

FUNDING FRAMEWORKS

Understanding the methods used to finance post-secondary education in Canada



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TABLE OF CONTENTS

I. EXECUTIVE SUMMARY	2
II. FORMULA FUNDING	3
What is a Funding Formula?	3
The Importance of a Funding Formula	4
The Benefits of a Formula	4
Non-Formula Approaches	4
III. BACKGROUND INFORMATION ON UNIVERSITY FINANCING IN CANADA.....	5
Undergraduate Student Tuition	6
Economic Issues/Components of University Financing	6
Existing Market Failures	6
IV. FUNDING SCHEMES	7
Enrolment-based Funding	7
<i>Corridor mid-point enrolment scheme</i>	7
<i>Staff-based formulas</i>	8
Lump Sum Funding	8
<i>Incremental/historical funding mechanisms</i>	8
<i>Strategic funding mechanisms</i>	8
Non-competitive strategic funding	8
Competitive (initiative) funding	9
Envelope Approach (output-based) Funding	9
<i>Performance Incentives</i>	9
<i>Alberta</i>	10
Contractual Targets	10
V. FUNDING SCHEMES BY PROVINCE	11
British Columbia	11
Alberta	11
<i>History</i>	11
Saskatchewan	12
Manitoba	12
Ontario	12
Quebec	13
Newfoundland and Labrador	13
New Brunswick	13
Nova Scotia	13
Prince Edward Island	13
VI. POLICY SUGGESTIONS	14
VII. REFERENCES	15

I. EXECUTIVE SUMMARY

A funding formula is an allocation device used to allocate base or core funding. They do not solve irregular problems, such as employment equity, nor do they provide direct funding to areas of particular interest to a government.

This report examines the four general means by which funding is allocated to university institutions, especially in Canada: enrolment-based funding, lump sum funding, output-based funding, and those based on achieving contractual targets.

Almost all of the provinces use more than one type of funding mechanism and the majority of the funds are delivered to institutions as incremental funding or allocated by formula.

A few recommendations arise:

- Provinces should adopt a multi-year perspective;
- An environment should be created where private giving and the entrepreneurial activities of institutions is solely to provide a “margin of excellence”;
- The overarching principles should be assessed carefully;
- An optimal policy would increase quality or enrolment while holding the level of overall university funding constant, not a funding rule that depends solely on the enrolment levels;¹
- The funding mechanisms should be few and simple;
- The institutions should work in collaboration with the provincial governments to establish an acceptable joint response;
- Furthermore, the government should use valid, reliable data.

II. FORMULA FUNDING

In essence, formula funding links resources mathematically to an institution's characteristics. For instance, the size of the student population.²

However, it is not necessarily a scientific formula. Rather, a funding formula has no one "correct" mathematical relationship. Instead, it represents the judgments of those who create it.

What is a Funding Formula?

A funding formula is a formally defined procedure that is based on data and can be manipulated according to predetermined variables. These variables are factors used to determine funding requirements for a system of universities or to allocate funding to individual institutions within a system, or both.³

They are allocation devices, meaning the total amount of government funding in the Post-Secondary Education (PSE) sector is set by government and not driven by the funding mechanism.⁴ It is important to distinguish the role of a funding formula in the *allocation* or *distribution* of funding as opposed to its role in *determining the level* of funding.⁵

The fact remains, however, that government sets the actual level of funding based on many factors that include cost pressures, changing government priorities, the state of the economy, and accordingly, the state of government finances. A formula is an allocation device. However, the way it is designed can have guiding effects on the institutions receiving funding. Therefore, funding formulas are an instrument of government policy.⁶

The focus for institutions and governments alike, before the 1970s, was to increase enrolment and capacity – to attract more students into universities. Thus, much of the funding was in the form of enrolment-driven operating grants. The more students the institutions attracted, the more funding they received.

After 1976 though, student enrolment began to slow down, and the focus shifted from growth-related concerns to equity concerns, such as accessibility. In Alberta, the enrolment-driven grants were converted into base operating grants.

This transition demonstrates that the funding of PSE both reflects and shapes the policy concerns of government as well as the realities of the economic and social climate.

