



# CONCORDIA: AN ECONOMIC FORCE CONNECTED TO ITS COMMUNITY

STUDY ON THE IMPACT OF CONCORDIA UNIVERSITY



October 2011



MONTREAL :: NEW YORK :: PARIS :: QUEBEC :: TORONTO :: VANCOUVER

# TABLE OF CONTENTS

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LIST OF TABLES .....	3
LIST OF FIGURES .....	4
EXECUTIVE SUMMARY .....	5
INTRODUCTION .....	8
1. CONCORDIA: A UNIVERSITY THAT VALUES DIVERSITY .....	10
1.1 Concordia helps to develop Quebec's talent pool .....	10
1.2 Concordia promotes access to education.....	11
1.3 Concordia integrates students of widely diverse origins and socio-economic backgrounds .....	12
1.4 Attracting human capital from outside Quebec .....	14
1.5 Economic impact of human capital improvement .....	15
2. A UNIVERSITY THAT IS AN INTEGRAL PART OF QUEBEC'S ECONOMIC AND CULTURAL FABRIC .....	16
2.1 Study programs adapted to the needs of local businesses and organizations....	16
2.2 Research that reflects Quebec's strategic priorities .....	17
2.3 Attracting research funding from outside Quebec.....	18
2.4 A university that helps position Montreal as an international centre for culture and creativity .....	20
2.5 A university that contributes to Montreal's international reputation.....	22
2.6 Economic impact generated by Concordia through the creation and dissemination of knowledge.....	23
3. A UNIVERSITY THAT GROWS THROUGH RECIPROCAL ENGAGEMENT WITH ITS COMMUNITY .....	24
3.1 Concordia contributes to Montreal's revitalization .....	24
3.2 Concordia democratizes access to knowledge and expertise .....	25
3.3 Concordia encourages citizen engagement.....	26
3.4 Concordia is a leader in sustainable development .....	27
3.5 Concordia contributes to the life of the community by offering access to its facilities.....	28

4. ECONOMIC IMPACT OF SPENDING BY CONCORDIA, ITS STUDENTS AND ITS VISITORS .....	30
4.1 Spending generated by Concordia and its activities .....	30
4.2 Economic impact of spending by Concordia, its students and its visitors.....	33
CONCLUSION .....	34
APPENDIX 1 – CALCULATING THE ECONOMIC IMPACT GENERATED BY HUMAN CAPITAL IMPROVEMENT .....	36
APPENDIX 2 – CALCULATING THE ECONOMIC IMPACT GENERATED BY THE CREATION AND DISSEMINATION OF KNOWLEDGE .....	38
APPENDIX 3 – GROSS ECONOMIC IMPACT OF SPENDING BY CONCORDIA UNIVERSITY, ITS STUDENTS AND ITS VISITORS.....	39

## LIST OF TABLES

---

TABLE 1 – CONCORDIA UNIVERSITY’S QUANTIFIABLE ECONOMIC IMPACT ON QUEBEC .....	5
TABLE 2 – THREE TYPES OF SPENDING GENERATED BY CONCORDIA IN QUEBEC .....	31
TABLE 3 – IMPACT GENERATED BY CONCORDIA UNIVERSITY .....	33
TABLE 4 – CONCORDIA UNIVERSITY’S IMPACT ON GOVERNMENT REVENUES .....	33
TABLE 5 – SUMMARY OF THE ECONOMIC IMPACT OF CONCORDIA UNIVERSITY ON QUEBEC’S ECONOMY	34
TABLE 6 – CALCULATING CONCORDIA’S CONTRIBUTION TO INCREASED PRODUCTIVITY THROUGH HUMAN CAPITAL IMPROVEMENT .....	37
TABLE 7 – CALCULATING CONCORDIA’S CONTRIBUTION TO INCREASED PRODUCTIVITY THROUGH THE CREATION AND DISSEMINATION OF KNOWLEDGE.....	38
TABLE 8 – TOURIST SPENDING BY CONCORDIA VISITORS IN 2009-2010 .....	39
TABLE 9 – LIVING EXPENSES PAID IN 2009-2010 BY CONCORDIA STUDENTS FROM OUTSIDE QUEBEC ....	41
TABLE 10 – IMPACT OF CONCORDIA UNIVERSITY’S OPERATING AND INVESTMENT EXPENDITURES.....	41
TABLE 11 – IMPACT OF CONCORDIA UNIVERSITY’S OPERATING AND INVESTMENT EXPENDITURES ON GOVERNMENT REVENUES .....	42
TABLE 12 – IMPACT OF SPENDING BY CONCORDIA UNIVERSITY’S OUT-OF-PROVINCE STUDENTS AND VISITORS.....	42
TABLE 13 – IMPACT OF SPENDING BY CONCORDIA’S STUDENTS AND VISITORS FROM OUTSIDE THE PROVINCE ON GOVERNMENT REVENUES.....	42

# LIST OF FIGURES

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FIGURE 1 – NUMBER OF STUDENTS BY FACULTY ..... 11

FIGURE 2 – RATE OF ENROLMENT GROWTH ..... 11

FIGURE 3 – PROPORTION OF STUDENTS ENROLLED PART-TIME IN DEGREE PROGRAMS, BY UNIVERSITY ..... 12

FIGURE 4 – NUMBER OF PERMANENT RESIDENTS AND INTERNATIONAL STUDENTS ENROLLED PART-TIME IN DEGREE PROGRAMS, BY ESTABLISHMENT ..... 13

FIGURE 5 – PROVENANCE OF STUDENTS ENROLLED IN CREDIT COURSES, BY FACULTY ..... 14

FIGURE 6 – SPONSORED RESEARCH BY SOURCE OF FUNDING ..... 19

FIGURE 7 – PERCENTAGE OF QUEBEC FINE ARTS STUDENTS ENROLLED AT CONCORDIA ..... 21

FIGURE 8 – CONCORDIA’S OPERATING AND INVESTMENT EXPENDITURES IN QUEBEC ..... 32

# EXECUTIVE SUMMARY

Concordia University makes a major contribution to the economies of Montreal and Quebec. Every year, it generates nearly \$1.3 billion in quantifiable benefits, a contribution three times greater than its annual operating expenditures. Few institutions, whether public or private, can boast such a leverage effect.

The university’s economic impacts are felt most strongly in three areas, as illustrated in Table 1. First, nearly 90,000 Concordia graduates work in Quebec. Their university education contributes to an increase in productivity of \$623 million. Furthermore, research conducted and disseminated by the university brings \$177 million into the Quebec economy. Lastly, spending by Concordia and by its students and visitors from outside Quebec generates \$464 million in value added, resulting in the creation of more than 7,000 jobs.

TABLE 1 – CONCORDIA UNIVERSITY’S QUANTIFIABLE ECONOMIC IMPACT ON QUEBEC

QUANTIFIABLE IMPACTS	\$ MILLION
Human capital development	623.1
Knowledge creation and dissemination	177.2
Added value created by spending by Concordia, its students and its out-of-province visitors	463.5
<b>Total impact</b>	<b>1,263.9</b>

However, Concordia’s impacts far exceed these quantifiable elements. Through its integration into the social, economic, cultural and community fabric of Montreal and Quebec, Concordia makes exceptional contributions to enhancing the quality of life and economic potential of Quebec society. The present report documents these contributions.

**Concordia values diversity**

Since its founding, Concordia has been characterized by its responsiveness to the changing needs of its community and, in particular, to the cosmopolitan nature of the city. With its four faculties and School of Extended Learning, it currently serves some 45,000 students of diverse origins and socio-economic backgrounds. Among Quebec universities, Concordia has the highest number of permanent residents from abroad and the second highest number of foreign students. More than 30% of its students speak a language other than English or French at home. As such, Concordia plays an important role in social integration. Within the province, it also attracts students from socio-economic groups traditionally neglected by universities.

Furthermore, Concordia stands out for giving students the flexibility to study in the manner that best suits their needs. More than 27% of students in its degree programs study part-time, giving it the highest level of part-time enrollment among Quebec universities. Concordia also has a significant number of independent students and students enrolled in continuing education programs, a significant channel for enriching the pool of human capital within the community.

Concordia now ranks fourth among Québec universities in terms of number of students and first in terms of growth. Over the past ten years, its student population has increased at a rate twice that of the Quebec average. By making university education accessible to a large number of people, Concordia helps to promote greater social mobility and reduce income disparities within the population, while increasing productivity in Quebec through human capital enrichment.

### **Concordia's integration into the economic and cultural fabric of Quebec**

Concordia contributes to positioning Montreal as a city of research, culture and creation by providing Quebec society with talented graduates and by fostering projects with wide international reach and impact. This contribution is expressed in particular through partnerships the university forges with businesses and public, NGO and community organizations, both locally and abroad.

Concordia has chosen to closely integrate itself into the economic fabric of Montreal and Quebec. Partnering with the community, it has created curricula adapted to the reality and needs of businesses and organizations, enabling students to receive training to facilitate their integration into the labour market.

Concordia conducts high-calibre research that reflects the priorities of Quebec. Such is the case of its work in environmental genomics, which over the past year has attracted significant funding indicative of the excellence of the research produced. For its part, the Faculty of Fine Arts is internationally recognized as a preeminent center for applied research in the media arts: it has helped to position Montreal as a leader in digital creativity, one of the priorities of the city's *Montreal, Cultural Metropolis* action plan.

Concordia attracts research funding from outside Quebec. More than 80% of funding for research conducted by the university comes from sources outside the province, amounting to \$27.7 million in 2010. This contribution has more than doubled over the past decade.

### **Expansion in close and reciprocal collaboration with the community**

Concordia University is a truly urban university. Its main campus in downtown Montreal is closely integrated into the urban fabric: bike paths, boulevards and streets cross through the campus; shops and office buildings are interspersed among its various faculties; and green spaces are shared by both students and the employees of the many local offices and businesses.

Over the past decade, Concordia has invested close to \$600 million in the infrastructure of its two Montreal campuses. These investments have profoundly revitalized west-end downtown Montreal, making it one of the city's liveliest neighborhoods. The daily presence of 45,000 students and 7,000 professors and employees has also brought renewal to local restaurants, shops and other businesses, both downtown and in the western part of Notre-Dame-de-Grâce. The modernization of Concordia's facilities has enabled it to increase its capacity, further promote excellence in research and teaching, support the wellbeing of the community and enhance the city's profile. Concordia also contributes to the general welfare of the community by offering public access to facilities such as its sports and cultural centres.

Finally, it should be noted that Concordia is committed to leading in sustainability. It has undertaken to raise public awareness and promote innovation to address the issues involved. This initiative is a demonstration of its resolve to democratize access to knowledge and expertise, and to engage the community in dialogue through various events outside the traditional educational framework. Thanks to its many activities, Concordia organizes citizen participation and encourages its employees, professors and students to participate in the many social initiatives offered in its environment. Always dynamic, the university stands out as an engaged and thoroughly engaging institution.

## INTRODUCTION

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Concordia University is reciprocally connected with its community. It is open, urban and strongly committed to diversity. Since its establishment nearly 40 years ago, its environment has nourished its growth. In return, Concordia has made outstanding contributions to the enrichment of the community to which it belongs. In this report, we document the latter dimension of this symbiotic relationship, namely Concordia's contribution to the economies of Montreal and Quebec.

Concordia was established in 1974, following the merger of Sir George Williams University and Loyola College. Sir George Williams University took over the evening classes first offered by the Montreal YMCA in 1873, taking on the name of the YMCA's founder as well. It is the source of the community-based and urban character that continues to define Concordia's identity. Responsiveness to the needs of the community was also a hallmark of Loyola College, which grew out of the Jesuit tradition of service to others and commitment to education.

