

## Stop Neglecting Research A. W. Johnson

### ***It is vital that governments and the private sector put more resources into university excellence and especially into research***

To discuss the financial well-being of research in Canada's universities is a bit like talking about the medical state of an old friend who has in fact become seriously ill while his doctors are publicly debating which of them is responsible for what they regard as a threatened deterioration in his health. That is the effect of the federal-provincial controversy over the financing of postsecondary education.

The health of the research function in the universities depends upon three conditions:

- First, the health of the universities themselves, as a home for and a generator of research.
- Second, the relative priority being accorded to research in universities, and the presence or absence of incentives for increasing its funding.
- Third, the emergence of centres of excellence—some of them world-class in stature—which both reflect and reinforce the health of the research function *per se*.

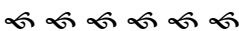
The universities are the soil in which research is planted and in which it will, or will not, flourish. The financing of the universities' core operations is therefore of no small importance to research. Canada's universities spend, on operations, some \$5.3 billion a year (1984-85 data). Of this, \$4.5 billion is devoted to the core operations, to instruction and to the associated, or cognate research done by university instructors. The balance, \$800 million, is directed to research which is sponsored by research granting councils, by business, or by government.

It is evident from these numbers that the research being done by professors as part of their continuing university work, and being financed out of general university budgets, is bound to be larger than that which is financed out of the special grants from particular sponsors. This would follow even if only one third of the time of the faculty were devoted to research, and I'm satisfied it's better than that.

But the financing of the core operations of Canada's universities has, in the past few years, been a sorry story. From 1977-78 to 1984-85 government grants to universities and colleges—the principal source of their funding—rose by only 2.5 percent, in real terms, while enrolment increased by 27 percent in the universities, and by 36 percent in the community colleges.

To appreciate the significance of this, one must recall that 80 percent of university and college funding comes from government. Only 14 percent comes from tuition fees, and 6 percent from other sources.

The provincial governments—the governments which directly support universities and colleges—have been seriously reducing their support of these institutions, on a real, per student basis. This decline in support presumably reflects the low priority which most of the provinces have accorded to higher education, and, inferentially, to research, in the past few years. But the decline in provincial support is also the consequence of defective federal-provincial fiscal arrangements under which the government of Canada contributes to the financing of universities and colleges. It used to be, from 1967 to 1977, that the federal fiscal transfers for postsecondary education were tied to the levels of provincial support to universities and colleges, albeit indirectly. That was the



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effect of the measures that the Pearson government proposed to a federal-provincial conference in 1966. They reflected the spirit of the Gordon Commission report of 1957, which said: *no government which bears any share of responsibility for the future economic development of this country can allow a solution to the pressing problems of Canada's universities to go by default.*

The government of Canada undertook to pay to the provinces, on behalf of the universities and colleges, 50 percent of the operating costs of all accredited post-secondary institutions. That meant a larger federal contribution towards these operating expenses than the provinces themselves were making.

No conditions were attached to the federal transfers: it was unequivocally clear that the government of Canada had no intention of meddling in the provincially-directed educational systems. But it was clear, at the same time, that the arrangements provided to the provinces a powerful incentive not only to pass on to the universities and colleges the full amount of the federal fiscal transfers, but also to maintain their own levels of provincial support. For if they were to do otherwise, the operating expenditures of universities and colleges would decline, and this would trigger a reduction in the federal fiscal transfers to the provinces for universities and colleges.

This single, and simple, arrangement replaced all the previous measures for the funding of the core operations of post-secondary education institutions. The funding of sponsored research at Canada's universities, on the other hand, continued to be the responsibility of Canada's research granting councils (the Canada Council and the National Research Council).

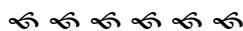
There was a good deal more to the 1967 rearrangements than this. There was the creation of a federal Adult Occupational Training Program for the training of adults. There was the equalization, by the government of Canada, of all provincial revenues, to the national average, to ensure that every provincial government was able to finance adequate public services, without excessive taxation—including adequate provincial grants to universities and colleges.

The achievements of the 1967 arrangements were truly remarkable. Enrolment in universities and colleges more than doubled in ten years. It more than responded to the postwar baby boom. The proportion of young people able to take advantage of university or college education rose from an estimated 8 percent of the 18-24 year age group in 1960, and 11 percent in 1965, to 16 percent in 1975.

On the constitutional front, the 1967 arrangements were accepted by all ten provinces, rendering unnecessary any special status for Quebec. A way had been found for giving expression to the national interest in higher education, without in any way infringing on the exclusive jurisdiction of the provinces over education.

This is what renders utterly incomprehensible, to me, the decision of the Trudeau government, ten years later, to abandon the post-secondary education financing arrangements.

There had been, it must be said, some harbingers of potential problems. On the fiscal front, the federal transfers for higher education rose at a phenomenal rate for the first five years—an average of just over 20 percent per annum. But it did, after all, cost something to accommodate double the number of students (476,000 full-time students in 1970-71, compared with 274,000 in 1965-66). When enrolment increases began to flatten out, so did the increases in fiscal transfers. After 1970, indeed, the increases were actually below the 15 percent ceiling the Ministry of Finance clamped on them in that year.



