

# ECONOMIC IMPACT STUDY

## UNIVERSITY OF ALBERTA

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## Executive Summary

R.A Malatest & Associates Ltd. (Malatest) was contracted by the University of Alberta to undertake an economic impact study of the University of Alberta operations on the Alberta economy. This study generally followed the same approach as used in the prior 2012 study ("The Economic Impact of the University of Alberta: A comparative Approach" (2012)). However, no comparison is made with other Canadian universities. In addition, unlike the 2012 study, the current study also includes an analysis of the extent to which the funding provided by the Province of Alberta "leverages" funding from other sources including other provincial funding sources, federal funding, student funding and funding from donors and/or other agencies.

### ***Results of the Study Suggest that the University of Alberta is a major economic engine for the Province of Alberta***

The University of Alberta (U of A) generates considerable economic impacts through its direct operations. These impacts include the direct, indirect and induced effects associated with the operations of an institution that employs thousands of staff and provides education to in excess of 42,000 full-time students. The results of the study suggest that the total economic impact associated with the University was nearly of \$19.4 billion in 2021/2022, although not all of this impact occurred only in 2021/2022.

### ***Alumni Education Premium and Research account for the Majority of the Impacts, but there are sizeable impacts associated with Institutional operations, student and visitor spending***

The majority (\$15.8 billion, or 82%) of the University's total economic impact is attributable to the sum of the Alumni Education Premium and Research Impact. However, there are also significant contributions associated with Institutional operations (\$2.4 billion), student spending (\$745.4 million) and spending by visitors who travel to Edmonton to visit students and/or attend conferences or events at the University (a further impact of \$332 million).

### ***The Province of Alberta realizes a strong return on its investment in the University***

The University of Alberta serves to attract considerable funding from sources outside the Provincial Government. This includes for example, funding from federal agencies (\$212.3 million), and spending by students and/or donors who are from outside the province. Notwithstanding that these inflows that are directly related to the operation of the University, the Province is the beneficiary of the total economic impact generated by the University. In 2021/22, for its investment of \$726.7 million in the University, there was a total economic impact of \$3.5 billion, meaning that for every \$1 dollar invested in the University by the Province, there was a return of \$4.80. This does not include the longer-term impacts associated with the benefits of the Education Premium and Research which while significant, occur over a longer period of time but nevertheless would certainly result in an even higher return for the provincial investment in the University of Alberta.

## 1.0 Introduction

The University of Alberta (U of A) is located in Edmonton and has five campuses, one of which offers programs in French. More than 42,975 students from 156 different countries are enrolled in the 18 faculties offering over 700 programs in total (undergraduate and graduate). U of A is ranked in the Top 100 by the Academic Ranking of World Universities (ARWU) and in the Top 100 by the Center for World University Ranking (CWUR). At the Canadian level, U of A reaches the Top 5 of all Canadian universities.

Since the last economic impact study completed for the University was conducted in 2012, the University identified the need to update the previous study to reflect current activities. In addition, the study was further designed to examine the funding sources with the goal of determining the economic return that accrues to the Province of Alberta (provincial government) for its funding of the university. In this context, the study objectives were defined as follows:

- Estimate and highlight the contributions by the University of Alberta on the provincial economy in the fiscal year 2021-2022.
- Estimate the leverage of provincial funding in terms of total economic impact.

The report is presented under the following headings:

Introduction

Research Method

Results

- Institutional Spending
- Student Spending
- Visitor Spending
- Alumni Education Premium
- Research Impact
- Income Sources

Economic Return for the Province of Alberta Investment in the University of Alberta

Summary and Conclusions

It should also be noted that the University of Alberta completed a more comprehensive alumni impact study in 2013 that examined the broader economic impacts associated with business formation and job creation that could be attributed to U of A graduates. This current study is not intended to replicate the 2013 Alumni impact study although it is envisioned that the University will also complete a similar study in the near future.