A flagship of the Quebec university network, ranking fourth in number of students, Concordia University welcomes more than 45,000 students on its two campuses,<sup>1</sup> one downtown and one in Notre-Dame-de-Grâce. Its considerable economic impact on Quebec is associated primarily with the excellence of its teaching and its contribution to the development of human capital, as well as its role in the creation and dissemination of knowledge, its international reputation and its injection of nearly \$400 million annually into the Quebec economy.

But what makes Concordia an exceptional contributor to the Quebec economy is its integration into the social, economic, cultural and community fabric. Concordia's relationship with its community amplifies the impacts of the traditional drivers of development, thereby catalyzing the economic impact of the university.

SECOR has analyzed and measured the various facets of this contribution for fiscal 2009-2010. This report comprises four parts:

1. **A university that values diversity.** This section reviews the institution's academic mission, the profile of its student body, Concordia's distinctive approach to education and its contribution to improving productivity through the enhancement of human capital.
2. **A university that is closely integrated into Quebec's cultural and economic fabric.** This section reports on the ways in which Concordia helps strengthen the structures of local economic development and nourishes Quebec's creative and cultural talent. We present a tool for measuring Concordia's contribution to improving productivity through the creation and dissemination of knowledge.
3. **A university that grows through reciprocal engagement with its community.** This third section studies Concordia's contribution to community life and urban revitalization in Montreal

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<sup>1</sup> Based on total enrolment in 2009-2010 (45,126).

4. **A university that has a major economic impact on Quebec.** This section considers how spending by Concordia and its students and visitors from outside Quebec impacts on the province's economy in terms of jobs and value added.

This impact study was conducted in a context that is both static and dynamic. Chapters 1, 2, and 3 focus on dynamic impacts, meaning those that produce structural effects for Quebec. These effects are more difficult to quantify, and thus are assessed through examples and illustrations of the leverage effects generated by Concordia's presence in Montreal. Dynamic impacts such as these, which cannot be summed up in a single figure, are in fact more significant than static economic impacts. Chapter 4 addresses the static impacts, namely the ripple effect on the Quebec economy of spending by Concordia and its students and visitors from outside Quebec.

# 1. CONCORDIA: A UNIVERSITY THAT VALUES DIVERSITY

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## *Highlights*

- *Over the past decade, enrolment at Concordia University has grown twice as fast as the average enrolment at other Quebec universities.*
- *Concordia is committed to making university education accessible. It offers a variety of enrolment options and gives students valuable tools to pursue their university education.*
- *Concordia brings together students of widely diverse origins and socio-economic backgrounds. Through the role it plays in social integration, the university helps increase social mobility and reduce income inequalities in society.*
- *Concordia attracts more than 8,700 students from other Canadian provinces and outside Canada. Of this number, some opt to settle in Quebec, enriching the province's human capital with their skills. The number of international students enrolled at Concordia has more than doubled over the past decade.*
- *Concordia's economic impact on human capital development was estimated at \$623 million in 2010.*

Concordia is a key link in the Quebec university network. It stands out for its flexible approach to the delivery of education, through which it enables students of widely diverse origins to study or pursue ongoing training in their specific area of interest and in the manner that best suits their needs. By making university education broadly accessible, Concordia contributes to Quebec's prosperity.

## 1.1 CONCORDIA HELPS TO DEVELOP QUEBEC'S TALENT POOL

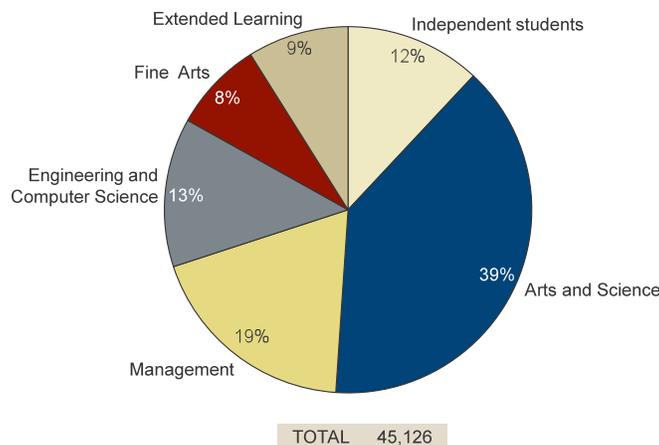
Concordia University's contribution to the Quebec economy derives primarily from the excellence of the education it provides. In 2009-2010, it had more than 45,000 students in its four faculties and School of Extended Learning (Fig. 1), and it ranked among Quebec's four most important universities. Its commitment to integration and openness has translated into a considerable increase in its student body. From 1999-2000 to 2008-2009,<sup>2</sup> enrolment at Concordia increased by nearly 30%, a rate comparable to the Canadian average, but twice the Quebec average (Fig. 2). During this period, graduate enrolment increased by more than 50%.

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<sup>2</sup> The most recent year for which complete comparative data is available from Statistics Canada.

FIGURE 1 – NUMBER OF STUDENTS BY FACULTY  
2009-2010 academic year, total enrolment

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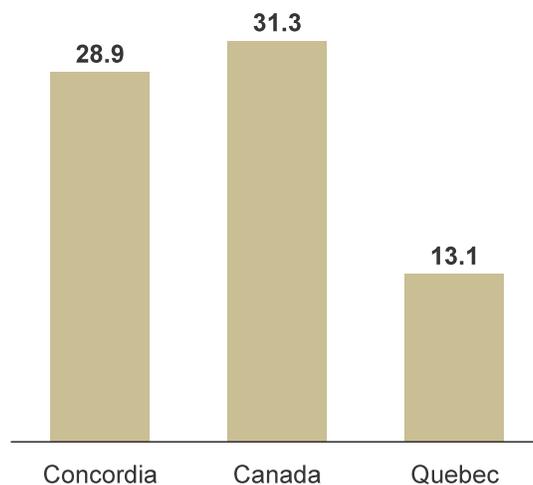


Source: Concordia University; SECOR Analysis.

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FIGURE 2 – RATE OF ENROLMENT GROWTH  
From 1999-2000 to 2008-2009; averages for Concordia, Quebec and Canada

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Sources: Statistics Canada (Concordia); SECOR Analysis.

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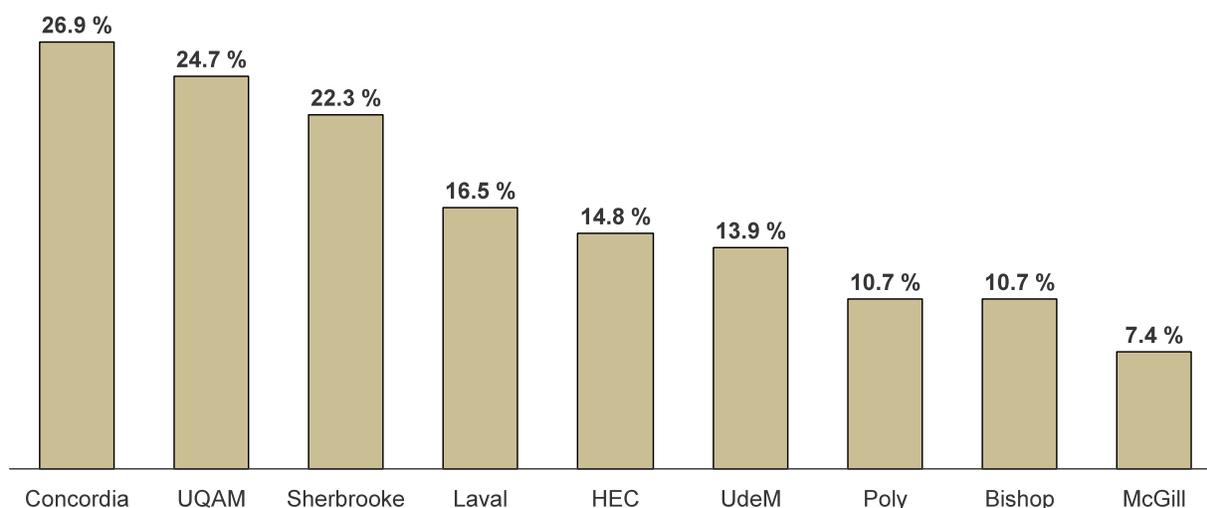
## 1.2 CONCORDIA PROMOTES ACCESS TO EDUCATION

Despite its large size, Concordia University is responsive to the needs of its students. It promotes access to education through flexibility in its admission procedures and programs. This approach is consistent with the philosophy of the university's founding institutions: Sir George Williams University, which had its roots in the community and originated in evening classes first offered by the YMCA in 1873, and Loyola College, which in 1958 formed an evening division for students unable to attend on a full-time basis.

Today, some 27% of students in degree programs at Concordia are enrolled part-time, the highest rate among Quebec universities (Fig. 3). If one considers its student body as a whole, independent students included, more than 40% study part-time or are enrolled in an extended learning program. Ample evidence demonstrates the importance of extended learning in today's demographic and technological context. Accordingly, Concordia University helps to develop and grow the pool of human capital within the population to help achieve a better match between workforce needs and the skills of individuals.

FIGURE 3 – PROPORTION OF STUDENTS ENROLLED PART-TIME IN DEGREE PROGRAMS, BY UNIVERSITY\*  
*Quebec, 2008-2009, total enrolment*

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Sources: EDUCQ, SECOR analysis

\*Note: Excludes institutions in the Université du Québec network other than Université du Québec à Montréal, as the EDUCQ data includes Télé-Université.

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### 1.3 CONCORDIA INTEGRATES STUDENTS OF WIDELY DIVERSE ORIGINS AND SOCIO-ECONOMIC BACKGROUNDS

Concordia University also plays an important role in regard to social integration within the Montreal community. Like the city itself, the student population is very diverse, with 30% of students speaking a language other than French or English at home.<sup>3</sup> Among Quebec universities, Concordia has the highest number of permanent residents and the second highest number of international students. Moreover, it integrates groups traditionally neglected by universities, including a significant number of students from modest socio-economic backgrounds<sup>4</sup> and first generations of university graduates.

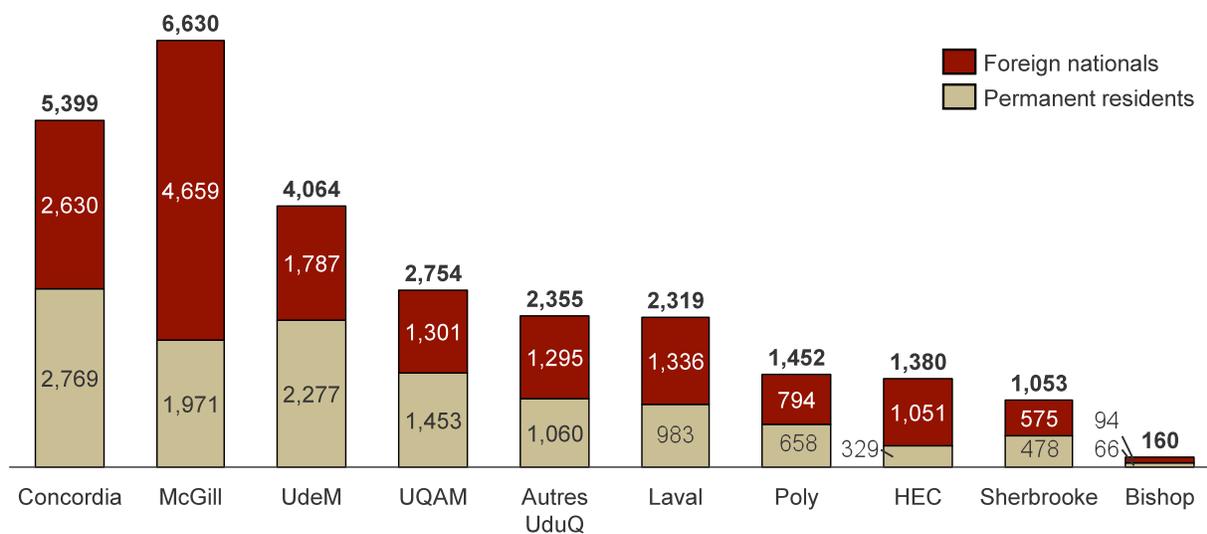
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<sup>3</sup> Includes students speaking only a language other than French or English at home (16.2%); French and another language (0.9%); English and another language (7.5%); and French, English and another language (5.0%). Source: Concordia University.

