

Summary

from the Report on the University System in Nova Scotia

Extracted from the full text
submitted by Dr. Tim O'Neill
to Premier Darrell Dexter,
Province of Nova Scotia,
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This document contains the Executive Summary and Detailed Summary (Section 7) from *Report on the University System in Nova Scotia*, by Dr. Tim O’Neill. The Executive Summary includes cross-references to sections 3 to 6 in the full report. For a copy of the full report, go to <http://gov.ns.ca/premier/publications/>

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Executive Summary

Introduction

Nova Scotia's university system has long been an essential contributor to the social, economic, and cultural development of the province. This report describes and assesses the current state of that system in the context of emerging financial and demographic challenges in the province, and in relation to wider trends in post-secondary education (PSE) regionally, nationally, and internationally. The evidence clearly confirms that the environment in which Nova Scotia's eleven universities now operate is changing significantly. The report calls for expanded collaboration among the universities, and between them and the government, to develop and implement new policy approaches to address emerging challenges.

New Challenges

The provincial government and the universities are now in the final year of a three-year memorandum of understanding (MOU) that defines levels of financial support from the province to each institution. The core objective of the current MOU was to bring student tuition fees in line with national averages and to hold them stable. This policy objective will be reached in the final year of the MOU. Given a changing environment for PSE in Nova Scotia, what should be the goal of the next agreement?

Finding ways to sustain so many degree-granting institutions in a province with fewer than a million people has long been a challenge for university and government decision makers. But in the current context of shifting demographics and limited fiscal capacity in government, this issue is acquiring greater scale and complexity. The report proposes that a core objective for future collaboration between the government and the universities should be to manage growing financial pressures and looming system over-capacity in the face of anticipated enrolment declines.

With regard to student recruitment, some Nova Scotia institutions will be challenged more seriously than others in the short term, but all will be affected over time. The primary 17–29 age cohort upon which all Canadian universities draw is shrinking—more sharply in Nova Scotia than in many jurisdictions—and this trend is expected to continue over the next 25 years. As a result, post-secondary education enrolment is expected to decline steadily in most jurisdictions for the foreseeable future. The report assesses these trends and evaluates options for finding alternative pools of potential recruits, both in the province and beyond. The key finding is that while such initiatives may generate positive outcomes, and may be worthwhile in and of themselves, the overall trend to shrinking enrolment will almost certainly persist over the medium to longer term.

On the financial side, the 2009 Deloitte report, supported later by the report of the Premier's Panel of Economic Advisors, projected a provincial government deficit of \$1.4 billion by the end of the current government's mandate. Spending cuts and new revenue measures have since reduced that figure significantly, but much work remains to be done. The fiscal plan set out in the 2010–11 budget proposes reductions in expected spending levels of some \$770 million if the government is to fulfil its commitment to get back to balance by 2013–14. This will likely

require strict limits on new spending and a need to review all existing policy and program commitments in search of substantial savings.

It will be difficult, in this context, for the government to continue to grow its financial contributions to universities as it did through the previous two MOUs. Significant financial restraint directed towards universities will mean that the tuition freeze cannot be maintained, as the universities' ability to operate will be severely constrained even if they manage to rein in their costs. Based on its examination of the issues, this report concludes that if Nova Scotia universities are to thrive in an increasingly competitive PSE marketplace, they will need to focus more extensively on factors such as academic quality, program specialization, and attractive learning environments. As well, the universities will have to collaborate more effectively to manage their individual and collective cost structures.

See Section 3, Outlook for Nova Scotia Universities, for a full discussion of the enrolment and financial challenges facing the university system for the next five years and beyond.

Tuition Fees

Public discussion of tuition fees often focuses on the impact of tuition levels on accessibility to post-secondary education for low-income individuals, on affordability generally, and on the levels of debt that students carry after graduation. However, this focus on accessibility and affordability ignores four significant issues: the interests of universities and taxpayers; the long-term benefits to graduates of post-secondary education (which are many); the actual impacts of tuition fee levels on accessibility (which are modest); and equity within a system in which lower-income taxpayers now heavily subsidize university education for students from better-off families.