## 2.0 Research Method

This report is an update of the prior 2012 Economic Impact Study (U of A), and as such, generally relies on the same methodology and approach. It should be noted that a review was completed of other similar university economic impact studies, including the University of Calgary (2021) and Brock University (2022) to ensure that the methodology used for the current study was congruent with the research approaches used in these other studies.

Similar to these other economic impact studies, it is necessary to examine the direct, indirect, and induced impacts associated with the spending that is related to the operations of the University. This is commonly referred to as the “economic multiplier” associated with the re-spending of direct expenditures by the university, students and visitors into the economy plus the alumni education premium. For most Canadian studies, this multiplier, first proposed by Sudmant in 2009, is 1.5. For this study, we explored the use of Statistics Canada Input-Output Model for Alberta, which could be used to measure the impact of university spending. Since the multiplier for Alberta University spending was 1.49, we retained the use of the 1.5 multiplier to maintain consistency with past studies. In addition, to maintain this consistency with the approaches, we used a dynamic approach proposed by Martin (1998) to calculate the Research Impact. In general, the methodology used in this study replicates the methodology documented by Sudmant in his 2009 report (see Appendix A for additional information pertaining to the methodology).

Key areas examined to assess economic impact included the following:

- 1. Institutional Spending.** This includes spending on staff wages and salaries, maintenance and equipment, student services and capital investments. Institutional spending data was provided by the University of Alberta for the 2021/22 fiscal year. Similar to the 2012 study, estimates were made of the proportion of this spending that would occur in the province of Alberta, as spending on goods and services purchased from outside of the province would have no economic impact on the province. As expected, the majority of wages and salaries paid would be spent “in province” (98% domestic allocation), while purchases of materials were considered to have a much lower proportion of domestic production (78%). For the purposes of this study, the domestic share of spending remains unchanged from the 2012 U of A study.
- 2. Student Spending.** Students attending the U of A have considerable expenses associated with attending the university, including housing, food, transportation, and other costs. Using published student expense guidelines, an estimate of the impact of student spending was calculated.
- 3. Visitor Spending.** As a result of the operations of the University, there will be an increase in travel to the province and to the University, either for the purposes of visiting students, or for persons from outside the region to attend conferences hosted by the University. We estimate the impact of such activity by relying on past estimates of the number of “visitor days” per student as well as data as to the number of delegate days reported by the University for hosted events. It should be noted that while the student visitation impacts were measured in the 2012 U of A study, the impact of U of A hosted conferences was not measured, and this represents a “new” indicator in terms of the economic impact of the University.

4. **Alumni Education Premium.** This impact is estimated primarily by the difference in wages between Alberta residents with a bachelor’s degree or higher and those with only a high school diploma or equivalent and then multiply with the number of U of A alumni. This estimated positive difference leads to an increase in productivity and direct spending in the province by these alumni, which in turn leads to indirect and induced economic impact. It should be noted that this estimate would be the result of cumulative investment in education, and can not be easily translated into an average annual impact.
5. **Research Impact.** Knowledge transfer and skilled workers create a dynamic impact over the years. The positive effects of human capital cannot be calculated in a static way at a given point in time. To estimate the impact of research, Martin (1998) method has been used by universities for 25 years for their economic impact studies. The approach is based on a long period of provincial GDP growth multiplied by a Total Factor Productivity (20%) ,a local share of R&D fixed at 69%, followed by a share of provincial higher education and a contribution of the U of A itself in Alberta. Similar to the Education premium estimate, the impact of U of A research has to be taken in the context of a longer term impact, and, as such, cannot be seen to be an annual economic impact.

This current study also includes an analysis of the sources of funding for University operations. As part of this analysis, the extent to which the University is able to “leverage” funding from other sources is documented. This analysis of funding sources is also used to demonstrate the return to the Government of Alberta for each dollar invested in the University.