<sup>4</sup> As an indicator of socio-economic background, 45% of full-time students rely on financial aid, and 70% of students work part-time. Source: Concordia University.

FIGURE 4 – NUMBER OF PERMANENT RESIDENTS AND INTERNATIONAL STUDENTS ENROLLED PART-TIME IN DEGREE PROGRAMS, BY ESTABLISHMENT

Quebec, 2008-2009



Sources: EDUCQ; SECOR Analysis.

\*Note: Excludes part-time students.

Concordia promotes access to education through a wide range of measures, including flexible registration procedures and various tools that facilitate integration. For instance, the School of Extended Learning offers complementary credit courses to help students improve their employability, prepare for university studies and facilitate professional development. For its part, the Student Transition Centre was established to provide services for “non-mainstream” students. Among other things, it offers a course on skills for success in university study, as well as personally-tailored advising. The primary goal of the School of Extended Learning and its Transition Center is to promote retention and learning by meeting the needs of at-risk students and those seeking learning-career intersects.

Through this commitment to integration and access to education, Concordia helps increase social mobility and reduce income inequalities in society. Statistics show that access to a university education in Quebec, as in the rest of Canada, remains unequal across the various socio-economic groups, and that participation rates are lowest among those most marginalized.<sup>5</sup> Higher education helps to improve the earnings and productivity of individuals throughout their professional life.<sup>6</sup>

<sup>5</sup> TD Economics, *Post-Secondary Education is a smart route to a brighter future for Canadians*, May 17, 2010, p.18.

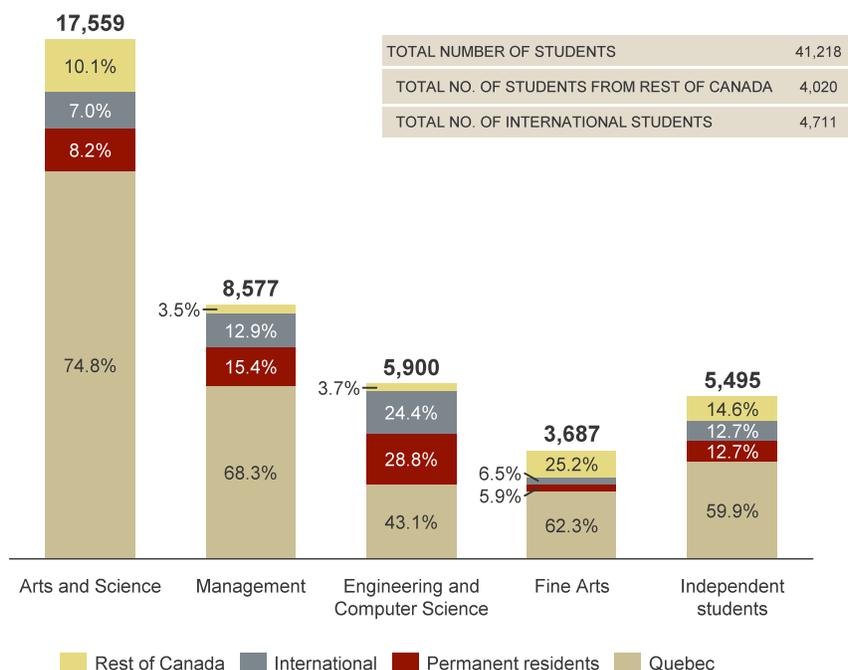
<sup>6</sup> OCDE, *Regards sur l'éducation*, 2008.

## 1.4 ATTRACTING HUMAN CAPITAL FROM OUTSIDE QUEBEC

Concordia University contributes to the development of human capital in Quebec by attracting students from outside the province. In 2009, 4,020 students were from other Canadian provinces and 4,711 from outside Canada; in all, students from outside Quebec accounted for 20% of the student body. These students receive quality training, notably in sectors that are strategically significant to Quebec, and some remain to enrich human capital in the province by contributing to the pool of highly qualified workers. Specifically, 28% of students in Faculty of Engineering and Computer Science and 32% of students in the Faculty of Fine Arts come from outside Quebec (Fig. 5). The number of students that Concordia attracts to Quebec has increased considerably: enrolment of students from other Canadian provinces increased by 30% in the period 2000 to 2009, and international enrolment by nearly 120%.

The contribution of international students and those from other Canadian provinces is increasingly recognized, especially in today’s demographic context. Approximately 20% of international students who complete an undergraduate degree in Quebec remain in the province after graduation; this rate is approximately 30% for MA and PhD students.<sup>7</sup> Additional efforts are being deployed by various stakeholders, including Concordia University, to increase these percentages.

FIGURE 5 – PROVENANCE OF STUDENTS ENROLLED IN CREDIT COURSES, BY FACULTY  
2009-2010 academic year, total enrolment



Sources: Concordia University; SECOR Analysis.

Concordia also attracts a significant number of foreign professors. In 2010, 26.8% of faculty, or 267 professors, did not hold Canadian citizenship, and 58.2%, or 581 professors, were born outside Canada.

<sup>7</sup> CRÉ Montréal (2006).

## 1.5 ECONOMIC IMPACT OF HUMAN CAPITAL IMPROVEMENT

In 2009-2010, 6,252 students obtained diplomas from Concordia University, with 76% earning a Bachelor's degree, 17% an MA degree and 4% a PhD degree.<sup>8</sup> A significant percentage of these graduates will enter the labour force in the Montreal region or elsewhere in Quebec, joining a pool of some 90,000 Concordia graduates currently working in the province.<sup>9</sup>

In order to quantify the effect that Concordia has on increasing productivity through human capital improvement, SECOR used an approach developed by Gary Becker (University of Chicago) and Jacob Mincer, and popularized in Canada by Fernand Martin (Université de Montréal) through his study on the economic impact of Canadian universities.<sup>10</sup> This method has been applied in Canada by several researchers,<sup>11</sup> including Walter Sudmant in his analysis of the University of British Columbia.<sup>12</sup>

The methodology used is based on the calculation of the salary differential between university graduates (undergraduate and graduate degree holders) and individuals with no university training.<sup>13</sup> The proportion of the differential attributable to graduates who completed part of their training outside Quebec<sup>14</sup> is removed from the equation.

In 2010, Concordia contributed an estimated \$623 million to increased productivity in Quebec through human capital improvement (see details in Appendix 1).

This measure does not take independent students into account, nor of students registered in certificate programs.

It assumes that the total value added reflected by the salary differential between university degree holders and individuals with no university education can be attributed to the university training received. However, other factors, such as self-selection or a higher share of capital for university graduates, may also account for a portion of this differential. Albeit imprecise, the methodology helps establish an order of magnitude estimate of the impact of human capital improvement on productivity in a given area.

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<sup>8</sup> Undergraduate certificates and diplomas accounted for a further 1%, and graduate certificates and diplomas for 2%.

<sup>9</sup> Prudent estimate, based on the number of graduates for whom the university has contact information and who are currently in the job market. Considered here are alumni who earned an undergraduate degree between 1968 and 2010, and those who earned a post-graduate degree between 1970 and 2010.

<sup>10</sup> Martin, F. *The Economic Impact of Canadian University R&D*, Research Policy, Vol. 27, pp. 1-12, 1998.

<sup>11</sup> See also *La prospérité future passe inévitablement par les universités*, Desjardins – Études économiques, François Dupuis, Yves St-Maurice et Fernand Martin, November 19, 2008.

<sup>12</sup> Sudmant, W. *The Economic Impact of the University of British Columbia*, Planning and Institutional Research, UBC, September 2009.

<sup>13</sup> The total salary differential between Concordia alumni with an undergraduate degree and individuals with no university training is estimated at \$1.8 billion; the total salary differential between Concordia alumni with a post-graduate degree and individuals with no university training is estimated at \$300 million.

<sup>14</sup> Estimated at 25% by Fernand Martin.

## 2. A UNIVERSITY THAT IS AN INTEGRAL PART OF QUEBEC'S ECONOMIC AND CULTURAL FABRIC

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### *Highlights*

- *Concordia University adapts to the needs of local businesses and organizations. It facilitates student access to the job market through innovative teaching programs that are aligned with the economic reality of local businesses and organizations.*
- *Concordia produces high-calibre research that reflects Quebec's priorities, specifically in environmental genomics and the media arts.*
- *Concordia attracts research funding from outside the province. More than 80% of its research is funded from outside Quebec, amounting to an infusion of \$27.7 million in 2010. This contribution has more than doubled over the past decade.*
- *Concordia helps position Montreal as an international centre for culture and creativity. It contributes talented graduates and the work of its professors to Quebec's creative landscape.*
- *Concordia boosts Quebec's reputation internationally through the events it organizes, the research and publications it produces and its agreements with international partners.*
- *In 2009, Concordia's improvement of human capital generated an economic impact for Quebec estimated at \$177.2 million.*

Concordia University's economic contribution also expresses itself through the partnerships it forges with both local and international businesses and organizations. Concordia's activities strengthen the structures of local economic development, contribute to the creation of a vibrant environment and improve its overall economic performance.

### 2.1 STUDY PROGRAMS ADAPTED TO THE NEEDS OF LOCAL BUSINESSES AND ORGANIZATIONS

In addition to fulfilling its academic mission, Concordia has opted to become closely integrated into the economic fabric of Montreal and Quebec. Working closely with its environment, it has created study programs adapted to the needs of local businesses and organizations, enabling students to receive training that prepares them for the job market, and managers and professionals to enrol in extended learning programs tailored to their requirements.

For instance, Concordia trains specialized managers for leadership positions in Montreal's aerospace sector. The Concordia Institute for Aerospace Design and Innovation, established by Concordia in partnership with seven industry partners, allows students in the Faculty of Engineering and Computer Science to acquire practical experience through collaborative research projects headed by companies, in a multidisciplinary environment. Concordia also offers professional development training for aerospace managers through its Aviation Management Institute, as well as a Certificate in Management and Aviation Security developed at the request of the Canadian Air Transport Security Authority to meet specific workforce needs.

Labour market integration is also facilitated by the CO-OP programs, which allow students to alternate between semesters of academic study and workplace terms. Created in 1980, Concordia University's CO-OP program had more than 1,200 students in 35 undergraduate programs and 4 graduate programs in 2010. Notably, such programs are offered by the John Molson School of Business (JMSB), one of Canada's leading business schools.<sup>15</sup>

JMSB has also partnered with the Research Institute of the McGill University Health Centre to develop a science management training program that is specially tailored to the needs of graduate students and researchers at the Institute.

The programs offered by the university are continuously reviewed to respond to changes in the social and economic landscape. Over the past five years, Concordia University has launched new MA and PhD programs in areas of strategic importance for Quebec.<sup>16</sup>

## 2.2 RESEARCH THAT REFLECTS QUEBEC'S STRATEGIC PRIORITIES

Concordia University produces high-level research in areas of strategic importance for Quebec.<sup>17</sup> In particular, it has earned national and international recognition for its expertise in environmental genomics. In 2009-2010, Concordia researchers received more than \$22 million in funding from Genome Canada, of which \$17.5 million was granted to Professor Adrian Tsang to direct a research project—the largest such investment in Genome Canada's history. Also, a project to unravel the genetic blueprints of plants, co-directed by Professor Vincent Martin with researchers from four other Canadian universities, received \$13.6 million (Table 1). Research in environmental genomics contributes to key industries in Montreal, such as bio-foods and pulp and paper, while also supporting the sustainable development of the region.

