

DRAFT

**The Economic Impact of The University
College of the Cariboo on the Region:
5 Years of Growth**

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The Economic Impact of The University College of the Cariboo on the Region: 5 Years of Growth

Summary of Major Findings

Current Annual Impacts on the Region

- \$40 million in direct ongoing spending by UCC, including \$36 million in wages and benefits
- 1684 person-years of ongoing (direct plus indirect) employment
- in excess of \$96 million in ongoing (direct plus indirect) spending
- 1723 person-years of overall employment
- approximately \$100 million in overall spending

Cumulative Impacts on the Region: 1990/91 to 1994/95

- \$172 million in direct ongoing spending by UCC
- 7326 person-years of ongoing (direct plus indirect) employment
- \$417 million in ongoing (direct plus indirect) spending
- 8272 person-years of overall employment
- \$470 million in overall spending

The Economic Impact of The University

College of the Cariboo on the Region:

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I. Introduction and Summary

During the period 1990/91 to 1994/95, student enrolment (full-time equivalent) at The University of the Cariboo has risen from 3270 to 4855. The purpose of this study is to evaluate the resulting changes in the ongoing economic impact of UCC on the regional economy.

It is demonstrated that UCC continues to provide significant benefits to the region. In 1994/95 UCC is estimated to have directly injected \$40,167,000 in ongoing expenditure into the regional economy (TABLE I); this represents a significant increase from the estimated \$26,617,000 in direct ongoing expenditures for 1990/91.¹ Incorporated within the above injections for 1994/95 are 700 person-years of employment (full-time equivalent) and \$36,468,000 in wages and benefits.²

While substantial these figures significantly underestimate the importance of UCC's operations to the region for several reasons. First of all, these measures do not include an estimate of expenditures made by students. If not corrected this would represent a

¹ These totals include expenditures for items such as salaries and benefits, expendable supplies, library books and periodicals, telephone charges, etc.

² The corresponding figures for 1990/91 are 467 person-years of employment and \$24,336,000 in wages and benefits.

serious oversight because if UCC had been located outside the region, these expenditures would have been lost to the regional economy, i.e., student purchases of goods and services in the region are a direct consequence of their attending classes at UCC. When student purchases are accounted for, the cumulative five-year direct ongoing impact of UCC on the regional economy is increased to 5233 person-years of employment and \$298 million in expenditures (TABLES II and V).

It must be recognized that these figures incorporate only first-round impacts, and for this reason also understate the importance of UCC's operations to the region. Once multiplier effects are accounted for, this study finds UCC is currently contributing on an ongoing basis in excess of \$96 million in expenditure and 1684 person-years of employment to the region per annum; with five year totals of \$417 million in expenditure and 7326 person-years of employment (TABLES III and V).

Since the primary focus of this study is the ongoing economic impacts of UCC's operations, capital expenditures are not incorporated in any of the results presented above. Given that expenditures made on buildings, equipment and land by UCC in the region have averaged \$7,669,000 per annum for the last five years, the previously reported results will understate the true economic impact of UCC. When capital expenditures are accounted for, this study finds that UCC is currently responsible for approximately \$100 million in annual overall injections to the regional economy along with the associated 1723 person-years of employment (TABLES IV and VI). FIGURES I and II graphically illustrate UCC's overall regional financial and employment impacts, respectively.