In 2003/4, approximately 70 percent of total PSE operating grants were allocated using formulas, the most important component being the Full-Time Equivalent (FTE).⁷ FTE is a unit indicating the workload of a student in a way that makes workloads comparable.⁸ It is used by six provinces, five of which use them to distribute the majority of their operational grants – Alberta, Nova Scotia, Ontario, Quebec, and Saskatchewan. All of the formulas are based on FTE enrolment numbers weighted by type of program (type of course in Nova Scotia), and usually by level of study.⁹

The Importance of a Funding Formula

Governments tend to focus on the goals of funding – to improve access or quality, for example – but little is said about how the money is distributed to the institutions or how these funds relate to other resources such as tuition.

Formula financing is an attempt to level the playing field with well-defined rules so that the relevant institutions can effectively plan in order to achieve its objectives in an efficient manner.

The majority of current provincial funding mechanisms in Canada for PSE receive a fixed share of government spending, delivered as block funding or incremental funding mechanisms. This is a poor method of meeting the goals of quality, accessibility, and responsiveness to labour market needs, if those are factors under consideration.¹⁰

These methods are remnants of an era where the main goal of government was to ensure adequate funding to keep pace with the growth of universities. However, as a whole, these current mechanisms are a result of bargaining process, historical developments, and bureaucratic forces, as opposed to a desire to maximize the value of provincial funding.¹¹

The Benefits of a Formula

It is no secret that funding for public universities is becoming increasingly scarce in Canada. As such, there are greater demands for clearly equitable means of allocating scarce funds. Though no formula can solve the problem of inadequate funding, its basic challenge is to serve as a means to strike a fair and equitable balance.¹²

A funding formula helps to reduce lobbying and political influence while promoting and protecting institutional autonomy.

If the government's goal is to increase competition between institutions, then a level-playing field is a necessary precondition to achieving such an environment.

Nonformula Approaches

Jurisdictions that do not rely on formulas have several approaches to funding. Some aspects of the budget process rely on quantitative (though not formula) approaches, while others are more subjective.

For instance, nonformula jurisdictions typically rely on incremental budgeting, with the “base budget” as their starting point. Meaning, each institution's current budget is assumed to be available for the next year's operations, along with any approved adjustments.¹³

III. BACKGROUND INFORMATION ON UNIVERSITY FINANCING IN CANADA

Universities receive funding from a wide range of sources such as governments, students, private donors, corporations, investments, and the provision of services.

They receive funds from the government (in the form of operating grants) and students (in the form of tuition), which are primarily used to support core operations. The past two decades has seen those monies subject to more “earmarking”, consequently reducing an institution’s discretionary funding.

In many provinces, the core operating grants have been the subject of cut-backs, freezes, or severely limited increases, and if the provincial government does choose to provide additional funding, it is likely in the form of earmarked funding for specific purposes.¹⁴

Traditionally, government has been the major source of funding for PSE in Canada.¹⁵ Though this is still the case, Canadian universities are relying increasingly on private funds from tuition fees and other sources and less on public funds.¹⁶ During the 1990s, fiscal restraints were introduced and education funding was reduced.¹⁷ Provincial governments leaned in the direction of a user-pay philosophy, as evidenced by increasing the share of funding that came from student tuition fees.¹⁸

Provincial funding is a function of many factors, such as the state of provincial finances, competing interests, changing demographics, and of course, politics.

There are a number of note-worthy trends in PSE financing:¹⁹

- Allocation mechanisms have become more complicated and are increasingly used to “steer” results;
- The regulatory environment has become more complex, especially where government has attempted to introduce more competition and market principles;
- There is a heightened interest in accountability, which has led to increased audit requirements and additional reporting. There is emphasis on compliance rather than outcomes;
- Access has generally increased, but this was the direct result of governments more recently acknowledging the importance of increasing capacity;
- Provincial governments are beginning to internalize concerns about quality, though many views of “quality” exist.