### 3.0 Results

As highlighted in Table 3.1, the total economic impact associated with Institutional Operations, Student Spending, Visitor Expenditures, Alumni Education Premium and Research Impact was estimated to be nearly \$19.4 billion in 2021/22. Given Alberta's total GDP of \$374.5 billion in 2021, this represents more than 5% of total provincial GDP. As detailed in the Table 3.1, Alumni Education Premium and Research generate the greatest impacts, but there are also significant contributions to the provincial economy in the form of institutional, student, and visitor spending.

**Table 3.1: Impact Summary for fiscal year 2021-2022**

Economic Impact	University of Alberta (\$M)
Institutional	2,440.9
Student	745.4
Visitors	332.0
Alumni Education Premium	7,617.2
Research	8,221.7
<b>Total Economic Impact</b>	<b>19,357.2</b>

#### 3.1 Institutional Spending

The University of Alberta incurs considerable operating and capital expenditures that provide significant economic benefits to the Alberta's economy. Table 3.1.1 shows spending by major category, as detailed in the Expense by object (p.88) of the University of Alberta Annual Report 2021-22. Similar to the 2012 study, the spending has been adjusted for local spending, as purchases of services and materials outside of the local economy have no direct or indirect impact. The logic behind Sudmant (2009) method<sup>1</sup> for the percent local remains valid, as does the 1.5 multiplier.

**Table 3.1.1: Operating Expenditures for fiscal year 2021-2022**

Type of Expenditure	Total University Expenditures (\$M)	Percent Local	Net Domestic Spending (\$M)
Salaries & Benefits	1,086.4	98%	1,064.7
Materials, supplies & services	243.7	78%	190.1
Student Aid	150.1	100%	150.1
All Other Expenses		35%	102.0
Total Direct			1506.9
Indirect and Induced			753.5
<b>Economic Impact</b>			<b>2,260.4</b>

<sup>1</sup> See Appendix A for Sudmant (2009) Method.



U of A's operating spending alone amount to \$1,506.9 million with an estimated total economic impact of \$2,260.4 million; a noticeable value added in the Edmonton/Alberta economy. In addition to the ongoing operational funding, the University also has a substantial capital budget that would also generate direct, indirect and induced impacts. Capital spending fluctuates annually as various projects are phased in. U of A is currently expanding the University Commons on the North Campus and modernizing the Lister Residence Complex. In fiscal year 2021-2022, capital expenditures represent 7% of U of A's direct spending.

Table 3.1.2 displays capital expenditures by class as provided by U of A for fiscal year 2021-2022 and adjusted for local spending using the same percentages as in Table 3.1.1.

**Table 3.1.2: Capital Expenditures for fiscal year 2021-2022**

Type of Expenditure	Total University Expenditures (\$M)	Percent Local	Net Domestic Spending (\$M)
Equipment	56.4	35%	19.7
Learning Resources	18.9	35%	6.6
Construction	120.5	78%	94.0
Total Direct			120.3
Indirect and Induced			60.2
<b>Economic Impact</b>			<b>180.5</b>

### 3.2 Student Spending

In Table 3.2, we present only full time (FT) students, even though the U of A had an additional 13,049 part-time students enrolled in Career Preparation Undergraduate programs and 2,798 part-time graduate students in 2021-2022. Consistent with the previous 2012 study and other comparable studies, the student impact was calculated based on full-time students only.

Monthly costs for U of A students living in Edmonton are taken from ualberta.ca website<sup>2</sup>. Guideline estimates range between \$1,585-\$2,195 per month for Fall 2020. Use of the Canada Student Aid Estimator<sup>3</sup> (for 2022) suggests that a full-time student living away from home would incur expenses of approximately \$17,900 over an eight-month term – which equates to approximately \$2,237 per month. Adjusted for inflation, this suggests that in 2021/22 this amount would be approximately \$2,103/month. To maintain a conservative evaluation of the economic impact of student spending, the cost that has been used is the average between the U of A minimum cost (after indexing for inflation), which would be \$1,660/month, and the educational amount determined through the Canada Student Loan Estimator (\$2,103/month), yielding a conservative estimate of \$1,882/month.