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What the Trudeau government did in 1977, however, was to sever the tie between the federal support for postsecondary education and the level of provincial and other support to universities and colleges. It committed itself to annual increases in its fiscal transfers regardless of what the provinces did to support universities and colleges.

The size of the annual increase guaranteed by the federal government certainly reflected the high priority that it continued to attach to higher education: the increase was to be the growth in the GNP and population. But this priority had become irrelevant, because the fiscal transfers were no longer dedicated to the university and college sector. They were unconditional. The 1977 Act—the Established Programs Financing Act (EPF)—might better have been called the "No Purpose" Federal Fiscal Transfers Act, 1977.

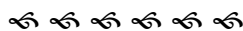
The consequences were predictable. The rate of growth in provincial support for universities and colleges slowed down, to about two percentage points below the growth in the federal fiscal transfers, and the proportion that the federal fiscal transfers represented of provincial operating grants to universities and colleges accordingly rose, from 70 percent in 1977-78 to 80 percent in 1984-85. (I am speaking here, of course, of the part of the fiscal transfers nominally designated in the EPF Act as being for post-secondary education). This shift in proportion is substantially accounted for by six of the ten provinces: British Columbia, Newfoundland, Manitoba, Ontario, Alberta and Saskatchewan (in that order).

The provinces had done nothing improper: the law was designed to enable them to spend the (now) \$4.5 billion fiscal transfer however they wanted. But the numbers reveal how sharply the provinces reduced their priority for higher education, once the linkage had been removed between what they contributed to universities and colleges, and what they received from the government of Canada for post-secondary education.

When the provinces responded to the EPF Act by reducing the growth in their grants to universities and colleges, the Trudeau government responded in kind, by cutting the growth in its PSE transfers to the provinces—to six percent in 1983-84, and five percent in 1984-85. The Mulroney government has followed suit. Finance Minister Wilson announced in his first budget his intention of cutting \$2 billion from the fiscal transfers to the provinces, a cut to be realized by 1990. The target of the cut is the transfers for health and post-secondary education. How it will be divided between the two is uncertain, but it is not pessimistic to predict that at least \$1 billion will fall on post-secondary education. If that cut is passed on to the universities and colleges, it is equivalent to a doubling in student tuition fees.

The federal and provincial reductions in the priority given to Canada's universities and colleges have been devoid of any apparent rationale. They weren't based on declines in student enrolment. On the contrary, while the support rose by only 2.5 percent, in real terms, from 1977-78 to 1984-85, enrolment increased by 27 percent in universities and 36 percent in colleges. Can anyone wonder at the rise in student/faculty ratios and the decline in laboratory and library and other services?

Nor were the cuts based on any measure of the universities' and colleges' capacity to increase their "efficiency": no one would seriously believe that cuts amounting to billions, on a real, per student, basis, could be sustained by achieving greater efficiency out of budgets amounting to less than \$7 billion.



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Nor were the provincial and federal cuts in support to post-secondary education based on a plan, or on plans, to shift a part of the burden of financing universities and colleges from the taxpayers, generally, to the students. No such plan was announced; nor were plans made to reform student assistance so as to protect accessibility in a system in which substantially higher tuition fees were planned.

No, what has been happening has been a haphazard erosion in the financing of universities and colleges. The "No-Purpose" Fiscal Transfers Act has contributed to "no-stated purpose" reductions in the real, per-student, budgets of universities and colleges. Which means, of course, that, the capacity of universities to do research out of core financing has declined. And it means, too, that the health and vitality of universities as a home for sponsored research has been sapped. The question is whether this drift can be arrested, particularly given the most recent reductions promised by the government of Canada in its fiscal transfers. In particular, is there any possibility of re-linking the federal fiscal transfers to the level of provincial grants to universities and colleges?

I made a proposal for that purpose in my 1985 Task Force report to the Secretary of State. It is that federal fiscal transfers for post-secondary education should be increased at the same rate as the provinces increase their operating grants to universities and colleges. This would be done province by province. There would be a ceiling on the increases in the federal payment, namely the GNP and population increase which is already in the Act.

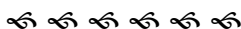
This simple change would not only restore to the arrangements a national purpose, it would also restore to the provinces an incentive to keep pace, in their grants to universities and colleges, with the GNP and population rate of increase. And what an incentive it would be! Out of every dollar of increases in provincial grants, an average of 80 cents would be contributed by Ottawa.

The provinces, however, did not support this recommendation. They preferred to risk taking a further cut in their "no purpose" fiscal transfers, rather than to restore some educational purpose to them. They soon will be paying the price of taking that risk, since the effect of further negotiation has been simply to confirm Ottawa's intention of cutting \$2 billion in the federal fiscal transfers for health and post-secondary education.

The government of Canada, it must be said, also shows no disposition to restore some national purpose to its fiscal transfer by reintroducing an incentive to the provinces to maintain a high priority on spending for that engine of economic growth called higher education. By implication, at least, the government seems to accept the view of provincial Ministers of Education that the Parliament of Canada has no right to give expression to any national interest in university and college education. Provincial governments represent provincial constituencies, but it now seems to be assumed that, because the constitutional right to legislate on education is in their hands, the federal Parliament cannot use its constitutional spending power to assure the national interest in the dimensions of provincial programs.