Undergraduate Student Tuition

Now, tuition income accounts for at least 30 percent of *operating* income nationally, compared to roughly 16 percent in 1990 – the proportion has doubled.²⁰

The major increase in tuition in the 1990s is a result of two factors. First, it is a reaction to cutbacks in federal transfers. Second, it is an experiment to move towards a more market-based approach in financing higher education. When the funding source categories (government and “own source”) are broken down into their components, it is evident that the funding burden has shifted from the state to individual students.²¹

Economic Issues/Components of University Financing

In the late 1970s and 80s, approximately 80 percent of universities’ operating expenditures and more than 90 percent of college operating expenditures were funding by the provinces. This was beneficial to meet a wide range of objectives, specifically to expand the PSE system.

The primary rationale for government financing is to ensure the equity and efficiency in the PSE system.

Equity is achieved when students of the same abilities enjoy the same access to university education.

Efficiency requires that at the margin, social benefits (of the private and the public) of pursuing higher education are equal to the social costs.²²

Existing Market Failures

There is a failure in capital markets – if there was no financial support from government, many, if not most, students would be unable to obtain a post-secondary education, even if they are qualified. In such a situation, students cannot afford expenses nor can they afford to not work (the opportunity cost). Furthermore, they generally lack collateral and are not eligible for bank loans.

Universities produce a wide range of positive externalities, such as research that has spin-off effects, or the day-to-day impacts of a more knowledgeable citizenry. Theoretically, markets will produce too little of any activity that generates positive externalities. Thus, public funding is needed to ensure a socially efficient outcome.

IV. FUNDING SCHEMES

The structure of funding schemes in various parts of Canada, and Europe, fall into four general categories: funding based on **enrolment, lump sum funding, output-based funding, and funding based on contractual targets**.²³

Enrolment Based Funding

This is a relatively popular scheme, which allocates a sum of money per student in order to cover the costs associated with each student. It is quite prevalent in North America. While most enrolment-based policies are founded on a single unit (one student in one course) there are other versions. For example, enrolment can be weighted by program, degree level, disciplinary sector/group, or geographic location.²⁴

It provides a certain amount of money per student in a given program at a given level. However, this policy is quite naïve in maintaining a constant level of funding per student. These formulas are responsive to demands for access, since they assume a linear relationship between enrolment and costs. However, this is appropriate for an established but still growing university.

It overlooks the incentives the policy provides for universities – it encourages institutions to increase recruitment efforts as a way to increase revenue. When universities compete for the same students, this can generate social losses.²⁵ Therefore, this leads to an inefficient allocation of resources by universities. Furthermore, a government should not simply provide funds based on a linear function of students enrolled in each establishment. This does not take into account quality of teaching or research.

Five provinces rely on enrolment levels as their main indicator to determine transfers. The others rely mostly on unconditional transfers.

Corridor mid-point enrolment scheme

From 1993 to 1999, the PSE sector in Ontario had different enrolment patterns between universities and colleges. University enrolment declined and then increased in 1999. The funding mechanism provided no incentive to grow, seeing as the institution's share of provincial operating grants remained the same as long as enrolment stayed within +/- three percentage points of the "corridor mid-point".²⁶

Colleges, on the other hand, grew by approximately 20,000 students. The funding mechanism in this case was based on a three year moving average. Thus, institutions could collect a greater share of the provincial operating grant "pie" if enrolment increased. For instance, as the size of the pie decreased, the overall college enrolment increased since they tried to get a bigger share.²⁷

The corridor approach creates upper and lower levels in the allocation of funds.

Staff-based formulas

Similar to the enrolment-based formulas, this is founded on a single unit: one full-time academic appointment that can also be weighted by a number of factors, such as program, degree level, etc. This emphasizes academic program planning.²⁸

Lump sum funding

Lump sum funding encompasses general and particular transfers that a university might receive for a given facility in the university.²⁹

Incremental/Historical Funding Mechanisms

In these cases, the amount of institutional funding allocated in a year is based on the amount allocated in the previous year. Each institution receives approximately the same percentage increase or decrease in operating funds in a particular year.³⁰

They are popular for their administrative simplicity, and from the institutions' perspective, it is the least intrusive way in which to deliver funds. It is the dominant funding mechanism for four provinces: British Columbia, Manitoba, New Brunswick and Prince Edward Island (as well as the college system in Saskatchewan).³¹

On the other hand, it does nothing to create incentives to improve performance, which is likely why governments are less amenable to using this approach.