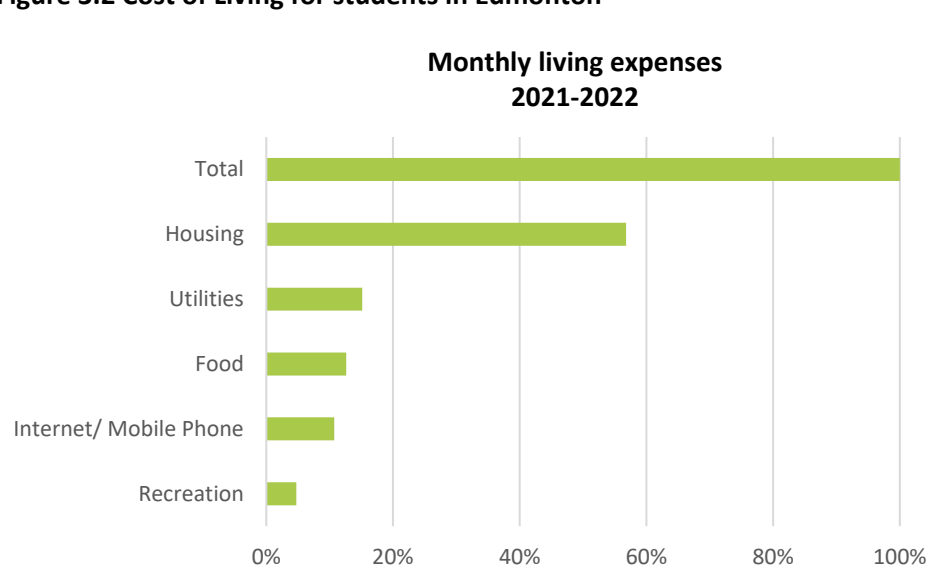
<sup>2</sup> Available at: [U of A Fee & Cost of Living Estimates](#). Accessed on January 13, 2023.

<sup>3</sup> Available at: [Student Aid Estimator - Canada.ca \(esdc.gc.ca\)](#). Accessed on January 18, 2023.



Figure 3.2 lists the items included in the monthly expenses (as a percentage of total monthly expenses). As highlighted in Figure 3.2, the largest single expense for students is housing, which accounts for just under 60% of total costs.

**Figure 3.2 Cost of Living for students in Edmonton**



Source : [U of A Fee & Cost of Living Estimates](#).

Eight months per year are considered as academic months, summer term is not counted. Finally, student aid (same data as in Table 3.1.1, publicly available in the University of Alberta Annual Report 2021-22) is subtracted to avoid any double counting. As highlighted in Table 3.2, the direct impact of student spending was calculated to be \$496.9 million in 2021/22. The indirect and induced impacts were estimated to be \$248.5 million, and the total impact associated with student spending was calculated to be \$745.4 million.

**Table 3.2: Student Spending for fiscal year 2021-2022**

Type of Expenditure	University of Alberta
Career Preparation & Undergraduate (FT)	34,330
Graduate (FT)	8,645
<b>Total Students</b>	<b>42,975</b>
Monthly Living Expenses (\$)⁴	1,882
Academic Months	8
<b>Total Annual Spending (\$M)</b>	<b>647.0</b>
Less Student Aid (\$M)	150.1
Total Direct (\$M)	496.9
Indirect and Induced (\$M)	248.5
<b>Economic Impact (\$M)</b>	<b>745.4</b>

⁴ Indexed as per the [Bank of Canada - Inflation Calculator](#).

### 3.3 Visitor Spending

In addition to direct institutional spending and the spending by the students attending classes at the University of Alberta, there is a third impact associated with the operations of the University, namely, the impact of visitors travelling to Edmonton for university-related reasons. In most university impact studies, these visitor impacts are limited to student-related visits. However, as the University of Alberta tracks a portion of conference-related visitation, this study also includes the impact of these conference attendees travelling to Edmonton to participate in such conferences.