The Faculty of Fine Arts is on the leading edge of applied research in the media arts. As such, it is helping to position Montreal as a leader in digital creativity, consistent with the priorities of the city's *Montréal, Cultural Metropolis* action plan. The Hexagram Institute for Research/Creation in Media Arts and Technology, an arts- and design-based new media lab established in 2001 by Concordia in partnership with UQAM, has more than 80 researchers and 400 graduate students. It is the first and most important institute of its kind in Canada. The projects it supports are focused on the needs of the interactive entertainment and new media industry, in

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<sup>15</sup> In 2010, the MBA program was ranked third in Canada, according to Corporate Knights Magazine, and first in Quebec. The undergraduate program was ranked fourth in Canada and first in Quebec. The Knight Schools Report scores programs in the areas of institutional support for sustainable development (e.g., through events, bursaries and research), groups, clubs and other student initiatives and course work on issues of social justice, professional conduct and conservation.

<sup>16</sup> New Ph.D. programs: Industrial Engineering (2010), Information Systems Engineering (2010), Software Engineering (2010), Film & Moving Image Studies (2008). New MA programs: Environmental Assessment (2009), Industrial Engineering (2006), Software Engineering (2006), Quality Systems Engineering (2005), Information Systems Engineering (2005).

<sup>17</sup> Quebec's strategic research and innovations objectives, presented in the *Stratégie québécoise de recherche et d'innovation 2010-2013*, include genomics, the biotechnologies, optics-photonics and nanotechnologies (p.18).

areas such as interactive games, arts and entertainment, interactive multimedia and digital television. The Institute also takes research out of the laboratory and brings it to the public through exhibitions, publications and conferences that encourage the sharing of knowledge and technology.

Research excellence has earned Concordia's faculty many accolades. In 2009-2010, Professors Ronald Rudin (History) and Christopher Jackson (Music) were inducted in the Royal Society of Canada. As well, Professor Gabor Szilasi was granted a Governor General's Award in Visual and Media Arts by the Canada Council for the Arts in recognition of his outstanding artistic career, and artist Françoise Sullivan (Fine Arts) was appointed an Officer of the Order of Canada. In 2009, Professor Szilasi was awarded the Prix du Québec for his exceptional body of work, which spans 5 decades.

In 2009-2010, seven of Concordia's Canada Research Chairs were renewed, testifying to the excellence of the work conducted by the university's emerging scholars in strategic fields.

TABLE 1 – RESEARCH EXCELLENCE IN ENVIRONMENTAL GENOMICS

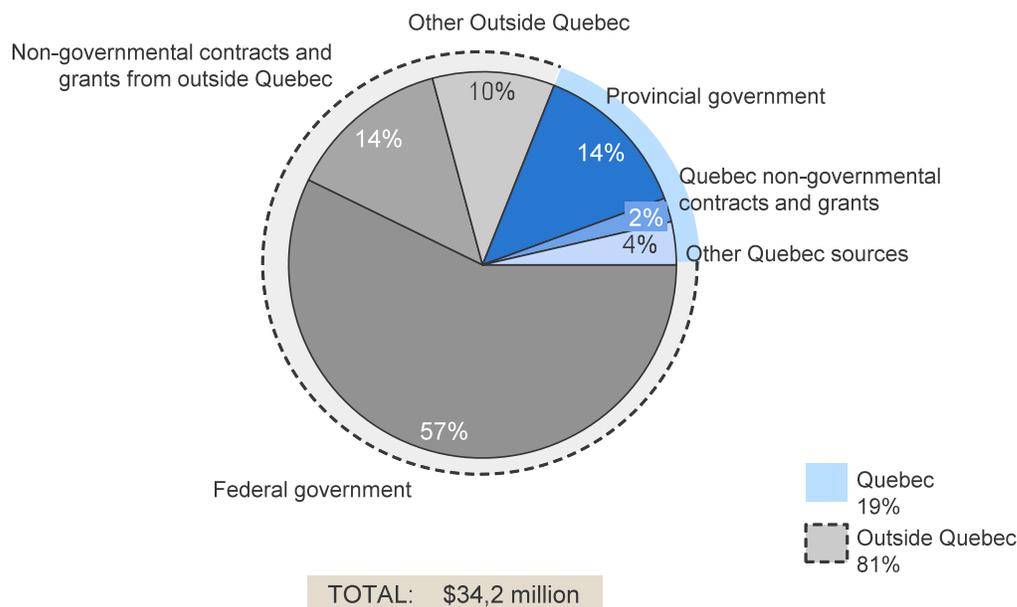
The importance of the funding provided in the area of environmental genomics confirms the university's excellence in genomic research. This investment is in addition to funding for the construction of a new facility for the Centre for Structural and Functional Genomics (Table 2).

- Biology Professor Adrian Tsang will direct a \$17.5 million research project, becoming the first scholar to receive such substantial funding in the history of Genome Canada. The project will advance research on deploying fungal enzymes to break down biomass material for conversion into fuel.
- Biology Professor Vincent Martin is co-directing a project classifying plant genes that contribute to the synthesis of novel plant-derived bioproducts. The project was awarded \$13.6 million from the Genome Canada Applied Genomics Research in Bioproducts or Crops (ABC) competition. Of this amount, \$4.6 million is for Dr. Martin's activities at Concordia, with the balance supporting the work of the four other Canadian universities associated with the project.
- Concordia University is coordinating the research of the national Cellulosic Biofuels Network, which is made up of nine universities working on a \$19.9 million, three-year (2009 to 2012) project funded by the Canadian government. The network is conducting research on the sustainable production of ethanol and associated bio-products from cellulosic material. The economics of crop production and the conversion of plants to ethanol are being assessed. Network researchers are also addressing issues such as the use of byproducts in cattle feedlots, the reduction of greenhouse gas emissions and optimal nutrient flow/balance.

### 2.3 ATTRACTING RESEARCH FUNDING FROM OUTSIDE QUEBEC

Concordia contributes to the Quebec economy by attracting public and private research funding from outside Quebec. In 2009-2010, more than 80%, or \$27.7 million, of funding for research conducted at Concordia came from outside Quebec, with 57% obtained from the federal government, 14% from non-governmental agencies outside Quebec and 10% from other external sources (Fig. 6). External research funding, including that from the three federal granting agencies, has doubled over the past decade.

FIGURE 6 – SPONSORED RESEARCH BY SOURCE OF FUNDING  
2009-2010



Sources: Concordia University; SECOR Analysis.

In particular, Concordia was granted nearly \$80 million (including \$33.5 million from the federal government) through the joint federal-provincial Knowledge Infrastructure Program in 2009-2010. These funds will allow the university to develop a new multidisciplinary research centre in athletic therapy and cardiorespiratory physiology (PERFORM), offer new facilities to the Centre for Structural and Functional Genomics (CGSF) and build a new environmental chamber lab. Concordia also received \$8 million in cutting-edge infrastructure support from the Canada Foundation for Innovation to build and upgrade research facilities in strategic areas (Table 2).

Concordia University contributes to the achievement of the research and innovation objectives of the Quebec government, as set out in the *Stratégie québécoise de recherche et d'innovation 2010-2013*. These include increasing the share of research funding obtained from the federal government, as well as boosting the competitiveness of its research system through cutting-edge equipment and infrastructure.<sup>18</sup> Concordia University's major investments in research infrastructure will enable it to conduct world-class research and attract the best experts in leading-edge fields to Quebec.

<sup>18</sup> Government of Quebec, *Stratégie québécoise de la recherche et de l'innovation 2010-2013*, p.17.

Table 2 – investment of nearly \$80 million in research infrastructure projects

<p><b>Construction of the PERFORM Centre (Prevention-Evaluation-Readaptation-FORMation/Training)</b></p> <p>A \$35 million grant from the federal-provincial Knowledge Infrastructure Program will finance the construction of this laboratory for multidisciplinary teaching and specialized training in athletic therapy and cardiorespiratory physiology. The PERFORM Centre will provide rehabilitation and prevention services for the growing clientele of young, adult and elderly persons with chronic diseases.</p>	<p><b>Construction of a new facility for the Centre for Structural and Functional Genomics (CSFG)</b></p> <p>A \$29 million grant from the federal-provincial Knowledge Infrastructure Program will enable the construction of a new facility. This amount is in addition to important federal and provincial funding for research in environmental genomics recently granted to Concordia University, which has become a Canadian leader in this strategic field. CSFG aims to create more ecological processes through plant research, supported by major funding from Genome Canada.</p>
<p><b>Construction of a new environmental chamber</b></p> <p>A \$4.6 million grant was provided for the construction of a new environmental chamber with an integrated solar simulator. It will enable researchers to test innovative building-integrated solar energy systems, building models and full-scale structures in controlled conditions. In the long term, the environmental chamber will allow the deployment of a research program aimed at designing net-zero solar energy buildings, equipped with the ability to produce as much energy as they use.</p>	<p><b>Construction and upgrading of cutting-edge research infrastructure</b></p> <p>An \$8 million grant from the Canada Foundation for Innovation will enable:</p> <ul style="list-style-type: none"> <li>• the construction of a lab for the development of composites and nanocomposites with potential applications in aerospace, led by Professor Suong Van Hoa (Mechanical and Industrial Engineering);</li> <li>• the implementation of the second phase of the Institute for Research/Creation in Media Arts and Technologies (HEXAGRAM), directed by Professor Lynn Hughes;</li> <li>• a substantial addition to the mass spectrometer lab directed by Professor Ann English, making it the most complete university research platform in Canada.</li> </ul>

## 2.4 A UNIVERSITY THAT HELPS POSITION MONTREAL AS AN INTERNATIONAL CENTRE FOR CULTURE AND CREATIVITY

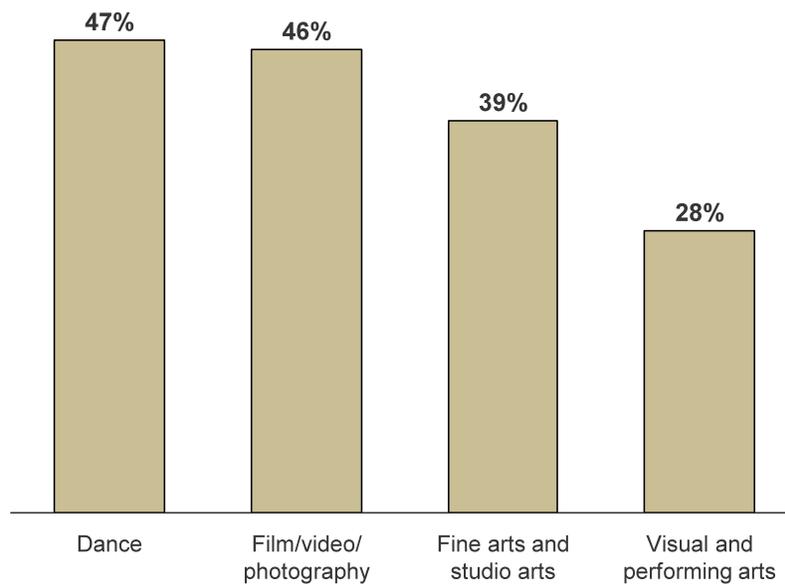
Concordia University contributes to the versatility and creativity of Quebec's cultural industry. Its Faculty of Fine Arts, recognized as one of Canada's foremost centres for practice and research in the arts, enriches the Quebec arts scene with the creative talent it attracts to Montreal. Of its 3,687 students, 37% are from outside Quebec (Fig. 5). It is also among Quebec's leading faculties in the areas of dance, film, video, photography, fine arts and studio arts, as well as visual arts and performing arts (figure 7).

Concordia offers interdisciplinary, open study curricula, including a three-year study program in the Department of Design and Computation Arts that explores the interdependence of design, the arts and the social and applied sciences. The Department also offers a graduate certificate in Design and Digital Technologies, as well as an undergraduate degree in Digital Image/Sound.