They primarily take the form of block grants, which were provided from the federal government to the provinces since the 1960s. This formula is designed to produce a reasonably equitable distribution of basic university income. The formula weights do not reflect the differences in costs but it is a relatively simple income producing method.³²

Strategic Funding Mechanisms

These are usually undertaken to increase the number of spaces in particular areas, like health and computer sciences. They are helpful in some instances but do not address the underlying labour market rigidities that cause the problems in the first place.³³ Rather, this mechanism reflects the assumption that provincial governments have the ability to accurately coordinate resource allocation in the PSE system.

The provinces of Alberta, British Columbia, Manitoba, Nova Scotia, Ontario, and Saskatchewan allocate a portion of total grants through strategic funding mechanisms. They are used to expand the number of spaces in high-priority and emerging fields of study. Eventually, these tend to be rolled into the base operational grants, and are therefore incorporated into future block funding levels.³⁴

Non-competitive strategic funding

Conditional block grants are where all compliant institutions receive funding. This is normally based on activity rather than outcomes. The funds are allocated to all institutions conforming to government mandates, regardless of outcomes.

Competitive (initiative) funding

Institutions are normally required to submit funding proposals for projects designed to meet government objectives. Not all institutions receive the funding. This is a way for government objectives to be met at the discretion of institutions but it cannot be built into the long term planning an institution undertakes.

Envelope Approach (output-based) Funding

This method is used to encourage and recognize differences and improvements in performance. Envelopes were essentially the only new government funding available in the mid-90s, yet there was uncertainty about whether this approach would subsume existing funding mechanisms.³⁵

The use of funding envelopes in conjunction with funding based on labour-market demand indicates a shift in thinking that prefers marketization. For instance, an envelope for the purpose of expanding student spaces in disciplines with high labour market demand coupled with declining base grants means that new spaces will only be opened in programs with high labour market demand.

Performance Incentives

These methods are unique because they recognize outputs. The formulas are usually combined with other types of formulas and they are either administratively, academically, or financially oriented. For instance, an example of measurements includes the programs accredited, the performance of graduates on standardized tests, peer evaluation, evaluation of programs and services, etc.³⁶ The goal is to stimulate improvements in quality and efficiency of services and programs delivered. Thus, the incentives are linked to specific academic, administrative, or financial outcomes.³⁷

Performance-based incentives have not thrived in Canada in the same way they have in the United States. Three provinces (Alberta, Ontario, Quebec) do have some form of performance-based funding but this comprises less than five percent of total provincial funding.³⁸

The volatility of performance-based funding can be explained in part by the fact that the amounts of funding associated with performance indicators usually do not correspond to the cost structures of the performances that are being measured, and potentially rewarded. For example, to raise the rates of graduation, a university would presumably have to exert a lot of effort to do so: smaller classes, more financial aid, etc. The costs incurred may be greater than the additional income these efforts could generate. This is a problem if the policy's purpose is to modify institutional behavior. Yet, this can be beneficial if the objective is compliance or accountability.³⁹

Alberta

The Government of Alberta has used a number of envelopes. The Learning Enhancement Envelope (LEE) was in the form of \$10 million a year from 1996/7 – 2011-2 to encourage institutions to develop alternative opportunities for adult learners with technology.⁴⁰ The Research Excellence Envelope annually distributes \$2 million to address declining research capacity, and the Infrastructure Renewal Envelope began in 1996. It provided \$23 million over three years to modernize and update equipment.⁴¹

Alberta also had a Performance Envelope. It annually allocates \$15 million (\$23 million beginning in 2000) based upon institutional performance, which relied on nine indicators:^{42,43}

- Enrolment growth;
- Satisfaction of recent graduates;
- Employment of recent graduates;
- Administration expenditure efficiency;
- Revenue generation through entrepreneurial activities;
- Sponsored research awards;
- Citation impact of research papers;
- Community and industry support of research activity;
- Revenue generation through research activity.