The destiny which has been charted for higher education in Canada is that the priority the provinces attach to it will determine the operating expenditures of the universities and therefore their health as a home for, and a generator of, research.

In that case, the issue for the Parliament of Canada, from here on, will be simply the extent of its support for sponsored research in the university setting.



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The story of the priority which now is being accorded by governments to university-based research is not much happier than is their record for supporting the core operations of universities. The approximately \$800 million a year now spent on sponsored and contract research is financed roughly as follows: 60 percent is contributed by the Parliament of Canada, some 20 percent by the provinces, and 20 percent by the private sector. Of the \$500 million, or so, which is voted by Parliament, some \$85 million is spent by government departments for contract research and \$415 million reaches the universities through the research granting councils (the Natural Sciences and Engineering Research Council, the Social Sciences and Humanities Research Council, and the Medical Sciences Research Council). They are thus responsible for over one half of the sponsored research being done in Canada's universities.

In the period 1975-76 to 1985-86, the proportion of the GNP devoted to council-sponsored research began at .08 percent, and ended at .09 percent. It remained rather drearily small. The significance of this is all the more apparent in the context of Canada's total expenditures on research and development. They amount to 1.22 percent of the nation's GDP (in 1981), compared with 2.52 percent for the USA, 2.49 percent for West Germany, 2.38 percent for Japan, 2.23 percent for Sweden, and 1.97 percent for France. I repeat: 1.22 percent for Canada.

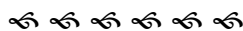
We cannot live that way. My proposal for initial change, made in the Task Force report, is modest. It is, first, that there be an immediate, if a moderate, shift in the relative priority being accorded by government to research in Canada's universities. Specifically, I suggest that \$250 million be diverted from the \$4.5 billion in federal fiscal transfers for core operations, and used to finance the overhead costs of the research being funded by the granting councils.

Second, I propose that a higher priority be attached to the support of the granting councils, on a continuing basis. Specifically, I suggest that the appropriations of all councils, combined, be increased each year by 1.5 times the rate of increase in the GNP. Given the starting point—the .09 percent of the GNP being devoted to federal support for the granting councils—this is a modest recommendation. But so far there has been no clear response to it, or to other recommendations of the same genre.

This is the terrain of research in universities. It is a terrain which seems largely to have been forgotten, despite all the talk about the imperatives of R and D in an internationally competitive world. Governments have been full partners in this forgetfulness.

The one certainty which seems to emerge from the story of public sector financing of Canada's universities is that, willy-nilly, the role of the private sector will in the future become more and more important in assuring the well-being of research in Canada's universities. The private sector is being thrust into, or pressed into, a position of leadership. And this leadership, I would hope, will involve not only a larger role in the financing of research, but also a key role in the development of centres of excellence—the third of the three conditions for a healthy research function in Canada's universities.

The vitality of the research function depends, in the final analysis, not only on money, but also on the relevance of the research to the economy, and the society. And its vitality depends, too, upon an implicit and an insistent, ethos of excellence. The quest for relevance and the quest for excellence are as important to research in Canada's universities as is the quest for money. And if there is one single confluence, or centre, for all three quests, it surely must be in the private sector.



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This is not to say that we should give up on the public sector: on the contrary, it must continue to play a key, and increasing, role. But it is to acknowledge that there are other pulls upon government than excellence and relevance. There is the pull of distributional equity—inter-regional and interpersonal equity—and there is the pull of political relevance, both of which compete with the imperatives of greater productivity and growth. Which means one must look to other forces to reinforce the quest for excellence, and so one is led to the private sector.

It is industry which, as it increases its support of university-based research, will automatically advance the quest for relevance. It is industry which, as it asserts a greater role in research, will most naturally be likely to press for a concentration of resources, and thus to contribute to the creation of more world-class centres of excellence.

This is the counter-response which is required if we are to achieve a happier equilibrium in Canada between accessibility to our universities and excellence within them. To achieve this counter-response we will need not only more leadership from the private sector but also a more explicit partnership between that sector and the public and the university sectors.

That is what I had in mind when I proposed, in the Task Force report, the creation of a blue-ribbon committee, representing all three sectors, to recommend to the government of Canada a vehicle, or vehicles, for the funding of a select number of world-class centres of excellence. I regard that recommendation, unambitious as it may sound, as being fundamental to the future.

What this whole story comes down to, for the years ahead, is a substantial realignment of responsibilities for the financing of research at Canada's universities. The provinces will be responsible for the financing of the core operations of the universities, and thus for the general health of the institutions in which much of the research in the country will be done. The government of Canada will be largely responsible for the public sector financing of sponsored research at the universities, with the private sector assuming, hopefully, a larger and larger role. The achievement of excellence, in turn, particularly world-class centres of excellence, will require leadership on the part of the private sector, along with an effective partnership between it, the government of Canada and the universities themselves.

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