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Canada's Top 50 Research Universities List is a new publication in 2001. Using Statistics Canada data and our own Canadian University R&D Database, the Top 50 List reports on the sponsored research income of universities across the country.

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Research Means Business for Canada's Universities

Research Income Takes Big Leap

Canada's Top 50 Research Universities reported record levels of sponsored research income in Fiscal 2000 - nearly \$2.8 billion - an increase of nearly 24% over Fiscal 1999. The overall research intensity of Canadian institutions - sponsored research income per full-time faculty position - also reached all-time highs, rising over 23%, from \$69,600 in Fiscal 1999 to \$85,900 in Fiscal 2000.

The \$100 Million Club

For the first time, in Fiscal 2000, the 10 leading universities all reported sponsored research income in excess of \$100 million each. This compares with only 6 universities with \$100 million of income in Fiscal 1999. Joining RESEARCH Infosource's "\$100 Million Club" in Fiscal 2000 were Université Laval, University of Ottawa, University of Western Ontario, and McMaster University.

The Fiscal 2000 results reinforce the dominant position of the 10 leading universities, which accounted for 68% (\$1.87 billion) of Top 50 sponsored research income. This left 40 other universities to divide up the remaining 32% (\$895 million). All 10 leading institutions have medical schools and affiliated teaching hospitals; these institutions account for a large proportion of the universities' sponsored

research income.

Not surprisingly, \$100 Million Club universities also record high levels of research intensity in Fiscal 2000. The 10 schools had an average research intensity of \$126,000 per full-time faculty position, compared with \$85,900 per capita for the Top 50 institutions as a whole. Top 10 universities' research intensity greatly exceeded the per capita average for the other 40 institutions, which was \$51,600.

Provincial Totals Vary Markedly

There is considerable variation in sponsored research income results when viewed from a provincial

Top 50 - Leading Provinces

Province	Sponsored Research Income (% of total)
Ontario	38
Quebec	30
Alberta	12
British Columbia	8



perspective. Sixteen (16) Ontario universities reported over \$1 billion of sponsored research income in Fiscal 2000, which accounted for 38% of all Top 50 income. Next were 13 Quebec universities, which shared 30% of the total (\$815 million). Alberta's 3 universities - led by University of Alberta and University of Calgary - put that province in 3rd place, with 12% of the Top 50 total. British Columbia's 4 universities managed to grab 8% of total research income.

Gainers and Losers

In an outstanding year for Top 50 university research income, several institutions reported much higher than average gains. While all-university income rose about 24% in the year, 24 institutions exceeded the average, while 8 institutions reported lower amounts

of sponsored research income in Fiscal 2000 than in Fiscal 1999.

Together, Nova Scotia's six institutions reported the largest jump in sponsored research income in Fiscal 2000 - nearly 68% over Fiscal 1999, compared with the Top 50 average growth of about 24%. Saskatchewan's 2 universities also fared well; their research income leapt almost 42%. Income growth in 6 provinces - British Columbia (19.6%), Alberta (20.8%), Manitoba (14.4%), Ontario (20.4%), New Brunswick (6.5%), and Newfoundland (21.9%) - was less than the Top 50 average. The only

province whose university did not advance its

position was PEI, where UPEI's reported sponsored research income declined 24%, from an already-low level (nearly \$3 million in Fiscal 1999).

Some Surprises in Research Intensity

Research intensity - research dollars per full-time faculty position - averaged nearly \$86,000 for the Top 50 universities. This was up from \$69,600 in Fiscal 1999, an increase of 23.4%. Led by McGill (\$177,000), Montréal (\$154,000) and Alberta (\$151,000), 14 institutions posted per capita gains in excess of the average, while 36 institutions had below average increases in per capita research income.

In Fiscal 2000, sixteen (16) universities with medical schools had research intensity of nearly \$112,000 per faculty position, versus only \$42,000 per capita for institutions that had no medical faculty. This indicates the importance of medical schools and affli-

Top 10 Universities Ranked by Research Intensity

2000 Overall Rank	University	Research Intensity (\$ per Full-time Faculty) (\$000)
3	McGill University*	\$177.0
2	Université de Montréal*	\$154.1
4	University of Alberta*	\$151.3
11	University of Guelph	\$150.4
1	University of Toronto*	\$134.2
8	University of Ottawa*	\$121.7
10	McMaster University*	\$117.6
5	Université Laval*	\$112.4
12	Queen's University*	\$111.9
7	University of Calgary*	\$104.4
	Top 50 Average	\$85.9

* - has a medical school Note: Top 10 list only includes full service universities

ated teaching hospitals to a university's results.

One exception to the medical school phenomenon is Guelph University. Although it lacks a medical school - at least of the human variety - Guelph was in 4th place in research intensity (\$150,000 per capita) among all universities. In fact, some observers comment that Guelph's strong animal health research program is comparable to the human health research at other institutions.

Viewed from a provincial perspective, Alberta universities together captured top spot in research intensity in Fiscal 2000. Three Alberta institutions recorded per capita sponsored research income of nearly \$117,000. The Alberta result was comfortably ahead of Quebec's 13 institutions, which together recorded per capita research income of close to \$108,000. Next on the list was Ontario, where 16 institutions managed a research intensity of nearly \$87,000, which was considerably below that of the 2 leading provinces. The strong Alberta showing was influenced by the fact that 2 of the province's 3 universities have medical schools (and affiliated research hospitals). In Quebec, only 3 of 13 institutions have medical schools, but the province's universities nonetheless ranked high. Five (5) of 16 Ontario universities also have medical schools, but their research activities could not compensate for lower research intensity at other institutions.

The Large versus Small Debate

The dominance of the 10 leading institutions adds fuel to the capacity-reinforcing versus capacity-building debate that is under way within the university research community. On one side are those who

argue that Canada's leading institutions need to be reinforced so they can compete for talent with the best schools in the US. On the other side are those who argue that research capacity needs to be improved at all institutions.

At first glance, the first round in the debate has been won by the large institutions, whose share of Top 50 sponsored research income in Fiscal 2000 was 68% of the total. Even though 40 smaller institutions had to share 32% of sponsored research income, smaller institutions have also done well, increasing their year-on-year research income by 23%, which is still a healthy result.

Similarly, research intensity among the 10 largest institutions grew by 11.9%, on a very large base of income.

In contrast, research intensity at smaller institutions leapt nearly twice as much, by 21.8%, albeit from a lower base. Nevertheless, smaller universities achieved impressive results.

Also contributing to the large apparent increase in Fiscal 2000, was a consolidation by most universities of research income recorded by their affiliated teaching hospitals. In Fiscal 2000, most universities reported hospital research income as well as income from other affiliated institutions. As a result, 16 universities with a medical school accounted for fully 82% (\$2.3 billion) of all sponsored research income at Canadian institutions. The remaining 34 universities shared only 18% (\$509 million) among them.

It would appear, therefore, that the rising tide of research funding has allowed both sides to claim victory in Fiscal 2000. Large institutions maintained their share of the pie, but because the pie was growing rapidly, smaller institutions also benefited and grew their research intensity accordingly.

What does the Future Hold?

Fiscal 2000 marked a turning point for Canadian university research. Following a decade of downsizing and budget cuts, new funds began to flow into research - both for infrastructure (facilities and equipment) and for direct research support. Federal and provincial largesse was responsible for the dramatic rise. So too was strong growth in non-government sources of research income - industry, non-profit organizations, and individuals. The challenge for the university sector is to consolidate past gains and make good on its promise of delivering a return on Canadians' investment in research.