Recommendation 1:

Allow tuition fees to increase, both as partial offset to the impact of fiscal restraint and on equity grounds. In descending order of preference, consider the following three options:

- a. Completely deregulate tuition fees and earmark a percentage of tuition revenue increases for student assistance.
 - b. Cap the rate of increase in the short run and transition to complete deregulation in the long run.
 - c. Cap the rate of increase and allow full deregulation in certain programs.
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See Sections 4.1.1–4.1.3 for the analysis of tuition fee options.

Student Financial Assistance

Nova Scotia has one of the weakest student assistance programs in the country. Students face the highest total education costs and net out-of-pocket costs as a share of median income. The province also has the second-highest incidence of unmet need, which is the gap between assessed financial need and financial assistance provided. Finally, graduates from the province have higher average debt levels than students from other provinces. If the government chooses to allow tuition fees to rise—which this report recommends—it must also significantly upgrade the student assistance programs.

Recommendation 2:

Increase the capacity of student financial assistance programs in Nova Scotia and focus more on students with the greatest financial need. Specifically:

- a. Raise or eliminate the cap on student loans.
 - b. Increase substantially the non-repayable grant portion of student loans, thereby capping the level of debt that can be incurred.
 - c. Retain the Repayment Assistance Program.
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See Section 4.1.4 for the assessment of student assistance policy in Nova Scotia.

Government Funding

In Canada, government funding for universities has tended to be cost-based, enrolment-based, or some combination of the two. Nova Scotia has used a combination, with the total grant based on universities' cost projections and the allocation among institutions dictated by weighted enrolments. There are no analytical or empirical underpinnings that can be used to determine an optimal level for the operating grant provided to universities. However, there are several principles among which the government might choose to establish a framework for long-term funding decisions.

Recommendation 3:

In the short term, government funding for universities will be affected by the pace of fiscal restraint the government decides upon. This report recommends no specific benchmarks for setting the operating grant, but offers the following guidance:

- a. Look to cooperative administrative (back-office) integration to reduce system costs over the next three to five years.
- b. Share the burden of the restraint between students (through higher tuition fees) and universities (through a moderation in operating expenditures, particularly compensation).
- c. Deal with institutions identified as potentially facing significant financial risk before a crisis develops.

Recommendation 4:

In the long term, the government should choose one of three benchmarks when setting university funding:

- a. Increase funding at the rate of population growth.
 - b. Increase funding at the rate of overall government spending growth.
 - c. Increase funding at the rate of GDP (gross domestic product) growth.
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See Section 4.2 for the full discussion of government funding issues.

University System Restructuring

It is widely observed that if the province were to start again with a blank slate, it would not create a university system with eleven independent institutions. This has led periodically to proposals for the creation of a University of Nova Scotia, a University of Halifax, further integration of programs within particular institutions, or bilateral mergers of institutions.

The research evidence suggests that large-scale restructuring of post-secondary education institutions can yield significant financial and academic benefits over the longer term. However, such change can be very costly at the front end and is often a high-stress undertaking for all stakeholders. Given this outlook, a more strategic approach is recommended.

Recommendation 5:

Look to modest restructuring of the university system under the following guidelines:

- a. Eliminate the creation of a University of Nova Scotia from consideration.
 - b. Remove the creation of a University of Halifax from consideration, at least over the next five years.
 - c. Remove program consolidation (reducing the number of institutions that can offer specific programs) as a restructuring option.
 - d. Explore both merger and internal restructuring options to address future financial challenges at the Nova Scotia College of Art and Design.
 - e. Remove a merger of Atlantic School of Theology with Saint Mary's University from consideration.
 - f. Consider integrating Nova Scotia Agricultural College into Dalhousie University as the college ceases as a government entity.
 - g. Explore the potential for merger or significant affiliation of Mount Saint Vincent University (MSVU) with either Dalhousie or Saint Mary's, to mitigate declining enrolment risks at MSVU.
 - h. Consider the need for Cape Breton University to become more specialized in the range of four-year degree programs it offers, as it faces the prospect of a significant decline in enrolment.
 - i. Consider expanding the programs Université Sainte-Anne offers in the Halifax region to mitigate the small and declining student base at its main Church Point campus.
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See Section 4.3 for an extensive discussion of the benefits and costs of major restructuring prospects, in general, and the array of specific possibilities for the Nova Scotia university system and its individual institutions.

