708	5.83%	\$25,497,286	10.20%	\$22,705,046	9.08%	\$250,079,710	100.00%
2009	\$105,418,620	41.58%	\$82,834,543	32.67%	\$18,150,179	7.16%	\$24,944,961	9.84%	\$22,198,883	8.76%	\$253,547,186	100.00%

* Years shown are ending fiscal years

† Column totals do not add up to the measures reported in the SSHRC's financial statements because amounts for the Canada Research Chairs and Networks of Centres of Excellence competitions have been excluded from this table.

Source: SSHRC's Internal Award Database

Table 31: Descriptive Statistics for SSHRC Funding by Program and Program Cluster, 1998 to 1999 to 2008-2009 (Cumulatively)

Program / Program Cluster	Applications	% of Applications	Money Awarded	% of Money	Average Award Amount
Fellowships, Scholarships and Prizes					
Bora Laskin National Fellowship in Human Rights	11	0.02%	605,000	0.03%	55,000
Canada Graduate Scholarship – Doctoral	4,858	6.93%	169,238,280	7.12%	34,837
Canada Graduate Scholarships - Michael Smith Foreign Study Supplements	69	0.10%	408,893	0.02%	5,926
Canada Graduate Scholarships Program - Masters Scholarships	6,859	9.78%	119,456,264	5.03%	17,416
CHSRF/SSHRC Doctoral Fellowship	30	0.04%	477,776	0.02%	15,926
CHSRF/SSHRC Postdoctoral Fellowship	4	0.01%	95,913	0.00%	23,978
CIHR/SSHRC/NHRDP Health Career Awards	1	0.00%	196,050	0.01%	196,050
Doctoral Fellowships	15,479	22.07%	277,354,986	11.67%	17,918
International Space University Fellowship	10	0.01%	200,000	0.01%	20,000
John G. Diefenbaker Award	15	0.02%	208,146	0.01%	13,876
Jules and Gabrielle Léger Fellowship	6	0.01%	300,000	0.01%	50,000
Master's Scholarships in Science Policy	5	0.01%	60,398	0.00%	12,080
Parliamentary Internship Programme	11	0.02%	575,600	0.02%	52,327
Postdoctoral Fellowships	2,910	4.15%	85,254,437	3.59%	29,297
Queen's Fellowship - SSHRC Fund	22	0.03%	159,549	0.01%	7,252
SSHRC Aurora Prize	6	0.01%	150,000	0.01%	25,000
SSHRC Gold Medal for Achievement in Research	6	0.01%	600,000	0.03%	100,000
SSHRC Postdoctoral Prize	4	0.01%	40,000	0.00%	10,000
The Japan Society for the Promotion of Science (JSPS) Fellowships	1	0.00%	3,000	0.00%	3,000
William E. Taylor Fellowship	36	0.05%	543,233	0.02%	15,090
Sub-total: Fellowships, Scholarships and Prizes	30,343	43.26%	655,927,525	27.60%	21,617
Investigator-Framed Research					
Major Collaborative Research Initiatives Program	353	0.50%	96,648,684	4.07%	273,792
Standard Research Grants	25,734	36.69%	644,291,626	27.11%	25,037
Sub-total: Investigator-Framed Research	26,087	37.20%	740,940,309	31.17%	28,403
Research Communication and Interaction					
Aid and Attendance Grants to Scholarly Associations	771	1.10%	5,295,171	0.22%	6,868
Aid to Open-Access Research Journals	11	0.02%	219,370	0.01%	19,943
Aid to Research and Transfer Journals	1,599	2.28%	22,777,741	0.96%	14,245
Aid to Research Workshops and Conferences in Canada	1,468	2.09%	20,713,641	0.87%	14,110
Aid to Scholarly Journals	162	0.23%	3,498,858	0.15%	21,598
Aid to Scholarly Publications Program	11	0.02%	16,394,050	0.69%	1,490,368
Knowledge Impact in Society	51	0.07%	4,971,292	0.21%	97,476
Public Outreach Grants - Canadian Environmental Issues	18	0.03%	1,400,000	0.06%	77,778
Public Outreach Grants - Management, Business and Finance	28	0.04%	1,951,498	0.08%	69,696