#### 3.3.1 Student Visitation Impacts

Similar to the 2012 U of A Economic Impact study as well as other recent university studies, there is an estimate of the extent to which there will be additional travel to the university by friends and family for the purpose of meeting/connecting with students. For this study, we use the accepted ratio that for each full-time undergraduate student, there would be eight (8) visits by parents, other family and/or friends over the course of an academic year. This same ratio (1:8) was used in the 2012 U of A report as well as in other Canadian university economic impact studies<sup>5</sup>.

The estimate of the economic impact uses travel data reported by Domestic tourism in Edmonton and area tourism region 2019: a summary of domestic visitor numbers, expenditures and characteristics (2022). In this report, it was noted that the average length of stay for a visitor to the Edmonton region would be 1.9 days. To arrive at the estimated average daily spending by visitors, we have used the estimate provided in the 2012 U of A study and increased it by the rate of inflation. For the purposes of this analysis, we arrive at an estimated daily spend of \$353 per day. As a robustness check, the University of Calgary estimated the average spending per day at \$368 for their 2019 data, so the figure used in this report would be within the range of those used in other comparable studies.

#### 3.3.2 Conference Attendance

In addition to visitors traveling to Edmonton to visit students, there would also be travel to the University to attend conferences and other university-sponsored events. This impact was not reported in the 2012 study, possibly because such data was not available at the time. However, the U of A was able to provide some information on the number of delegates associated with conference attendance in 2019-2020 (the last full year prior to Covid-19). It should be noted that the number of delegates only reflects those bookings made through Campus Services. In addition to these centrally booked conferences, individual departments and faculties could book their own events, which would also result in visitation to the University. Unfortunately, there is no data on the number of events and the number of delegates that would be involved in such events. In recognition that not all delegates who attended these conferences or events would be from outside Edmonton, we have conservatively estimated that half (50%) of conference delegates would be from outside the Edmonton area. We also apply the same length of stay and average daily spend for this group as we did for student visitors.

As highlighted in Table 3.3, the total economic impact associated with visitation to the University was estimated to be \$332 million. As depicted in the table, approximately 80% of the impact is associated with student visitation, and 20% is associated with conference attendance. Given that only a portion of

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<sup>5</sup> University of Calgary (2021), Brock University (2022).

total University conference-related activity is currently collected, we can assume that the impact of conference attendance would likely be higher than the estimated \$55.7 million.

**Table 3.3: Visitor Spending for fiscal year 2021-2022**

Type of Expenditure	Student Visitation 2021-2022	Conference attendance 2019-2020	Total Visitor Impact (\$M)
Number of Visitors	274,640	55,276	329,916
Average Length of Overnight Stays	1.9	1.9	1.9
Spending per Day (\$)⁶	353	353	353
Total Direct (\$M)	184.2	37.1	221.3
Indirect and Induced (\$M)	92.1	18.6	110.7
<b>Economic Impact (\$M)</b>	<b>276.3</b>	<b>55.7</b>	<b>332.0</b>

### 3.4 Alumni Education Premium

This impact is the difference in wages between Alberta workers with a bachelor’s degree and those with only a high school diploma or equivalent and then multiplied with the number of U of A alumni in that category living in Alberta. The same calculation is done for Alberta workers with university certificate, diploma or degree above the bachelor’s level. Data are from Statistics Canada for year 2015, indexed to 2021 and broken down by gender and by age group (10-year age range) for the population aged 25-64. The labour force participation rate in Alberta has also been applied in this calculation by gender and age group. Taxes have been deducted according to the different provincial and federal tax brackets from 2021.