Figure 1

OVERALL REGIONAL EXPENDITURE IMPACTS OF UCC

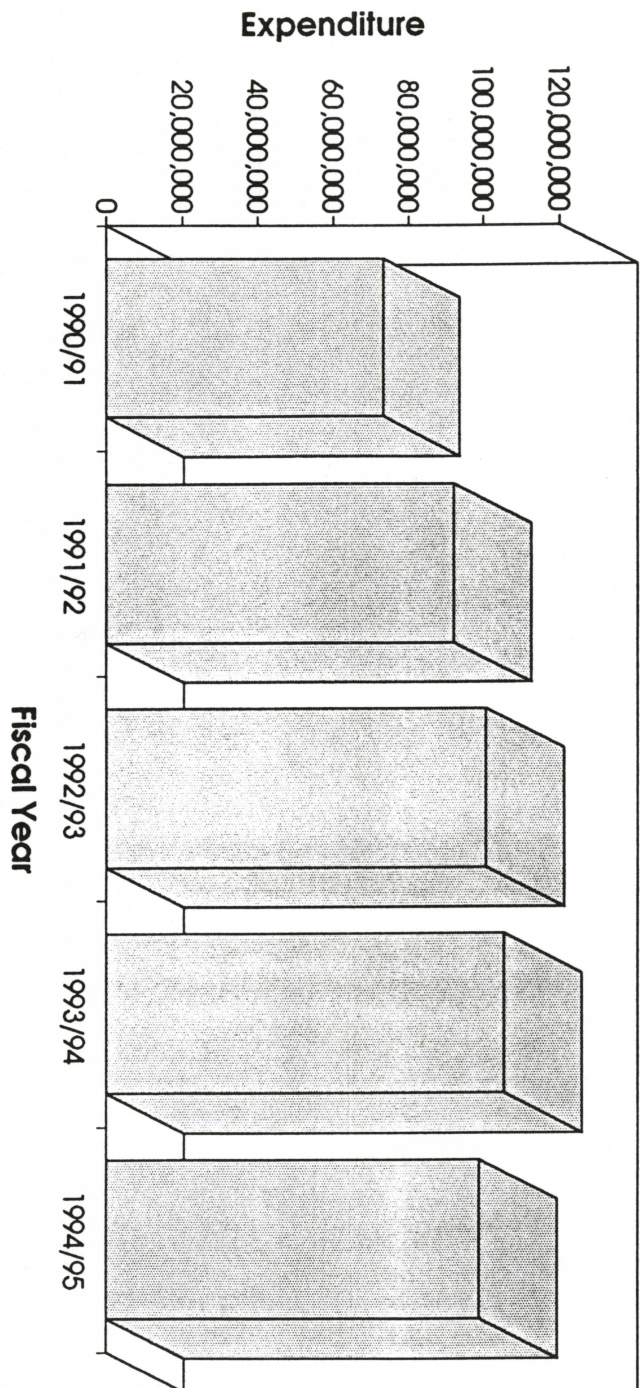
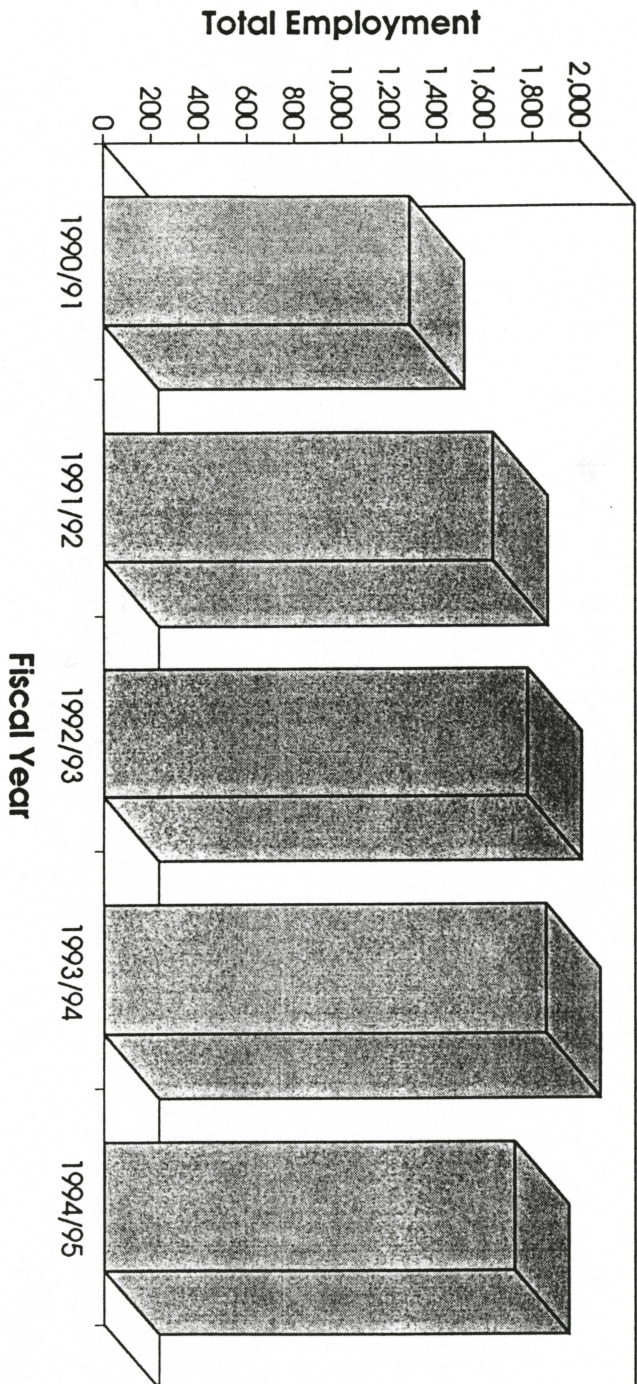