Public Outreach Grants - Northern Communities: Towards Social and Economic Prosperity	13	0.02%	1,000,000	0.04%	76,923
Strategic Knowledge Clusters	120	0.17%	12,095,714	0.51%	100,798
Students Promoting Awareness of Research Knowledge (SPARK)	9	0.01%	9,000	0.00%	1,000
Tri-Agency-Partnership on Knowledge Syntheses on the Environment	3	0.00%	202,702	0.01%	67,567
Sub-total: Research Communication and Interaction	4,264	6.08%	90,529,037	3.81%	21,231
Strategic Research Development					
Aid to Small Universities	243	0.35%	5,976,949	0.25%	24,597
BOREAS	18	0.03%	900,000	0.04%	50,000
Community-University Research Alliances (CURA)	772	1.10%	78,665,118	3.31%	101,898
Connections (Canadian Federation for the Humanities and Social Sciences)	11	0.02%	3,759,727	0.16%	341,793
Hydrogen Economy Initiative	2	0.00%	150,000	0.01%	75,000
Inter Council Grant/Consortiums	69	0.10%	4,414,228	0.19%	63,974
Interagency Advisory Panel and Secretariat on Research Ethics and TCPS	21	0.03%	166,913	0.01%	7,948
International Community-University Research Alliances (CURA) - SSHRC/IDRC	4	0.01%	390,250	0.02%	97,563
International Opportunities Fund	157	0.22%	7,510,704	0.32%	47,839
Management, Business and Finance: National Forum	1	0.00%	197,500	0.01%	197,500
Presidential Fund for Innovation and Development	231	0.33%	4,278,373	0.18%	18,521
Research Development Initiatives	823	1.17%	20,530,344	0.86%	24,946
SSHRC Institutional Grants	849	1.21%	56,957,773	2.40%	67,088
Sub-total: Strategic Research Development	3,201	4.56%	183,897,880	7.74%	57,450
Targeted Research and Training Initiatives					
Aboriginal Research	179	0.26%	10,893,334	0.46%	60,857
Applied Ethics	54	0.08%	2,178,897	0.09%	40,350
Canada in the World Research Grants	1	0.00%	18,034	0.00%	18,034
Canadian Health Services Research Foundation	3	0.00%	900,000	0.04%	300,000
Canadian Initiative on Social Statistics (CISS) Data Training Schools	47	0.07%	5,873,703	0.25%	124,972
Canadian Tobacco Control Research Initiative (CTCRI)	38	0.05%	1,398,841	0.06%	36,812
CESC-SSHRC Education Research Initiative	39	0.06%	1,120,378	0.05%	28,728
Chairs in the Management of Technological Change	70	0.10%	2,752,852	0.12%	39,326
Challenges and Opportunities of a Knowledge-based Economy	51	0.07%	4,311,236	0.18%	84,534
Crossing Boundaries Research Initiative	6	0.01%	1,303,321	0.05%	217,220
Essential Skills	16	0.02%	534,166	0.02%	33,385
Exploring Social Cohesion in a Globalizing Era	107	0.15%	9,251,080	0.39%	86,459
Federalism and Federations	216	0.31%	3,250,842	0.14%	15,050
Forest Research Partnerships Program - CFS/NSERC/SSHRC	27	0.04%	719,374	0.03%	26,643
Health Institutes Design Grants	21	0.03%	666,411	0.03%	31,734
Homelessness and Diversity Issues in Canada	44	0.06%	1,004,580	0.04%	22,831
Image, Text, Sounds and Technology	106	0.15%	4,366,138	0.18%	41,190
Immigration and the Metropolis	52	0.07%	16,042,648	0.67%	308,512
INE - The Canada Project	8	0.01%	886,821	0.04%	110,853
INE Collaborative Research Initiative Grants	110	0.16%	45,641,054	1.92%	414,919