This approach, although used by other universities in their studies<sup>7</sup>, means that the measurement of these impacts is calculated by solely examining the earnings associated with higher levels of education, and they would likely underestimate other impacts associated with business creation, investment and/or scientific discoveries. For some studies (University of Toronto - 2017, Harvard – 2015), the impact of research and alumni is captured through a comprehensive survey of alumni. U of A is contemplating a more comprehensive study of alumni to capture these impacts.

**Table 3.4 Education Premium for fiscal year 2021-2022**

Credentials	University of Alberta (\$M)
Bachelor's	4,084.0
Master's	795.3
PhD	193.7
Post Bachelor's	4.5
Graduate Diploma	0.6
Total Direct	5,078.1
Indirect and Induced	2,539.1
<b>Economic Impact</b>	<b>7,617.2</b>

<sup>6</sup> Indexed from 2011 to 2021 as per the [Bank of Canada - Inflation Calculator](#).

<sup>7</sup> University of Calgary (2021), Memorial University (2021), University of Windsor (2020).

It should be noted that the economic impact of the Education Premium is the result of ongoing and long-term operations of the university and cannot be necessarily attributed to a single year, as the educational attainment impact would be the function of decades of university operations and graduates.

### 3.5 Research Impact

Calculating the economic impact of U of A research is not a straightforward task. Estimates cannot be derived from a static method; knowledge and technology contribute to increased productivity in a province, not just for one year. It is a positive snowball effect over the years, a dynamic impact that cannot be explained by increases in labor and capital alone. In essence, growth in provincial GDP over time is a function of increases in employment, increases in capital, and increases in productivity. In this context, the research undertaken by universities in Alberta are deemed to directly and indirectly support increases in productivity. The steps, percentages and figures presented in Table 3.5 follow the methodology proposed by Martin (1998). This approach is similar to that used in some recent university economic impact studies including for example the University of Calgary (2021) and Brock University (2022).

Growth in Alberta's provincial gross domestic product (GDP) was calculated between the years 2021 and 1981 in constant 2012 dollars and indexed to 2021. Total factor productivity and domestic R&D are discounted at 20% and 69%, respectively and consecutively, following Martin (1998). Based on data from Statistics Canada and CAUBO, we have approximated the share of provincial higher education to be 45% for Alberta and the U of A's share to be 49%. Using this dynamic approach, the contribution of University of Alberta R&D to the change of Alberta GDP is \$8.2 billion.

**Table 3.5: Research Impact for fiscal year 2021-2022**

	Estimated Impact (\$M)
Provincial GDP Growth (1981-2021)	270,191 <sup>8</sup>
Total Factor Productivity (x 20%)	54,038
Domestic R & D (x 69%)	37,286
Share by Provincial Higher Education (45%)	16,779
Share by University of Alberta (49%)	8,221.7
<b>Research Impact (Attributed GDP Growth)</b>	<b>8,221.7</b>

Similar to the Education Premium, the economic impact of research must be considered as a cumulative impact associated with the U of A's research conducted over a period of 20 years and cannot be seen necessarily as an annual impact.

<sup>8</sup> Indexed from 2012 to 2021 as per the [Bank of Canada - Inflation Calculator](#).

### 3.6 Income Sources

Table 3.4 presents U of A revenue according to University of Alberta Annual Report 2021-22. Governmental funds were lower than the previous year but income from all other type of sources were higher. As per University of Alberta for Tomorrow, one of the strategic goals is to achieve greater self-sufficiency since it is facing a projected \$224 million reduction in the Government of Alberta’s grant over three years. As highlighted in Table 3.4, the direct contribution from the Province of Alberta declined from \$780 million in 2020-2021 to \$726.7 million in 2021-2022, resulting in the share of total funding that comes from the Province being below 40% in 2021/22 (39%).