The Department of Communication Studies acts as curator for the Montreal Signs Project, which aims to preserve iconic signs from historic sites in Montreal. The university also has four contemporary art galleries that invite the public to discover emerging and established artists. Concordia alumni have marked the global cultural landscape as well. They include renowned authors such as Johanna Skibsrud (MA 2005; *the Sentimentalists*) and Nino Ricci (MA 1987; *Lives of the Saints*), as well as three members of the Grammy award-winning indie rock band Arcade Fire (Table 3). Concordia boasts one of the most diverse public art collections of any university in Canada, with works on display by renowned artists such as Geneviève Cadieux, Geraldo Pace and Adad Hannah (MFA 2004).

FIGURE 7 – PERCENTAGE OF QUEBEC FINE ARTS STUDENTS ENROLLED AT CONCORDIA

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Source: Concordia University; SECOR Analysis

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TABLE 3 – A FEW RECENT EXAMPLES OF CONCORDIA ALUMNI WHO HAVE MADE THEIR MARK ON THE ARTS AND CULTURE LANDSCAPE

- The film *Ce qu'il faut pour vivre (The Necessities of Life)* by **Benoit Pilon** (BFA 1987) was Canada's submission for Best Foreign Language Film at the 81st Academy Awards. It also won several Jutra and Genie awards (2009).
- **André Turpin** (BFA 1989) won a Jutra award for best photographic direction for the film *C'est pas moi, je le jure (It's Not Me I Swear!)* (2009).
- **Yung Chang** (BFA 1999) won the Genie for Best Documentary for the film *Up the Yangtze* (2009).
- The band **Plants and Animals**, made up of three Concordia alumni (BFA 2001-2002), was nominated for 2009 Jutra awards in two categories: new Group of the Year and Alternative Album of the Year.
- Alumna **Christine Jones** (BFA 1989) was awarded a Tony for Best Scenic Design of a Musical for her work on the Broadway production of *American Idiot* (2010).
- The band **Arcade Fire**, which includes three Concordia alumni (BA and BFA 1998-2003), won Album of the Year at the 2011 Grammy Awards.
- **Barbara Davidson** (BFA 1990) has won two Pulitzer Prizes for photography, first in 2006 for her photographs depicting the aftermath of Hurricane Katrina, and again in 2011, for her images of the victims of gang violence.
- Numerous authors, including **Johanna Skibsrud** (MA 2005) and **Nino Ricci** (MA 1987), have captured international attention.

## 2.5 A UNIVERSITY THAT CONTRIBUTES TO MONTREAL'S INTERNATIONAL REPUTATION

Concordia boosts Montreal's reputation internationally through the events it organizes, the research and publications it produces, and its agreements with international partners.

In 2010, Concordia hosted the annual Congress of the Canadian Federation for the Humanities and Social Sciences, which is Canada's largest academic gathering. Some 9,000 delegates from around the world came to Montreal for the 8-day event.

In 2009, the university's Montreal Institute for Genocide and Human Rights Studies published a report<sup>19</sup> on American and Canadian participation in Rwandan genocide in 1994 and on crimes against humanity perpetrated in Kosovo in 1999. The report proposed concrete institutional changes to prevent future atrocities. Two of its recommendations were adopted by the Obama administration with the aim of averting genocides.

Concordia's reputation is also strengthened by the commitment of its professors and students to participation in various community and international development projects. This aspect is addressed in Chapter 3.

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<sup>19</sup> Montreal Institute for Genocide and Human Rights Studies (Concordia University), *Mobilizing the Will to Intervene: Action to Prevent Mass Atrocities*, 2009.

## 2.6 ECONOMIC IMPACT GENERATED BY CONCORDIA THROUGH THE CREATION AND DISSEMINATION OF KNOWLEDGE

As in its calculation of the economic impact generated by Concordia University through human capital improvement, SECOR has drawn on the method developed by Fernand Martin to quantify the university's impact on the increase in productivity linked to other production factors, namely the creation and dissemination of knowledge.

The methodology used here is based on calculating the university's contribution to the increase in total factor productivity, minus R&D imports.<sup>20</sup>

Concordia University's economic impact through the creation and dissemination of knowledge was evaluated at \$177 million in 2009.<sup>21</sup> (See details in Appendix 2.)

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<sup>20</sup> The contribution of total factor productivity to GDP growth is estimate at \$42.6 billion, R&D imports at 6.5 billion, Quebec universities' contribution to R&D at 7.4% and Concordia's contribution to university R&D at 2.4%.

<sup>21</sup> Most recent year for which data are available.

### 3. A UNIVERSITY THAT GROWS THROUGH RECIPROCAL ENGAGEMENT WITH ITS COMMUNITY

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#### *Highlights*

- *By investing close to \$600 million in infrastructure over the past 10 years, Concordia University has profoundly transformed and revitalized the west end of Montreal's downtown core and the Loyola campus. This renewal is also supported by the daily presence of 45,000 students and 7,000 faculty and employees in the neighborhoods, who frequent local restaurants, shops and other businesses.*
- *Concordia facilitates access to its knowledge and creations, while seeking to engage the community in dialogue through the various events it organizes.*
- *Concordia encourages citizen participation. Several programs have been established by the university to encourage volunteerism and help build bridges between various socio-cultural communities.*
- *Concordia is a leader in sustainable development. It helps raise public awareness and promotes innovation in regard to critical issues.*
- *Concordia contributes to the well-being of the community by offering public access to its facilities.*

Concordia University is a truly urban university. Its main campus in downtown Montreal is an integral part of the urban fabric: bike paths, boulevards and roads cross through the downtown campus; shops and office buildings are interspersed among the university's various faculties; and its green spaces are enjoyed by students and local office workers alike. As such, the university's activities play an important role in the development of west-end downtown and Notre-Dame-de-Grâce, where the Loyola campus is located.

#### 3.1 CONCORDIA CONTRIBUTES TO MONTREAL'S REVITALIZATION

Over the past decade, Concordia has invested nearly \$600 million in new building projects and renovations that have profoundly transformed the west end of downtown Montreal, known as Quartier Concordia, as well as the university's Loyola campus.

During the university's current construction phase, the primary impact of these investments on the Montreal economy translates as job creation and added value. In the medium and long term, the modernization of Concordia's facilities will enable the university to increase its capacity, promote excellence in research and teaching, create a pleasant environment for the well-being of the community and make a significant contribution to enhancing Montreal's image in the eyes of its citizens and visitors alike. The university's new buildings, including the John Molson School of Business, have been built with a view to sustainable development, the optimization of urban space, and the creation of convivial environments through the better use of public space. Each new project also integrates artworks into the architecture (Table 4). In 2004, Concordia acquired the Grey Nuns Motherhouse, and has committed to protecting and preserving this important Montreal landmark.

The Mayor of Montreal, Gérald Tremblay, has expressed his recognition of the investments made by Concordia to beautify and develop downtown Montreal:

“Thanks to the major investments made by your university and to our collaboration in reconfiguring the public realm, the Concordia axis has undergone a spectacular transformation over the past few years, restoring value to an important downtown sector. Concordia University’s master space plan and the city’s work to upgrade Boulevard De Maisonneuve and Place Norman Bethune have truly revitalized this neighbourhood.”<sup>22</sup>

TABLE 4 – PUTTING SUSTAINABILITY AT THE HEART OF INFRASTRUCTURE INVESTMENT AT CONCORDIA

- The John Molson School of Business (MB Building), inaugurated in 2009, is in the process of obtaining Silver Certification through LEED. The building is recognized for its incorporation of state-of-the-art ecological technologies developed by Concordia researchers, including an innovative solar wall.
- The Quartier Concordia project, carried out in partnership with the City of Montreal and the community, is intended to transform a 4 km<sup>2</sup> sector of the downtown core from a random scattering of buildings into a welcoming campus. The project aims to improve the use of public space, promote the display of artwork, optimize vehicle, bicycle and pedestrian flow, support outdoor activities and create welcoming spaces for the enjoyment of the university community and the public.
- All projects valued at \$10 million or more are designed to meet the requirements for LEED certification.
- Of the recent buildings constructed on the Sir George Williams campus, none have underground parking; instead, they are linked via tunnels to the subway system.
- All of the new building projects incorporate artworks into the architecture, such as *Lierre sur Pierre*, by Geneviève Cadieux, *Navelle*, by Pierre Blanchette, and an immense mural by Nicolas Baier.

The revitalization of Concordia’s downtown and Loyola campuses also results from the daily presence of 45,000 students and 7,000 professors and employees who support the local restaurants, shops and other businesses. Approximately 25% of all teaching occurs at the Loyola campus, and 75% downtown.

## 3.2 CONCORDIA DEMOCRATIZES ACCESS TO KNOWLEDGE AND EXPERTISE

Through its professors, researchers and students, Concordia University produces knowledge and shares it with the public. It facilitates access to its knowledge and creations, while seeking to engage the community in dialogue through the various events it organizes.

For instance, in 2009, Concordia became the first Canadian university to adopt *Open Access*, a project dedicated to making the results of research accessible on the Internet. *Spectrum*, Concordia’s web-based repository, also gives Internet access to thousands of theses and articles produced over the past five decades by Concordia researchers and students. The university also contributes to popularizing research findings and transferring knowledge through the presence of its professors in local, national and international media. In 2009-2010, its faculty were cited in 52% of Canadian media items pertaining to Concordia (Table 5).

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<sup>22</sup> Letter to Frederick H. Lowy, President and Vice-Chancellor of Concordia University, June 20, 2011.

TABLE 5 – A FEW EXAMPLES OF CONCORDIA FACULTY IN THE MEDIA

<p><b>Raye Kass:</b> Professor in Applied Human Sciences and Arts and Science, interviewed in 2010 by CTV Montreal about the psychological trauma of the Chilean miners upon emerging from the mine</p> <p><b>Lucia Tirca:</b> Assistant Professor in the Department of Engineering, interviewed by the Montreal Gazette in March 2011 about the earthquake in Japan</p> <p><b>Lisa Lynch:</b> Assistant Professor in Journalism, granted numerous interview to Canadian and foreign media regarding Wikileaks</p> <p><b>Damon Matthews:</b> Assistant Professor, contributed among other things to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. This panel of experts received the Nobel Peace Prize in 2007</p> <p><b>Bruno Delorme:</b> Marketing Professor, interviewed by CBC, the Montreal Gazette, the National Post, BusinessWeek, CTV News and others about the Olympics and sports in general</p> <p><b>Viviane Namaste:</b> Assistant Professor at Concordia's Simone de Beauvoir Institute, holder of a Research Chair in HIV/AIDS and Sexual Health, and very involved in changes to Canada's prostitution laws</p>
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Concordia encourages citizen engagement by creating opportunities for members of the community to gather and exchange ideas. These events are made possible through initiatives such as the University of the Streets Café program, where open conversations are held in public spaces, and the university's partnership with Bibliothèque et Archives nationales du Québec (BANQ), which establishes a context for the presentation of lectures, performances and discussions (Table 6).

TABLE 6 – A FEW EXAMPLES OF CONCORDIA'S INITIATIVES TO PROMOTE DIALOGUE WITHIN THE COMMUNITY

<p><b>Partnership with Bibliothèque et Archives nationales du Québec (BANQ):</b> This five-year partnership will allow the university to present public lectures, performances and discussions that promote Montreal's cultural diversity, as well as give citizens the opportunity to gather and discuss issues of general interest.</p> <p><b>University of the Streets Café:</b> An initiative that promotes exchange between students and members of the community on a variety of issues in order to encourage mutual learning and experience-sharing, all in public spaces (cafes, community centers, parks and other venues). Since its creation in 2003, this program has attracted thousands of participants to more than 250 public conversations aimed at strengthening ties in the community.</p>
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### 3.3 CONCORDIA ENCOURAGES CITIZEN ENGAGEMENT

Concordia University promotes citizen engagement by encouraging its employees, faculty and students to participate in various community service initiatives. Numerous programs are in place to promote volunteerism and help build bridges between different socio-cultural communities (Table 7). Concordia is the first university in Quebec to introduce a co-curricular record, which officially recognizes the volunteer activities of students in order to encourage citizen engagement. The university also incorporates these values into its curricula by offering courses on collaborative learning through community service within many of its programs.