Figure II

OVERALL REGIONAL EMPLOYMENT IMPACTS OF UCC



The remainder of the study is organized as follows: Section II discusses the concepts which underlie economic impact studies. Once this is completed, the study then proceeds to an assessment of the economic impact of UCC on the region. Section IV offers conclusions.

II. Economic Impact Concepts

Economic impact studies attempt to provide measures of the importance of a firm or industry to the economy of a city or region. This focus is narrower than that of a benefit-cost study which would attempt to outline the best use of society's scarce resources.

To properly evaluate the regional economic impacts of The University College of the Cariboo, it is essential that both the direct and the secondary impacts of UCC's operations are accounted for properly. This is accomplished through the use of employment and expenditure/income multipliers.

Consider \$1000 spent on paper for UCC's photocopiers. A significant proportion of the funds will be used by the company supplying the paper to purchase goods and services which were 'imported' into the region, and to pay various taxes. A share, however, will be used to pay the salaries of the employees of the company. Suppose that 40% of the \$1000, or \$400, represents income to residents of the UCC region. Of course, part of the \$400 will be used to pay taxes, part will be used to purchase products from outside the region, but a portion will, once again, become income for other residents of the region. Suppose that the share which becomes income for other residents is identical

to that for the company. It follows that another \$160 will be added to the income of the region, and the cycle will begin again. With an initial increase in expenditure of \$1000 and 40% of expenditures at each stage becoming income for residents of the region, expenditure will ultimately increase by 1.67 times the initial increase. It follows that 1.67 is the value of the income/expenditure multiplier in this example.

The actual value of the income/expenditure multiplier will depend upon a number of factors: the degree of diversification of the economy and the proportion of goods and services purchased which are 'imported' into the region are two of the most important. For regions similar to that served by UCC, it is estimated that between one-fifth and one-third of expenditures at each stage becomes income for residents, leading to income/expenditure multipliers of 1.25 and 1.50, respectively. This study utilizes an income/expenditure multiplier of 1.40.

III. The Impacts of The University College of the Cariboo

A. Expenditures

TABLE I reports The University College of the Cariboo's direct ongoing expenditures made in the region on goods and services (including wages and benefits) for the period 1990/91 to 1994/95. During this period UCC has spent in excess of \$171 million, and is currently spending \$40 million annually.³

³ To avoid any bias resulting from price level changes, all dollar magnitudes reported in this study are measured in current dollar (spring 1995) terms.

TABLE I	
DIRECT EXPENDITURES BY UCC IN THE REGION⁴	
Fiscal Year	UCC Expenditure
1990/91	\$ 26,617,000
1991/92	32,260,000
1992/93	34,924,000
1993/94	37,612,000
1994/95	40,167,000
TOTAL	\$171,580,000

While substantial in their own right, these figures significantly underestimate the impact that UCC has had on the regional economy for a number of reasons. First of all, local expenditures by UCC's students are not incorporated in the above magnitudes. This would be an important oversight because student purchases of goods and services are a direct consequence of UCC being located in the region, and if UCC had been located