**Table 3.4: Income Sources for fiscal year 2021-2022 (\$Millions)**

Type of Funding	University of Alberta (\$M) 2020-2021	Funding Share	University of Alberta (\$M) 2021-2022	Funding Share
Government of Alberta	780.0	44%	726.7	39%
Federal	228.6	13%	212.3	11%
Tuition	387.3	22%	434.6	23%
Capital Assets (Sales and gain on sale)	140.6	8%	217.1	11%
Donations	120.0	7%	135.3	7%
Investment income and loss from Government Business Enterprises	103.5	6%	175.9	9%
<b>Total – All Sources</b>	<b>1760.0</b>	<b>100%</b>	<b>1901.9</b>	<b>100%</b>

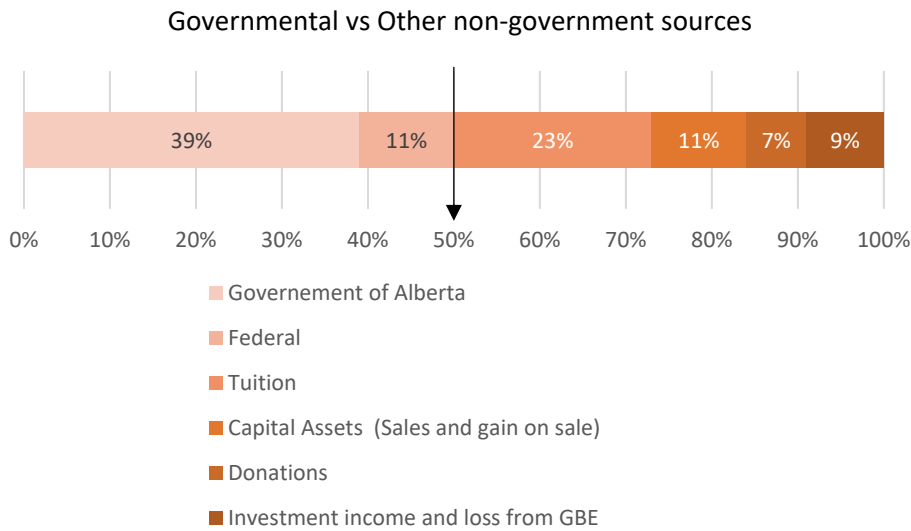
Source: University of Alberta. (2022). *University of Alberta 2021-22 Annual Report*.

Figure 3.5 demonstrates that U of A secured half of his funding through other non-government sources for fiscal year 2021-2022.

**“With new revenue streams, the U of A has dramatically reduced dependence on government grants from almost 60 per cent of operating revenue in 2017/18 to less than 40 per cent in 2024/25.”<sup>9</sup>**

<sup>9</sup> Available at: [U of A for Tomorrow](#). Accessed on January 13, 2023.

**Figure 3.5 Income sources as a share of total funding 2021-2022**



## 4.0 Economic Return for the Province of Alberta Investment in the University of Alberta

Despite the decline in funding from the Province of Alberta, the Province remains the largest single funder for the University. However, the operations of the University generate significant economic benefits to the Province, which include significant inflows from the federal sources (national research agencies, other federal funding), as well as from students (a portion of whom would be attending from out of province locations), as well as from donations (while most would likely be from domestic sources, a portion would be from donors outside of the Province).

As part of this study, we have estimated the extent to which all governments (Federal and Provincial) as well as Government of Alberta realize an annual economic return in terms of investment in the University. As noted previously, given that the economic impact associated with the Education Premium and Research are the result of long-term funding and outputs of the University, they have been excluded from this calculation as they do not easily apply to an estimate of an annual economic benefit. Limiting the analysis to the more direct economic impacts (Institutional Spending, Student Spending and Visitor Spending), there is still a significant return to the Province for its investment in the University. For example, as highlighted in Table 4.1, across all government funders, the return per dollar invested is \$1.60. For the Government of Alberta, the Province benefits from a total economic impact of approximately \$3.5 billion despite direct contributions of only \$726.7 million, this implies that the multiplier for the provincial contribution is \$4.80 for every dollar invested in the operations of the University of Alberta.