INE Data and Statistics Seminars	6	0.01%	255,000	0.01%	42,500
INE Development Grants	45	0.06%	1,922,731	0.08%	42,727
INE Outreach Grants	60	0.09%	2,788,604	0.12%	46,477
INE Research Alliances	67	0.10%	9,452,460	0.40%	141,081
INE Research Grants	362	0.52%	17,731,750	0.75%	48,983
INE Skills Research Initiative	29	0.04%	705,147	0.03%	24,315
Innovation Systems Research Network	15	0.02%	180,000	0.01%	12,000
Intellectual Property Mobilization Program	17	0.02%	610,000	0.03%	35,882
Managing for Global Competitiveness	8	0.01%	177,951	0.01%	22,244
Multiculturalism Issues in Canada	59	0.08%	2,707,768	0.11%	45,894
National Research Network on the Human Dimensions of Biosphere Greenhouse Gas Management	15	0.02%	1,600,000	0.07%	106,667
Northern Research Development Program	157	0.22%	3,516,883	0.15%	22,401
Ocean Management National Research Network Initiative	19	0.03%	2,078,000	0.09%	109,368
Official Languages Research and Dissemination Program	70	0.10%	2,514,021	0.11%	35,915
Project on Trends	62	0.09%	431,212	0.02%	6,955
Reducing the Health Disparities of Vulnerable Populations	2	0.00%	190,504	0.01%	95,252
Relationships in Transition	36	0.05%	625,713	0.03%	17,381
Research Grants - Canadian Environmental Issues	54	0.08%	2,791,306	0.12%	51,691
Research Grants - Management, Business and Finance	269	0.38%	11,218,447	0.47%	41,704
Research Grants - Northern Communities: Towards Social and Economic Prosperity	21	0.03%	1,322,602	0.06%	62,981
Research/Creation Grants in Fine Arts	300	0.43%	15,312,101	0.64%	51,040
Rethinking Productivity	27	0.04%	2,210,828	0.09%	81,883
Society, Culture and the Health of Canadians	141	0.20%	10,575,620	0.44%	75,004
Society, Culture and the Health of Canadians II	123	0.18%	4,315,139	0.18%	35,082
Sport Participation Research Initiative	84	0.12%	2,030,748	0.09%	24,176
Strategic Research Networks in Education and Training	20	0.03%	3,937,500	0.17%	196,875
The Non-Profit Sector in Canada (Kahanoff Foundation)	50	0.07%	663,861	0.03%	13,277
The Social Economy Suite	28	0.04%	9,171,616	0.39%	327,558
Tri-Council Workshop/Networking Program	21	0.03%	225,792	0.01%	10,752
Valuing Literacy in Canada	78	0.11%	2,402,549	0.10%	30,802
Virtual Scholar in Residence Program (LCC)	13	0.02%	400,000	0.02%	30,769
Women and Change	115	0.16%	3,500,930	0.15%	30,443
Sub-total: Targeted Research and Training Initiatives	3,568	5.09%	230,680,492	9.71%	64,653
Totals*	67,463	96.19%	1,901,975,243	80.03%	193,354

*Percentage totals do not add to 100% because grant amounts for Canada Research Chairs and Networks of Centres of Excellence are not included in this table.

Source: SSHRC Internal Awards Database

Table 32: Distribution of Canadian PSE Institutions by Institutional Category (Total = 76)

Medical/Doctoral (15)	Dalhousie University	Comprehensive (11)	Carleton University
	McGill University		Concordia University
	McMaster University		Memorial University
	Queen's University		Simon Fraser University
	The University of British Columbia		University of New Brunswick
	The University of Western Ontario		University of Regina
	Université de Montréal		University of Victoria
	Université de Sherbrooke		University of Waterloo
	Université Laval		University of Windsor
	University of Alberta		York University
	University of Calgary		University of Guelph
	University of Manitoba	Non-Categorized Universities (17)	Algoma University
	University of Ottawa		Athabasca University
	University of Saskatchewan		Capilano University
	University of Toronto		Emily Carr University of Art & Design
Primarily Undergraduate (23)	Acadia University		First Nations University of Canada
	Bishop's University		Kwantlen Polytechnic University
	Brandon University		NSCAD University
	Brock University		Royal Roads University
	Cape Breton University		Thompson Rivers University
	Lakehead University		Université du Québec à Chicoutimi
	Laurentian University		Université du Québec à Montréal
	Mount Allison University		Université du Québec à Rimouski
	Mount Saint Vincent University		Université du Québec à Trois-Rivières
	Nipissing University		Université du Québec en Abitibi-Témiscamingue
	Ryerson University		Université du Québec en Outaouais
	Saint Mary's University		University of the Fraser Valley
	St. Francis Xavier University		Vancouver Island University
	St. Thomas University	Other (10)	Alberta College of Art and Design
	The University of Winnipeg		British Columbia Institute of Technology
	Trent University		École de technologie supérieure
	Trinity Western University		École nationale d'administration publique
	Université de Moncton		École Polytechnique de Montréal
	Université Sainte-Anne		HEC Montréal
	University of Lethbridge		Institut national de la recherche scientifique
	University of Northern British Columbia		Institute for Christian Studies
	University of Prince Edward Island		Sheridan Institute of Technology and Advanced Learning
	Wilfrid Laurier University		University of Ontario Institute of Technology

Source: Maclean's Annual University Rankings

Table 33: Comparison of Averaged SSHRC “Standard Research Grant” Applications by Institutional Category, 1999-2000 to 2007-2008