According to the government though, it was regarded as more of an “adjustment intended to help offset general cost pressures than an award for performance”.⁴⁴

Looking at the above objectives, it is easy to see that they reflect the notion that higher education should provide training for the labour market. Governments, especially Alberta, prefer institutions to be more sensitive to demands of both students and corporations. This responsiveness is reinforced by the use of funding envelopes.⁴⁵

Contractual Targets

Contractual targets are contracts between the university and the funding body, which state what the university must achieve in order to receive funding.⁴⁶

Governments have begun to steer universities toward greater competition and improved performance, which ultimately places a greater emphasis on outcomes as stipulated in performance contracts and agreements between the provinces and its PSE partners. The nature of these targets restrains academic liberty, through performance contracts, for example.

V. FUNDING SCHEMES BY PROVINCE

British Columbia

In B.C., block funding is provided on an incremental basis, with the feature that each institution has a delivery target for the total number of FTE students it is expected to enroll.⁴⁷ Therefore, the block grants are based on a historical allocation.

Alberta

The Operating Grant is based on historical enrolment-based allocations. There are annual inflationary adjustments if the money is available. The Alberta Government also uses targeted envelopes, such as the Access Fund, Performance Fund, and new envelopes for Research Excellence and Infrastructure Renewal. The province also provides one-time-only funding for special situations, such as maintenance.⁴⁸

Now, the Campus Alberta Grant is provided as base funding rather than a per-student amount adjusted annually by enrolment changes. Nevertheless, periodic reviews of these amounts have taken enrolment levels into consideration.⁴⁹

History

- Pre- 1976-7: enrolment-weighted formula set the level for operating grants.⁵⁰
- 1976-7: enrolment-driven operating grants converted into base operating grants (non-formula). Student enrolment slowing, thus growth-related issues replaced with equity concerns.⁵¹
- 1980: Endowment and Incentive Fund established to encourage private sector support, by making matching donations. Discontinued in 1992-3.⁵²
- 1982-3: new targeted funding envelope known as the Supplementary Enrolment Fund. Provided per-student funding, meaning marginal rather than full-cost funding. Funds remained outside of base operating grants.⁵³
- 1990-1: As a result of budget constraints, formula-driven capital renewal fund modified to block funding and provide to institutions without conditions.⁵⁴
- 1993-4: Adopted enrolment corridor policy of withholding new base operating grant if the institutions' enrolments decreased beyond a set amount.⁵⁵
- As of 1999: Department of Advanced Education and Career Development funded PSE institutions in two ways:⁵⁶
 - Base grants (combining operating and capital expenses) provided every year assuming enrolment does not decline beyond specified levels
 - Series of small funding envelopes awarded on competitive basis and designed to encourage and assist institutions in achieving system-wide goals
- As of 2005: ongoing operating grants provided as base funding rather than a per-student amount adjusted annual by enrollment changes. This is the institutions' main funding source.⁵⁷

Saskatchewan

Funding for the universities is allocated via a weighted enrolment funding formula with targeted envelopes. The Province reviews the formula every five years.⁵⁸

Government programs, such as basic education and skills training delivered through the colleges for Saskatchewan Learning, have a global amount of program funding approved by the government which is allocated incrementally to the institutions.⁵⁹

Manitoba

Manitoba has a historically based core operating grant. It is not linked directly to inflation or enrolment. Furthermore, there are Strategic Envelopes for new programs and restructuring initiatives.⁶⁰

The total annual public operating expenditure for PSE in the province is approximately \$800 million, which includes grants to institutions, tuition, and other revenues. About \$480 million is from provincial operating grants while \$150 million is from tuition fees.⁶¹

Ontario

Funding for universities in Ontario has been adjusted many times in the past two decades. The weighted enrolment funding formula generates the grant levels, which is about 80 percent of the total. The use of enrolment corridors smoothens out minor enrolment changes.⁶²

There are special purpose envelopes for strategic purposes, as defined by the government.