**Table 4.1: Economic Impact Multiplier – For Government Funders (Excluding Educational Premium and Research Impacts)**

Impact Multipliers	University of Alberta	Government (Provincial and Federal)	Government of Alberta
Total Economic Impact (\$M)	3,518.3	3,518.3	3,518.3
Spending (\$M)	2240.9	939	726.7
Spending Multiplier	1.6	3.7	4.8

## 5.0 Summary and Conclusions

The results of this research suggest that the University of Alberta is a major contributor to Alberta’s economy. The direct operations of the University generated an estimated \$19.4 billion in economic impacts throughout the Alberta economy. This represented more than 5% of provincial GDP in 2021/22.

While the Province of Alberta has been reducing their investment in the University, it should be noted that they clearly benefit from the spending associated with the University. For example, the operations of the University bring students and visitors from out of province to attend the institution. Furthermore, in 2021/22, the University also attracted more than \$212 million in funding from federal sources. This spending serves to boost the economy of Alberta and is solely attributable to the operations of the University. The study documents that for the provincial government investment of approximately \$726.7 million in 2021/22, the University generated a direct annual economic impact of \$3.5 billion, which implies that that Province realizes a 4.8 return for every dollar invested in the operations of the University. Furthermore, this impact would be conservative as it ignores the much more substantial impacts associated with the Education Premium and Research which would accrue over a much longer period of time yet would still be important to consider in terms of the estimation of the overall economic return with respect to the Province’s investment in the University of Alberta.

There is a strong case to augment this study with a broader study that examines the impact of the “products” of the University of Alberta. As documented by Statistics Canada, a major source of economic growth is tied to the education level of Canada’s population.

*“An educated population is crucial to maintaining Canada’s standard of living and pace of economic growth in the coming years. Canada continues to perform strongly in terms of education on the world stage, benefiting from highly educated immigrants and a growing share of young adults graduating from a college or university.” (Statistics Canada, 2022).*

From this perspective, a future study as to the economic contributions of the University’s alumni would be highly relevant to fully document the total impact of the University of Alberta for the Province. As noted previously, it is envisioned that the University will also be undertaking a very similar study in the near future which would serve to augment the results of this current report.



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## Appendix A: Sudmant (2009) Method

In 2009, Walter Sudmant estimated the economic impact of the University of British Columbia.

### Percent local

For direct university spending in local economy, he adjusted factors with the following percent local:

Salaries & Benefits	98%
Building Construction	78%
Student Aid	100%
All other expenses	35%

" First, we must take into account the fraction of the spending which is local. In the case of staff salaries and benefits, virtually all of the spending results in local income. Much of the non-salary expenditure such as journals, books, equipment, etc. is of a specialized nature and not available in the local economy hence we estimate that only 35% of non-salary spending actually results in local income. Construction income is a special case. In one sense, nearly 100% of construction spending [by university] is local since construction is local by definition. However, construction materials are often not local, hence we apply a value-added ratio of .78 to total construction costs..." (p.9).

### Multiplier

As for the multiplier to estimate total impact (direct, induced, and indirect effects), Sudmant used 1.5 based on " In other similar studies done in the 1990's, multipliers range from 1.57 (University of Washington) to 2.34 (University of Wisconsin). The importance of the multiplier is not in the exact value, which varies with economic conditions and the nature of the local economy, but in illustrating the value of stable public spending in maintaining the level of economic activity, as well as in the quantification of the extent to which different sectors of the economy are interconnected through trade. The multiplier represents the flow through effects that university spending has on the rest of the economy. In an economy at full capacity, the marginal multiplier for the total economy is 1; no additional economic activity can be squeezed out of a fully engaged economy with public spending. But this is rarely the case; economic conditions vary cyclically, and stable public spending on highly productive activities results in a stable local economy, with a much better ability to recover from the inevitable cycle of economic booms and recessions. Hence one economic impact of a university is stability in the local economy." (p.10)