TABLE 7 – A FEW EXAMPLES OF COMMUNITY SERVICE INITIATIVES AT CONCORDIA

**Alternative Spring Break (ASB):** Alternative Spring Break (ASB) allows students to participate in a service-learning experience in Quebec or abroad during Concordia’s Reading Week in February.

**Co-Curricular Record:** A transcript that officially recognizes, among other things, the extracurricular activities of students, their leadership accomplishments and their community service activities.

**LIVE Centre:** The LIVE Centre (Leadership Initiative Volunteer Engagement) was inaugurated in 2010 by Concordia’s Counselling and Development Centre to link students, faculty and staff to local and international volunteer opportunities.

**Concordia Volunteer Abroad Program (CVAP):** The Concordia Volunteer Abroad Program (CVAP) offers students the opportunity to participate in volunteer programs in Uganda.

### 3.4 CONCORDIA IS A LEADER IN SUSTAINABLE DEVELOPMENT

Sustainable development is a core value for Concordia. Through numerous initiatives, Concordia helps to raise public awareness and innovate in relation to the critical issues involved. It is the first university in Quebec to be certified ICI ON RECYCLE by the Quebec government. This distinction is granted to institutions that have met the objectives set by the Quebec Residual Materials Management Policy, which aims for the diversion of 65% of waste from landfill. Concordia exceeded this objective by diverting an average of 68% of its waste from landfill. Over the past 13 years, Concordia University has been the most energy-efficient of all Quebec universities.<sup>23</sup>

The university also stands out for its research on renewable energy. In addition to qualifying for LEED certification, the Molson Building, home to the John Molson School of Business, is the first building in the world with a solar wall having both thermal and photovoltaic characteristics, allowing it to produce electric power and to use part of this power to heat fresh air and thereby warm the building. This technology was developed by researchers at Concordia, and its environmental impact is considerable: on a sunny day, the system is able to produce 25 kW of electric power and 75 kW of heat, or enough energy to heat 7 Canadian homes for a year.

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<sup>23</sup> Source: Concordia University.

TABLE 8 – A FEW EXAMPLES OF SUSTAINABLE DEVELOPMENT INITIATIVES

<p><b>Research:</b></p> <ul style="list-style-type: none"><li>● <b>David O'Brien Centre:</b> Concordia's David O'Brien Centre carries out interdisciplinary research on innovative, sustainable strategies and shares findings with the business community.</li><li>● <b>Centre for Structural and Functional Genomics:</b> Development of green and sustainable energy sources through the conversion of plant material into energy.</li><li>● <b>Environmental Chamber Lab:</b> Facility used to investigate the weather-resistance of buildings and to create more efficient solar energy systems.</li></ul> <p><b>Allégo Concordia Initiative:</b> Promotion of the use of sustainable transportation options such as ride-share, public transit, walking and cycling.</p> <p><b>Sustainable Concordia:</b> Debates, information sessions, presentations and in-class talks to promote sustainable development.</p> <p><b>R4 Project:</b> A project to rethink, reduce, reuse, and recycle in order to reduce the amount of waste produced by the university, its staff and its students.</p> <p><b>Sustainable Concordia Ambassadors:</b> Project aimed at promoting sustainable development by changing the behaviours of staff and students and by enhancing the sustainability of on-campus events.</p> <p><b>Composting:</b> Concordia was able to compost 30 tonnes of waste in 2009 and 40 tonnes in 2010 thanks to its acquisition of an industrial composting facility. The composting program established by Concordia's students has received a Forces AVENIR award.</p> <p><b>Concordia Greenhouse Project:</b> The rooftop greenhouse atop the Hall Building enables sustainable horticulture, with its harvest used to prepare meals for the city's meals-on-wheels programs.</p>
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### 3.5 CONCORDIA CONTRIBUTES TO THE LIFE OF THE COMMUNITY BY OFFERING ACCESS TO ITS FACILITIES

Concordia contributes to the well-being of the community by providing access to its facilities. The university's four art galleries are open to the public, providing first-hand exposure to art by Canadian and international artists. Through large-scale events with international reach, the university also attracts visitors to Quebec and invites them to discover the local culture (Table 9).

TABLE 9 – A FEW EXAMPLES OF PUBLICLY ACCESSIBLE FACILITIES

**Loyola Recreation and Athletics Complex:** The Loyola Recreation and Athletics Complex and the air-supported outdoor dome offer public access to community sports facilities and allow various sports to be played during the winter months.

**Day camps:** Concordia welcomes the Institut du Nouveau Monde camp (450 participants) and has established a Summer Video Bootcamp for youth (two-week day camp for youth aged 15 to 19).

**Art galleries:**

- Leonard and Bina Ellen Art Gallery: This gallery is home to a permanent collection that comprises nearly 1,700 works by mainly Canadian artists. It also presents exhibitions of contemporary Canadian and international art and organizes various events (artist talks, public debates, concerts and film screenings).
- FOFA Gallery: FOFA Gallery is an exhibition and research space connected to Concordia University's Faculty of Fine Arts.
- Communication Studies Media Gallery and Mobile Media Gallery: This gallery hosts ephemeral, itinerant and transitory events.
- VAV Gallery: The VAV Gallery is the only democratically run student exhibition space in Canada.

**Spaces available for use by various events and organizations:**

- International Festival of Films on Art (FIFA): Through its partnership with FIFA, Concordia made the J.A. de Sève Cinema available for the 28th edition of the Festival, which took place from March 18 to 28, 2010.
- Fantasia Film Festival: Since 2003, Concordia has been providing the Hall Theater and the J.A. de Sève Cinema for the Fantasia Film Festival.
- Bell Montreal Regional Science & Technology Fair: Concordia hosted some 300 students from more than 40 schools and CEGEPs located in Montreal and its surrounding communities. More than 200 science and technology projects were presented.
- Compute Canada Town Hall Meeting: In 2010, Concordia provided the venue for a meeting of Compute Canada, an association of seven regional high performance computing consortia.
- CIVICUS Youth Assembly: More than 100 people aged 18 to 30 came to Concordia from August 18 to 20, 2010, for the CIVICUS Youth Assembly. There, they discussed a variety of issues, including economic justice, the effectiveness of development aid and climate justice.
- Annual General Assembly of Doctors Without Borders.
- Congress of the Association francophone pour le savoir: Concordia welcomed a series of presentations held by the 78th congress of the Association francophone pour le savoir in 2010, promoting the creation of ties among Quebec's linguistic communities.

## 4. ECONOMIC IMPACT OF SPENDING BY CONCORDIA, ITS STUDENTS AND ITS VISITORS

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### *Highlights*

- *The economic impact of spending associated with Concordia University is estimated at \$463.5 million, including \$322.7 million in salaries, and is associated with the creation and maintenance of 7,190 jobs.*
- *The impact on Quebec government revenues is estimated at \$88.1 million, including \$47.2 million in incidental taxation (QPP, CSST, FSS).*
- *The impact on federal government revenues is estimated at \$32.7 million, including \$8.9 million in incidental taxation (employment insurance).*

### 4.1 SPENDING GENERATED BY CONCORDIA AND ITS ACTIVITIES

Expenditures attributable to Concordia University have impacts on the Quebec economy. To quantify these economic benefits, three types of spending will be considered:

- the university's operating expenditures and investment spending;
- spending by Concordia's students from outside Quebec;
- spending by business visitors and friends and families of students coming from outside the province to attend events at Concordia.

This economic impact is measured using the Institut de la statistique du Québec (ISQ)'s input-output model. The Quebec input-output model is a tool used to simulate the effects of certain actual, potential or hypothetical changes in the Quebec economy. These changes consist of various projects involving investment, operating or current consumption expenditures, such as spending by Concordia and its visitors and students. The economic impacts assessed are translated as effects on manpower, value added, imports, tax revenues and incidental tax revenues. The model is used to calculate these effects and to classify them by category, namely the sectors directly affected by the initial expenditures (direct effects) or the suppliers of the sectors in which the first effects occurred (indirect effects).<sup>24</sup>

Several Canadian and American universities have carried out economic impact studies of their activities. Results vary considerably depending on the approach taken. For instance, Vancouver's Simon Fraser University (SFU), an institution comparable to Concordia in terms of vocation and size, used an approach based on the application of a multiplier to aggregate spending by the university, its students and its visitors. This approach is less precise than an analysis based on an input-output model, and has the further shortcoming of including induced benefits, thereby inflating results.<sup>25</sup>

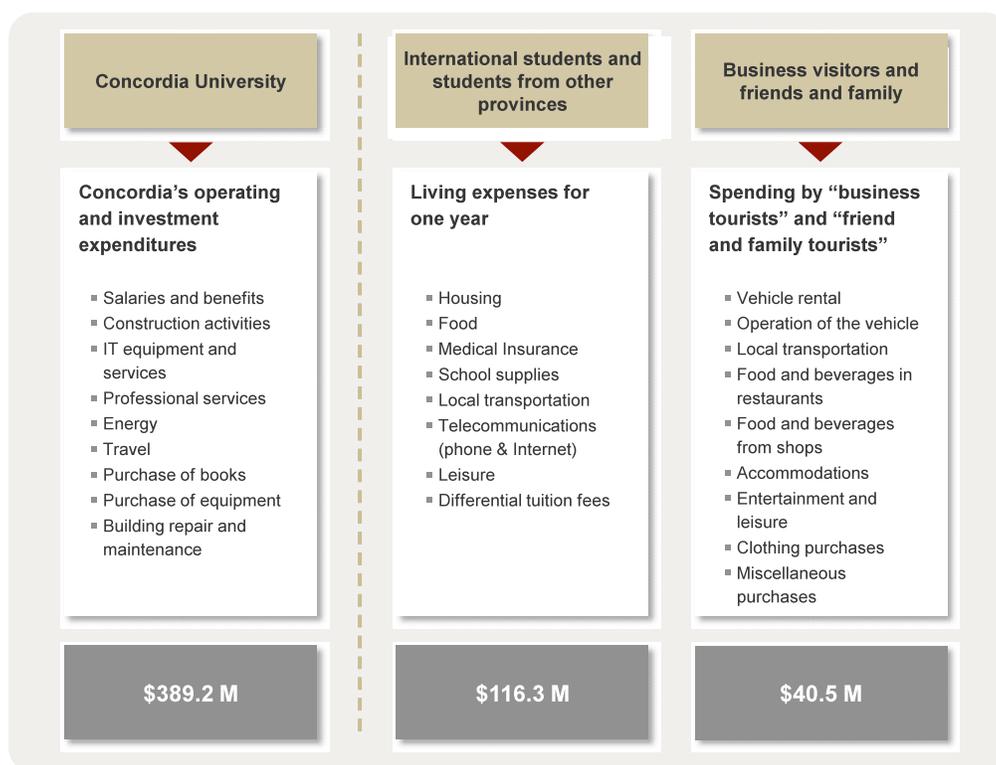
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<sup>24</sup> Source: Institut de la statistique du Québec.

<sup>25</sup> The differences between the approach used by SFU and that applied by SECOR for Concordia include: the use of a multiplier of 1.5; the inclusion of induced effects; the inclusion of spending by local students (excluded in the SECOR analysis); the inclusion of local "visitors" (excluded in the SECOR analysis).