Year*	Primarily Undergraduate			Comprehensive			Medical/Doctoral
	Average Number of Applications	Difference from Number of Medical/Doctoral Applications	Proportion of Medical/Doctoral Applications	Average Number of Applications	Difference from number of Medical/Doctoral Applications	Proportion of Medical/Doctoral Applications	Average Number of Applications
2000	2.83	24.64	10.29%	11.55	15.92	57.97%	27.47
2001	2.70	23.17	10.44%	12.00	13.87	53.61%	25.87
2002	2.64	27.70	8.69%	14.55	15.79	52.05%	30.33
2003	2.82	27.12	9.41%	15.27	14.66	48.98%	29.93
2004	3.27	29.59	9.96%	13.18	19.68	59.89%	32.87
2005	4.32	33.88	11.30%	17.82	20.38	53.36%	38.20
2006	3.64	35.83	9.21%	19.09	20.38	51.63%	39.47
2007	4.09	37.18	9.90%	18.27	22.99	55.72%	41.27
2008	3.09	31.71	8.87%	16.91	17.89	51.41%	34.80

* Years presented are ending fiscal years.

Source: SSHRC Internal Calculations

Table 34: Comparison of Averaged SSHRC “Standard Research Grant” Total Dollar Funding Amounts by Institutional Category in 2009 Constant Dollars, 1999-2000 to 2007-2008 (in 000’s)

Year*	Primarily Undergraduate			Comprehensive			Medical/Doctoral
	Average Total Dollar Amount	Difference from Medical/Doctoral Total Dollar Amount	Proportion of Medical/Doctoral Total Dollar Amount	Average Total Dollar Amount	Difference from Medical/Doctoral Total Dollar Amount	Proportion of Medical/Doctoral Total Dollar Amount	Average Total Dollar Amount
2000	\$445.29	\$4,139.28	9.71%	\$2,208.67	\$2,375.90	48.18%	\$4,584.57
2001	\$489.93	\$4,608.48	9.61%	\$2,453.58	\$2,644.83	48.12%	\$5,098.41
2002	\$660.27	\$5,665.83	10.44%	\$2,906.48	\$3,419.61	45.94%	\$6,326.10
2003	\$786.05	\$5,547.67	12.41%	\$3,411.56	\$2,922.16	53.86%	\$6,333.72
2004	\$850.14	\$6,356.97	11.80%	\$3,766.77	\$3,440.35	52.26%	\$7,207.11
2005	\$1,123.41	\$7,963.45	12.36%	\$4,685.72	\$4,401.14	51.57%	\$9,086.86
2006	\$1,233.44	\$8,875.17	12.20%	\$6,246.98	\$3,861.64	61.80%	\$10,108.62
2007	\$1,545.04	\$8,928.80	14.75%	\$6,057.09	\$4,416.75	57.83%	\$10,473.84
2008	\$1,664.62	\$8,847.72	15.83%	\$6,189.54	\$4,322.80	58.88%	\$10,512.34

* Years presented are ending fiscal years.

Source: SSHRC Internal Calculations

Table 35: Comparison of Averaged FIUC Reported SSHRC-derived Institutional Income by Institutional Category in Constant 2009 Dollars, 1999-2000 to 2007-2008 (in 000's)

Year*	Primarily Undergraduate			Comprehensive			Medical/Doctoral
	Institutional Income	Difference from Medical/Doctoral Institutional Income	Proportion of Medical/Doctoral Institutional Income	Institutional Income	Difference from Medical/Doctoral Institutional Income	Proportion of Medical/Doctoral Institutional Income	Institutional Income
2000	\$234.65	\$3,463.68	6.34%	\$1,572.73	\$2,125.61	42.53%	\$3,698.33
2001	\$285.70	\$4,294.84	6.24%	\$1,701.82	\$2,878.72	37.15%	\$4,580.53
2002	\$344.39	\$3,912.21	8.09%	\$2,074.27	\$2,182.33	48.73%	\$4,256.60
2003	\$333.65	\$4,536.88	6.85%	\$1,948.64	\$2,921.90	40.01%	\$4,870.53
2004	\$466.52	\$6,054.01	7.15%	\$2,908.64	\$3,611.90	44.61%	\$6,520.53
2005	\$520.52	\$7,026.01	6.90%	\$3,488.82	\$4,057.72	46.23%	\$7,546.53
2006	\$583.83	\$7,744.37	7.01%	\$4,136.55	\$4,191.65	49.67%	\$8,328.20
2007	\$645.22	\$7,531.92	7.89%	\$4,305.64	\$3,871.50	52.65%	\$8,177.13
2008	\$652.48	\$8,401.39	7.21%	\$4,321.18	\$4,732.68	47.73%	\$9,053.87

* Years presented are ending fiscal years.

Source: SSHRC Internal Calculations

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