⁴ These figures (a) presume that all expenditures on wages and benefits represent injections to the region, and (b) are based upon an estimate that 25% of remaining ongoing expenditures are regional. Also, since this study is concerned with the ongoing economic impacts of UCC's operations, capital expenditures are not included in these magnitudes.

elsewhere these expenditures would have been lost. TABLE II reports that combined ongoing regional expenditures made by UCC and UCC's students are estimated to currently be in excess of \$69 million per annum; totalling nearly \$300 million for the last five years.⁵

TABLE II	
DIRECT ONGOING EXPENDITURES RESULTING FROM UCC BEING LOCATED IN THE REGION	
Fiscal Year	UCC + Student Expenditure
1990/91	\$ 46,044,000
1991/92	53,998,000
1992/93	61,640,000
1993/94	66,989,000
1994/95	69,010,000
TOTAL	\$297,681,000

⁵ The magnitudes reported in Table II are based upon the following estimates: (a) the expenses (not including the costs of tuition & other fees and books to avoid double counting) for a student living in residence are \$8160 for eight months, (b) the expenses for a student sharing an apartment are \$6400, (c) the expenses for a student living at home or with relatives are \$4400, (d) McGill Student Housing is fully occupied, (e) 50% of local students live at home, and (f) the remaining students share apartments.

An additional factor to be considered is the secondary impact of the expenditures reported in TABLE II. It is important to recognize that these expenditures represent only first-round effects. Recall that a portion of the payments to a regional firm will result in wages and benefits being paid to that firm's employees. A share of these dollars will, in turn, be used to purchase goods and services in the region, which will lead to the generation of additional income for the region, ... and so on. As was pointed out above, in this study an income/expenditure multiplier of 1.40 is utilized to capture these effects.⁶ Applying this multiplier to the results presented in TABLE II yields estimates of the combined direct and indirect ongoing contribution of UCC to the regional economy. Results of this exercise are reported in TABLE III: in excess of \$96 million per annum is currently being contributed to the regional economy on an ongoing basis as a result of UCC being located in the region, for a five year cumulative contribution of \$417 million.

⁶ An income/expenditure multiplier of this magnitude is consistent with those utilized in other studies.

TABLE III	
DIRECT PLUS INDIRECT ONGOING EXPENDITURES RESULTING FROM UCC BEING LOCATED IN THE REGION	
Fiscal Year	Expenditure
1990/91	\$ 64,462,000
1991/92	75,597,000
1992/93	86,296,000
1993/94	93,785,000
1994/95	96,614,000
TOTAL	\$416,754,000

Since this study's primary concern is the ongoing economic impacts of UCC's operations, capital expenditures have not been incorporated in any of the results reported above and for this reason they understate the true regional economic impact of UCC. It is of obvious importance, however, that the impact of capital expenditures on the regional economy be characterized. When the analysis underlying TABLE III is extended to include direct and indirect purchases resulting from expenditures on capital, a more accurate representation of UCC's overall impact on the regional economy is obtained.

TABLE IV reports the results of this analysis: UCC is responsible for a cumulative total of \$470 million having been injected into the regional economy during the last five years; with annual injections currently approaching \$100 million.⁷

TABLE IV	
OVERALL REGIONAL EXPENDITURE IMPACTS OF UCC	
Fiscal Year	Expenditure
1990/91	\$ 73,211,000
1991/92	92,210,000
1992/93	100,759,000
1993/94	105,424,000
1994/95	98,836,000
TOTAL	\$470,440,000

⁷ The figures reported in TABLE IV presume that 75 % of equipment purchases are made outside the region, while all remaining capital expenditures are made regionally.

B. Employment

TABLE V records ongoing employment (full-time equivalent) by The University College of the Cariboo along with ongoing regional employment resulting from student expenditures (Columns 2 and 3). Of course, for reasons discussed above these measures do not adequately characterize the employment impacts of UCC's operations.

UCC's purchases of goods and services from regional firms will result in employment for workers. These workers will spend at least a portion of their incomes regionally; resulting in employment for additional workers. It follows that it is necessary to use an employment multiplier to properly account for the secondary employment effects of UCC's operations. An employment multiplier of 1.40 is utilized in this study.