The Government of Ontario decided to change its funding mechanism in 2011 to reduce the endless pursuit for increases in the student body. Some per-student funding was replaced with performance-based support intended to discourage an attitude of “growth at all costs”, since this has harmed quality.⁶³

As such, the province is encouraging schools to focus more on teaching as opposed to “aspiring to grow into elite comprehensive institutions”. The goal is to have universities and colleges specialize more in their own strengths and core programs, while providing as much flexibility as possible.⁶⁴

Quebec

The Province of Quebec had a major policy shift in 2000. Before 2000, government transfers to universities were based on past funding, aka lump sum funding. After, the province moved to an enrolment-based funding policy.

The universities used a multi-faceted formula. The weighted student funding formula was used for basic teaching costs, and additional funds for teaching and research support were allocated through a separate formula. There is also an additional formula for the maintenance of land and buildings.⁶⁵

Newfoundland and Labrador

There is no provincial funding formula for colleges or university. However, there are historically based grants set annually by the government. The province moved to three-year recommendations in 2005.⁶⁶

New Brunswick

The Province provides flat grants to universities, which make up 75 percent of the unrestricted operational funding. They are incremental but calculated as residuals after supplementary grants and formula-based enrolment grants have been accounted for.⁶⁷

The Unrestricted Operating Assistance represents about 95 percent of total operating assistance to the four public universities. The unrestricted grants are allocated as a flat grant where 75 percent is based on historical funding and 25 percent is based on a weighted FTE and three year rolling average. The Restricted Operating Assistance represents the balance.⁶⁸

Nova Scotia

The Weighted Enrolment Grant, which is 84 percent of funding, is calculated according to weighted enrolment numbers from 1994/5 to 1996/7. Thus, it is historically based granting.

There are also special purpose grants based on factors such as location, part-time students, and French language operations, for example. Some restricted grants are available for renovations and equipment.⁶⁹

Prince Edward Island

The Province sets an annual grant allocation.⁷⁰

VI. POLICY SUGGESTIONS

Provinces should adopt a multi-year perspective.

For the past 15 years, universities have operated on a year-to-year basis in an uneven environment where funding announcements are late and dramatic, where changes in funding methods is made with little consultation, and where the lack of predictability has impacted institutional planning quite negatively.⁷¹

An environment should be created where private giving and the entrepreneurial activities of institutions is solely to provide a “margin of excellence”.

Private funds should be a source for differentiation and diversification, not a substitute for government funding.⁷² It is important to keep in mind that the introduction of various matching grant schemes, where funds from the private sector contribute to the financing of different parts of the university system, is indicative of a will to foster marketization.⁷³

The overarching principles should be assessed carefully.

Some principles can counteract each other. For example, the desire for a simple-to-understand funding process may impede features that could contribute to greater equity (such as detailed subcategories to reflect institutional differences). Likewise, a formula responsive to enrolment changes may not provide for stability. *A funding method needs to achieve a reasonable balance among all the principles.*

An optimal policy would increase quality or enrolment while holding the level of overall university funding constant, not a funding rule that depends solely on the enrolment levels.⁷⁴

Funding should depend on a university’s enrolment as well as the enrolment in competing universities.⁷⁵ If a government prefers an aggressive enrolment strategy, the optimal policy would place less weight on the number of registered students in other institutions. On the other hand, if the cost of competing for the same students is too high, the government would prefer to place more weight on students in competing institutions.

The funding mechanisms should be few and simple.

The simpler they are, the easier it is for all stakeholders to understand the implications of their choices and actions. There may be no “right” prescription for government funding, but the government has an obligation to be clear about the funding level it is prepared to commit to.

The institutions should work in collaboration with the provincial governments to establish an acceptable joint response.

Just as the characteristics of the funding mechanisms are important, so is the process for developing and implementing it.

Furthermore, the government should use valid, reliable data.

A funding method must rely on data about the numbers and types of students to be served, the competitive market for faculty and staff, and differences in class sizes across fields of instruction and levels of study. Data should measure differences in funding requirements, and third parties should be able to verify the data.⁷⁶

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- ⁷¹ Snowdon, vi.
- ⁷² Ibid.
- ⁷³ Fisher & Rubenson 2014, 117.
- ⁷⁴ St-Amant 2013, 6.
- ⁷⁵ Ibid, 2.
- ⁷⁶ Marks & Caruthers. 1999. Pg 4.