The approach used for this analysis by SECOR has been widely tested and is considered rigorous. By applying this methodology to SFU, SECOR obtains benefits that are in the same order of magnitude.

TABLE 2 – THREE TYPES OF SPENDING GENERATED BY CONCORDIA IN QUEBEC  
2009-2010



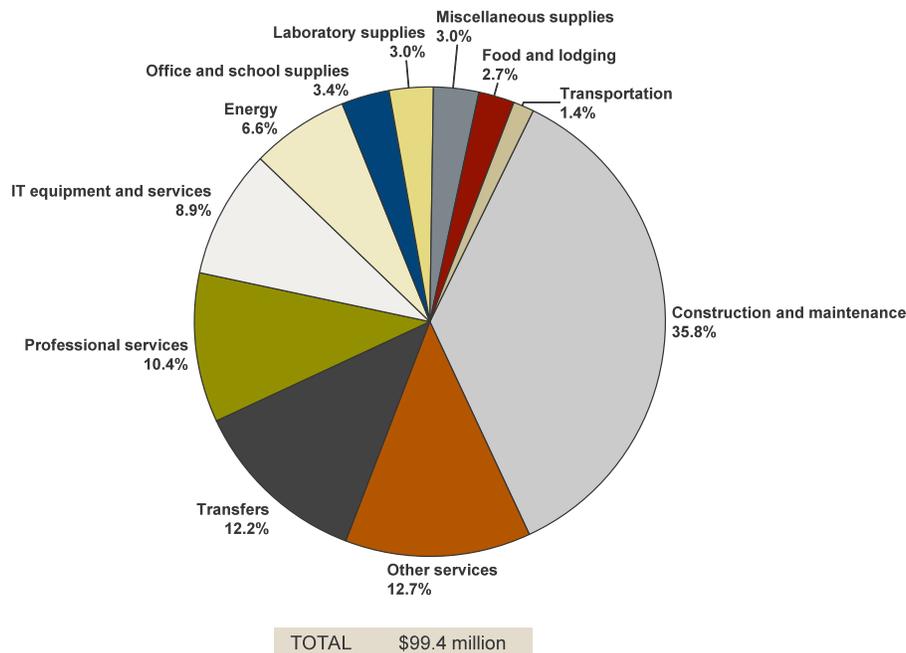
Sources: Concordia University; SECOR Analysis.

In 2009-2010, Concordia University's operating and investment expenditures amounted to \$437.0 million, including \$289.9 million in salaries and benefits to Concordia's 4,500 faculty and employees (full-time equivalent)<sup>26</sup> and \$99.4 million to Quebec suppliers.

Figure 8 presents Concordia's investment and operating expenditures, excluding salaries. These comprise construction activities (36%), professional and other services (23%), as well as the acquisition of IT equipment and services (9%), office and school supplies (3%), laboratory products and services (3%) and other types of expenditures (3%).

<sup>26</sup> In 2009-2010, the university employed more than 4,500 people (full-time equivalent), including 827 professors and 1,134 research assistants, part-time professors and technicians. Academic staff made up the largest segment with nearly 43% of direct jobs created by Concordia, followed by administrative staff (36.1%), students (18.1%) and maintenance staff (2.8%).

FIGURE 8 – CONCORDIA'S OPERATING AND INVESTMENT EXPENDITURES IN QUEBEC  
2009-2010



Source: Concordia University; SECOR Analysis

\*Primarily transfers to other universities, the Concordia Foundation and student associations

Alongside Concordia's construction and operating expenditures, the approximately 9,277 students from outside Quebec contribute to the province's economy through their living expenses and leisure spending. This spending, which amounted to more than \$116 million in 2009-2010, can be broken down into accommodation, food, medical insurance, school supplies, local transportation, telecommunications (telephone and Internet), leisure and clothing (Appendix 3).<sup>27</sup>

Concordia also hosts many events that attract visitors from outside the province. In 2009-2010, more than 8,363 business visitors attended approximately 10 university events, the most significant of which was the Congress of the Canadian Federation for the Humanities and Social Sciences. As well, more than 7,223 friends and families of Concordia students come from outside the province to attend the university's open houses, convocation ceremonies and other events. Spending by "business tourists" and "friends and family tourists" amounted to \$40.4 million in 2009-2010, including \$37.3 million attributable to the Congress of the Canadian Federation for the Humanities and Social Sciences.

<sup>27</sup>The accommodation and food spending of the students were adjusted to avoid double counting residence and cafeteria fees already included in the university's operating expenses.

## 4.2 ECONOMIC IMPACT OF SPENDING BY CONCORDIA, ITS STUDENTS AND ITS VISITORS

Expenditures generated by Concordia's activities were compiled in the Quebec input-output model to measure the impact they have on the Quebec economy in terms of employment, value added and provincial and federal tax revenues. Combined spending by Concordia created a value added for the Quebec economy of \$463.5 million, including \$322.7 million in salaries, as well as 7,190 job-years.<sup>28</sup> The following table presents a breakdown of the value added and jobs created in terms of the direct and indirect effect of all spending by Concordia.

TABLE 3 – IMPACT GENERATED BY CONCORDIA UNIVERSITY

*For all of Quebec, in thousands of 2010 dollars*

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
<b>Value added</b>	<b>354,465</b>	<b>108,999</b>	<b>463,464</b>
Salaries (excluding benefits)	263,480	59,192	322,674
Net income of unincorporated businesses	1,944	6,489	8,434
Other gross income before taxes	89,040	43,317	132,357
<b>Workforce (person-years)</b>	<b>5,465.4</b>	<b>1,724.2</b>	<b>7,189.5</b>
Salaried employees	5,403.5	1,499.4	6,903
Other workers	61.9	224.8	286.5

*Sources: ISQ, SECOR Analysis.*

The university's activities generate \$40.9 million in revenues and \$47.2 million in incidental taxation (QPP, CSST, FSS) for the Quebec government. The corresponding figures for the federal government are \$23.8 million in revenues and \$8.9 million in incidental taxation (employment insurance).<sup>29</sup>

TABLE 4 – CONCORDIA UNIVERSITY'S IMPACT ON GOVERNMENT REVENUES

*In thousands of 2010 dollars*

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
<b>Quebec government revenues</b>	<b>32,141</b>	<b>8,776</b>	<b>40,917</b>
Taxes on salaries and wages paid by employees	26,040	4,964	31,004
Sales and specific tax	6,101	3,812	9,913
<b>Incidental taxation (QPP, CSST, FSS)</b>	<b>37,406</b>	<b>9,796</b>	<b>47,201</b>
<b>Federal government revenues</b>	<b>19,092</b>	<b>4,738</b>	<b>23,831</b>
Taxes on income and wages	16,076	2,686	18,761
Sales tax and excise tax	3,016	2,052	5,070
<b>Incidental taxation (employment insurance)</b>	<b>7,152</b>	<b>1,762</b>	<b>8,915</b>

*Sources: ISQ, SECOR Analysis.*

<sup>28</sup> Figure amounts indicating the economic impact of each type of spending are presented in Appendix 3.

<sup>29</sup> Figure amounts indicating the impact on government revenues of each type of spending are presented in Appendix 3.

## CONCLUSION

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Concordia University makes a major contribution to the economies of Montreal and Quebec. Every year, it generates nearly \$1.3 billion in quantifiable benefits, a contribution three times greater than its annual operating expenditures. Few institutions, whether public or private, can boast such a leverage effect.

The university's economic impacts are felt most strongly in three areas, as illustrated in Table 1. First, nearly 90,000 Concordia graduates work in Quebec. Their university education contributes to an increase in productivity of \$623 million. Furthermore, research conducted and disseminated by the university brings \$177 million into the Quebec economy. Lastly, spending by Concordia and by its students and visitors from outside Quebec generates \$464 million in value added, resulting in the creation of more than 7,000 jobs.

However, Concordia's impacts far exceed these quantifiable elements. Through its integration into the social, economic, cultural and community fabric of Montreal and Quebec, Concordia makes exceptional contributions to enhancing the quality of life and economic potential of Quebec society. The present report documents these contributions.

TABLE 5 – SUMMARY OF THE ECONOMIC IMPACT OF CONCORDIA UNIVERSITY ON QUEBEC'S ECONOMY

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IMPACTS	\$ MILLION
Concordia's contribution to increased productivity in Quebec through the improvement of human capital.	623.1
Concordia's contribution to increased productivity in Quebec through the creation and dissemination of knowledge.	177.2
Value added created through spending by Concordia University and its students and visitors from outside Quebec.	463.5
<b>Total impact</b>	<b>1,263.9</b>

# APPENDICES

## APPENDIX 1 – CALCULATING THE ECONOMIC IMPACT GENERATED BY HUMAN CAPITAL IMPROVEMENT

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To calculate the impact that Concordia University's enhancement of human capital has on increased productivity, SECOR drew on a study of the economic impact of Canadian universities conducted by Fernand Martin, which has been cited and adapted by a number of researchers.<sup>30</sup>

To assess Concordia's contribution to human capital improvement, SECOR calculated the salary differential between Concordia alumni with a bachelor's degree and people without an equivalent level of education. The share of this salary differential directly attributable to Concordia was estimated at 35.12%,<sup>31</sup> which corresponds to the cost of the training provided by the university.

SECOR also factored in the salary differential between Concordia alumni with graduate degrees people without an equivalent level of education. As above, the share of the salary differential directly attributable to Concordia was estimated at 35.12%, or the cost of training provided by the university. In this instance, however, a significant share was also subtracted in order to factor in graduates who have obtained their undergraduate degrees outside Quebec.

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<sup>30</sup> *La prospérité future passe inévitablement par les universités*, Desjardins – Études économiques, François Dupuis, Yves St-Maurice et Fernand Martin, November 19, 2008.

<sup>31</sup> Source: *La prospérité future passe inévitablement par les universités*, Desjardins – Études économiques, François Dupuis, Yves St-Maurice et Fernand Martin, November 19, 2008.

TABLE 6 – CALCULATING CONCORDIA'S CONTRIBUTION TO INCREASED PRODUCTIVITY THROUGH HUMAN CAPITAL IMPROVEMENT

*In 2010 dollars*

IMPACT OF UNDERGRADUATE TRAINING ON PRODUCTIVITY	
Salary differential between alumni with an undergraduate degree and workers with no university training (source: Dupuis, St-Maurice, Martin) <sup>32</sup>	\$23,225
Number of Concordia alumni with undergraduate degrees living in Quebec	76,558*
Total differential for Concordia alumni with undergraduate degrees	\$1,778,059,550
Subtraction of imported share (estimated at 14.80%) (source: Dupuis, St-Maurice, Martin)	\$263,152,813
<b>Concordia's contribution to the improvement of human capital (undergraduate level) – 35.12% of the differential considering the costs to the university (source: Dupuis, St-Maurice, Martin)</b>	<b>\$532,035,246</b>
IMPACT OF POSTGRADUATE TRAINING ON PRODUCTIVITY	
Salary differential between graduate students and undergraduate students (source: Dupuis, St-Maurice, Martin)	\$17,105
Number of Concordia MA and PhD graduates living in Quebec (source: Concordia University)	17,796
Differential for Concordia MA and PhD graduates	\$304,402,228
Imported share (14.80%) (source: Dupuis, St-Maurice, Martin)	\$45,051,530
<b>Concordia's contribution to the improvement of human capital (graduate level) – 35.12% of the differential taking into account the costs to the university (source: Dupuis, St-Maurice, Martin)</b>	<b>\$91,083,965</b>
<b>Total contribution by Concordia to the improvement of human capital (undergraduate and postgraduate)</b>	<b>\$623,125,018</b>

\* Includes 6,300 graduates who have received both undergraduate and graduate degrees from Concordia University.  
Sources: Dupuis, St-Maurice, Martin; Concordia University; SECOR Analysis.