TABLE V reports that UCC currently has an estimated 700 ongoing employees (full-time equivalent); 503 additional jobs in the region are a direct consequence of student expenditures; while secondary effects are resulting in 481 jobs. Over the last five years a total of 7326 person-years of ongoing employment have resulted from UCC being located in the region.

TABLE V				
REGIONAL EMPLOYMENT IMPACTS OF UCC RESULTING FROM ONGOING EXPENDITURES				
Fiscal Year	Direct Employment ⁸		Indirect Employment	Total Employment
	By UCC	Resulting From Student Expenditure		
1990/91	467	341	323	1131
1991/92	571	385	382	1338
1992/93	616	471	435	1522
1993/94	662	517	472	1651
1994/95	700	503	481	1684
TOTAL	3016	2217	2093	7326

⁸ Data on salary expenditures for the various employee groups at UCC - along with typical full-time salaries for their members - was utilized to generate estimates for the number of UCC employees (full-time equivalent). These results were then utilized to generate estimates for average ongoing expenditure per employee; which, in conjunction with data on student expenditure, was then used to generate values for student-expenditure induced employment.

Since the ongoing regional economic impacts of UCC's operations are the primary focus of this study, the employment impacts of capital expenditures are not incorporated in TABLE V. As with the analysis of expenditures, however, ignoring the regional employment impacts of capital expenditures would be a fundamental oversight. TABLE VI reports the overall employment impacts of UCC on the region once expenditures on buildings, equipment and land are accounted for. On an annual basis, UCC is currently responsible for 1723 person-years of employment in the region.

TABLE VI			
OVERALL REGIONAL EMPLOYMENT IMPACTS OF UCC			
Fiscal Year	Direct Employment	Indirect Employment	Total Employment
1990/91	918	367	1285
1991/92	1166	466	1632
1992/93	1269	508	1777
1993/94	1325	530	1855
1994/95	1231	492	1723
TOTAL	5909	2363	8272

C. Credit Base Expansion

Under Canada's fractional reserve banking system a portion of deposits must be held as reserves, with the remainder representing the credit base of the institutions. When the credit base is expanded, these institutions are then able to respond by expanding their lending activities.

It follows that financial institutions in the UCC region - and the region itself - benefit from the deposits made by The University College of the Cariboo and its employees. For 1994/95 it is estimated that UCC maintained \$5,993,000 in deposits with financial institutions.⁹ Also, with UCC's employees earning approximately \$32.57 million in income during this period, it is estimated that approximately 8 percent of this amount, or \$2.61 million, was added to the credit base of regional financial institutions. In sum, an expansion of \$8.60 million in the credit base for 1994/95 is attributable to UCC and its employees.

VI. Conclusions

The last five years represent a period of wide ranging expansion for the University College of the Cariboo, with student enrolment (full-time equivalent) having increased from 3270 to 4855 during that period. While there have been increases in enrolment in all of the major program areas - Adult Basic Education, Apprenticeship,

⁹ This total includes cash and short term deposits.

Career/Technical, University Transfer, Vocational and University College - the growth in the University College degree programs has been particularly noteworthy. During the five year period, the number of students enrolled in the upper years of these programs has increased from 215 to 926.

With the increase in student numbers, there has been a corresponding increase in the economic impact of UCC on the region. In 1990/91 the University College's workforce was 467 ongoing employees (full-time equivalent), with \$24,336,000.00 in wages and benefits being contributed as a consequence to the regional economy. By 1994/95 this has increased to 700 ongoing employees and \$36,468,000 in wages and benefits. By one measure, UCC is currently Kamloops' third largest employer.

While these magnitudes are significant, they significantly understate the impact of UCC on the regional economy because they ignore both multiplier effects, and the impact of student expenditures and expenditures on capital. Once these are accounted for, UCC is currently contributing approximately 1723 person-years of employment and approaching \$100 million in expenditures to the regional economy per annum.

In conclusion, this study finds that the UCC continues to make important contributions to the region that it has been mandated to serve. Significant levels of employment and income have arisen out of the University College's operation, and it provides an important stabilizing influence to a regional economy that has historically been subject to significant economic fluctuations.