<sup>32</sup>The most recent data on salary differentials by level of education date to 2005 (census data).

## APPENDIX 2 – CALCULATING THE ECONOMIC IMPACT GENERATED BY THE CREATION AND DISSEMINATION OF KNOWLEDGE

To determine the economic impact that Concordia generates through the creation and dissemination of knowledge, SECOR again drew on Fernand Martin's study on the economic impact of Canadian universities, which has been cited and adapted by many researchers,<sup>33</sup> including Walter Sudmant.<sup>34</sup>

SECOR subtracted the share of imported knowledge from the increase in total factor productivity, then determined the share attributable to the universities and to Concordia. However, the methodology used includes the creation and dissemination of knowledge produced by MA and PhD graduates. Concordia's contribution through the training provided to these MA and PhD graduates, which is already factored into our calculation of the improvement in human capital, was therefore subtracted in order to determine the final contribution.

TABLE 7 – CALCULATING CONCORDIA'S CONTRIBUTION TO INCREASED PRODUCTIVITY THROUGH THE CREATION AND DISSEMINATION OF KNOWLEDGE

*In 2009 dollars*

IMPACT OF THE CREATION OF KNOWLEDGE ON PRODUCTIVITY	
Contribution of total factor productivity contribution to increasing GDP in 2009 (source: Dupuis, St-Maurice, Martin; present value SECOR)	\$42,572,210,987
R&D imports	\$6,471,578,177
Value of Quebec knowledge	\$36,100,632,810
Subtraction of contribution to human capital (already included in previous table)	\$15,320,404,959
Increased productivity not related to human capital improvement	\$20,780,227,851
Share of Quebec universities in R&D (35.5%) (source: Dupuis, St-Maurice, Martin)	\$7,385,292,978
<b>Concordia's total contribution to increased productivity through the creation of knowledge (2.4%) (source: CAUBO, 2008)</b>	<b>\$177,247,031</b>

*Sources: Concordia University; SECOR Analysis.*

<sup>33</sup> See also *La prospérité future passe inévitablement par les universités*, Desjardins – Études économiques, François Dupuis, Yves St-Maurice and Fernand Martin, November 19, 2008.

<sup>34</sup> *The Economic Impact of the University of British Columbia*, Walter Sudmant, Planning and Institutional Research, UBC, September 2009.

## APPENDIX 3 – GROSS ECONOMIC IMPACT OF SPENDING BY CONCORDIA UNIVERSITY, ITS STUDENTS AND ITS VISITORS

TABLE 8 – TOURIST SPENDING BY CONCORDIA VISITORS IN 2009-2010

"BUSINESS" VISITORS		NUMBER OF PARTICIPANTS	% FROM OUTSIDE QUEBEC	% ATTRIBUTABLE TO CONCORDIA	TOTAL NO. OF VISITORS FROM OUTSIDE QUEBEC	NO. OF DAYS	TOTAL IN NUMBER OF DAYS
NO. "BUSINESS VISITORS"							
Educational Technology Workshop & Conference		150	5%	100%	8	1	8
Agha Khan Foundation Canada Event		150	5%	100%	8	2	15
Antiquarian Book Fair		400	5%	75%	15	2	30
President's Conference Series		200	5%	100%	10	1	10
Remembering War & Genocide Conference		75	5%	100%	4	3	11
9th Annual Critical Race and Anti-Colonial Studies Conference		100	75%	50%	38	3	113
59th Annual Canadian Society of Microbiologists Conference		400	75%	100%	300	3	900
Annual Federation for Humanities & Social Sciences Congress		8,800	90%	100%	7,920	8	63,360
Religious Houses: A Legacy		100	80%	75%	60	5	300
<b>TOTAL</b>							<b>64,747</b>
SPENDING BY "BUSINESS VISITORS" (SOURCE: TOURISME MONTRÉAL, 2009)	SPENDING / PERS./ STAY	TOTAL SPENDING					
Car rental	\$15.69	\$1,015,877					
Operation of vehicle (fuel, repairs, etc.)	\$20.74	\$1,342,848					
Local transportation	\$23.23	\$1,504,067					
Food and drinks in restaurants and bars	\$130.03	\$8,419,020					
Food and drinks in shops	\$16.99	\$1,100,047					
Accommodations	\$293.34	\$18,992,812					
Entertainment and leisure	\$21.38	\$1,384,286					
Clothing purchases	\$47.31	\$3,063,169					
Miscellaneous purchases	\$20.47	\$1,325,366					
<b>TOTAL</b>	<b>\$589.18</b>	<b>\$38,147,490</b>					

"FRIENDS AND FAMILY" VISITORS		NUMBER OF PARTICIPANTS	% FROM OUTSIDE QUEBEC	% ATTRIBUTABLE TO CONCORDIA	TOTAL NO. OF VISITORS FROM OUTSIDE QUEBEC	NO. OF DAYS	TOTAL IN NUMBER OF DAYS
NO. "FRIENDS & FAMILY VISITORS"							
125 alumni network events (homecoming, etc.)		1,984	11%	100%	220	2	440
Open house		3,500	28%	100%	983	2	1,966
Graduation		10,998	11%	100%	1,210	2	2,400
Parental visits		26,721	18%	100%	4,810	2	9,620
<b>TOTAL</b>							<b>14,446</b>
SPENDING BY "FRIENDS AND FAMILY VISITORS" (SOURCE: TOURISME MONTRÉAL, 2009)	SPENDING / PERS./ STAY	TOTAL SPENDING					
Car rental	\$2.78	\$40,160					
Operation of vehicle (fuel, repairs, etc.)	\$19.97	\$288,487					
Local transportation	\$2.95	\$42,616					
Food and drinks in restaurants and bars	\$44.15	\$637,793					
Food and drinks in shops	\$14.67	\$211,923					
Accommodations	\$16.76	\$242,116					
Entertainment and leisure	\$13.30	\$192,132					
Clothing purchases	\$35.99	\$519,913					
Miscellaneous purchases	\$5.94	\$85,809					
<b>TOTAL</b>	<b>\$156.51</b>	<b>\$2,260,950</b>					

	TOTAL EXPENDITURES BY OUT-OF-PROVINCE VISITORS
TOTAL VISITOR SPENDING	
Car rental	\$1,056,037
Operation of vehicle (fuel, repairs, etc.)	\$1,631,335
Local transportation	\$1,546,683
Food and drinks in restaurants and bars	\$9,056,813
Food and drinks in shops	\$1,311,971
Accommodations	\$19,234,927
Entertainment and leisure	\$1,576,418
Clothing purchases	\$3,583,082
Miscellaneous purchases	\$1,411,175
<b>TOTAL</b>	<b>\$40,408,440</b>

Sources: Concordia University, SECOR Analysis.

TABLE 9 – LIVING EXPENSES PAID IN 2009-2010 BY CONCORDIA STUDENTS FROM OUTSIDE QUEBEC

PROVENANCE OF STUDENTS	SPENDING /PERS.	REST OF CANADA	OTHERS	TOTAL
	Expenses/ year/pers	4,566	4,711	9,277
Accommodations	\$7,200	\$32,875,200	\$33,919,200	\$50,095,800
Residences*		\$1,850,400	\$1,051,200	\$2,176,200
Accommodations (adjusted)		\$31,024,800	\$32,868,000	\$47,919,600
Food	\$4,800	\$21,916,800	\$22,612,800	\$33,397,200
Cafeteria*		\$871,335	\$495,635	\$1,366,970
Food (adjusted)		\$21,045,465	\$22,117,165	\$32,030,230
Medical insurance	\$578	\$2,639,148	\$2,722,958	\$4,021,580
School supplies	\$1,000	\$4,566,000	\$4,711,000	\$6,957,750
Local transportation	\$444	\$2,027,304	\$2,091,684	\$3,089,241
Telecommunications (telephone and Internet)	\$1,200	\$5,479,200	\$5,653,200	\$8,349,300
Leisure and clothing	\$2,000	\$9,132,000	\$9,422,000	\$13,915,500
<b>TOTAL</b>	<b>\$17,222</b>	<b>\$75,913,917</b>	<b>\$79,586,007</b>	<b>\$116,283,201</b>

\* Spending on accommodations and food was adjusted for these students to avoid double counting residence and cafeteria fees already included in the university's operating expenditures.

Sources: Concordia University, SECOR Analysis, Student living expenses (source: HEC Montréal).

TABLE 10 – IMPACT OF CONCORDIA UNIVERSITY'S OPERATING AND INVESTMENT EXPENDITURES  
For all of Quebec, in thousands of 2010 dollars

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
Value added	289,850	63,754	353,585
Salaries (excluding benefits)	240,043	36,450	276,494
Net income of unincorporated businesses	-	3,633	3,633
Other gross earnings before taxes	49,807	23,651	73,458
<b>Workforce (person-years)</b>	<b>4,559</b>	<b>1,035.1</b>	<b>5,594.1</b>
Salaried employees	4,559	886.6	5,445.7
Other workers	0	148.5	148.4

Sources: ISQ, SECOR Analysis.

TABLE 11 – IMPACT OF CONCORDIA UNIVERSITY'S OPERATING AND INVESTMENT EXPENDITURES ON GOVERNMENT REVENUES

*In thousands of 2010 dollars*

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
<b>Quebec government revenues</b>	<b>24,757</b>	<b>5,390</b>	<b>30,147</b>
Taxes on salaries and wages paid to employees	24,757	3,156	27,913
Sales and specific taxes	0	2,234	2,234
<b>Incidental taxation (QPP, CSST, FSS)</b>	<b>33,723</b>	<b>6,130</b>	<b>39,852</b>
<b>Federal revenues</b>	<b>15,465</b>	<b>2,896</b>	<b>18,363</b>
Taxes on salaries and wages paid to employees	15,465	1,736	17,201
Sales and excise taxes	0	1,160	1,162
<b>Incidental taxation (employment insurance)</b>	<b>6,428</b>	<b>1,087</b>	<b>7,515</b>

*Sources: ISQ, SECOR Analysis.*

TABLE 12 – IMPACT OF SPENDING BY CONCORDIA UNIVERSITY'S OUT-OF-PROVINCE STUDENTS AND VISITORS

*For all of Quebec, in thousands of 2010 dollars*

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
<b>Value added</b>	<b>64,615</b>	<b>45,265</b>	<b>109,879</b>
Salaries (excluding benefits)	23,437	22,742	46,180
Net income of unincorporated businesses	1,944	2,856	4,801
Other gross earnings before taxes	39,233	19,666	58,899
<b>Workforce (person-years)</b>	<b>906.4</b>	<b>689.1</b>	<b>1,595.4</b>
Salaried employees	844.5	612.8	1,457.3
Other workers	61.9	76.3	138.1

*Sources: ISQ, SECOR Analysis.*

TABLE 13 – IMPACT OF SPENDING BY CONCORDIA'S STUDENTS AND VISITORS FROM OUTSIDE THE PROVINCE ON GOVERNMENT REVENUES

*In thousands of 2010 dollars*

CATEGORY	DIRECT EFFECTS	INDIRECT EFFECTS	DIRECT AND INDIRECT EFFECTS
<b>Quebec government revenues</b>	<b>7,384</b>	<b>3,386</b>	<b>10,770</b>
Taxes on salaries and wages paid to employees	1,283	1,808	3,091
Sales and specific taxes	6,101	1,578	7,679
<b>Incidental taxation (QPP, CSST, FSS)</b>	<b>3,683</b>	<b>3,666</b>	<b>7,349</b>
<b>Federal revenues</b>	<b>3,627</b>	<b>1,842</b>	<b>5,468</b>
Taxes on salaries and wages paid to employees	611	950	1,560
Sales and excise taxes	3,016	892	3,908
<b>Incidental taxation (employment insurance)</b>	<b>724</b>	<b>675</b>	<b>1,400</b>

*Sources: ISQ, SECOR Analysis.*