University Administrative Integration

Over the next several years, significant cost savings may be achievable through greater administrative integration. Nova Scotia universities already collaborate on purchasing many goods and services through Interuniversity Services Inc. (ISI), and on delivery of library services through Novanet. There are additional opportunities for efficiency gains and cost savings at the system level.

Recommendation 6:

Seek to maximize administrative integration, under the following guidelines:

- a. Require universities to provide Interuniversity Services Inc. with the data necessary to assess opportunities to achieve additional savings from integrated purchasing.
- b. Conduct a detailed assessment of the internally provided services that could be outsourced to a common provider to generate cost savings, and establish a timeline and process for implementing advantageous outsourcing.

See Section 4.4 for an examination of potential cost savings from greater administrative integration.

Key Performance Indicators (KPIs) for Quality Assessment and Accountability

Universities are accountable to three primary groups: taxpayers; students (and their parents); and the boards of governors and senates responsible for overseeing university operations. The pressure on governments to account for how taxpayers' funds are spent leads to a greater demand for transparency regarding program outcomes. The economic returns to the individual student from investment in a university education are high and rising, so students (and their parents) will want better information on where and how to pursue higher education. Faced with a range of often competing requirements, both those who fund the universities (governments and students) and those responsible for the institutions' continuing development (administrators, faculty and staff, boards and senates) need more and better information to guide their decisions.

Recommendation 7:

Create key performance indicators for quality assessment and accountability, under the following guidelines:

- a. Engage experts in the design of quality assessment tools for higher education to assist in the development of a prototype report card for Nova Scotia universities.
- b. Negotiate the elements of a regular report on the performance of the province's universities.

See Section 4.5 for the arguments for creating a university report card on quality.

Infrastructure

Funding reductions across the country in the 1990s forced universities to direct their limited resources to the core functions of teaching and research, and postponed investment in facilities renewal and modernization. The current projected annual financial requirement for infrastructure renewal in Nova Scotia's university system is \$48 million. Despite significant infrastructure funding provided in recent years, unresolved problems of accumulated deferred maintenance are estimated to be over \$400 million.

Recommendation 8:

Address infrastructure needs, under the following guidelines:

- a. Seek an independent assessment of both deferred maintenance and ongoing facilities renewal costs.
- b. Encourage universities to explore private ownership and management opportunities for some of their facilities.
- c. Consider increases in funding for university infrastructure.

See Section 4.6 for an examination of the infrastructure challenges facing the universities in Nova Scotia.

Research, Technology Transfer, and Commercialization

While teaching is a university's most important responsibility, research also makes a valuable contribution. The gains from university research in all academic fields accrue to society generally, especially for pure or discovery research that expands the foundations of knowledge. Applied research also advances knowledge, but is closer to being directly and immediately usable by businesses, government, and other organizations. The focus in the report is on applied research with potential for commercialization.

Recommendation 9:

Encourage more research, technology transfer, and commercialization, under the following guidelines:

- a. Create an effective mechanism for harnessing the potential of applied research currently being conducted by university faculty.
- b. Before renewing major funding directed at encouraging research commercialization, carry out a comprehensive assessment of the effectiveness of such funding.
- c. Consider maintaining the Industry Liaison and Innovation (ILI) office at Dalhousie, and amalgamating the industrial liaison offices (ILOs) of other universities into one.

See Section 5 for an examination of the prospects for improving the transfer of applied research for commercialization.

University Funding Formula

Substantive and broad-based provincial funding of Nova Scotia's universities began in the early 1960s. Since 2003, the government has negotiated multi-year agreements with universities, the key objective of which was to bring rationality, comprehensiveness, stability, and transparency to the system's funding. Nova Scotia's framework for funding its universities is, arguably, the best of its kind in Canada and should be retained. The MOU model used by Nova Scotia appears to be unique in Canada and is certainly worth retaining.

Recommendation 10:

Retain the basic framework of the University Funding Distribution Formula and the multi-year funding agreement, under the following guidelines:

- a. Negotiate the enrolment baseline and the proportion of the formula driven by changes in enrolment levels.
 - b. Set the minimum length of the agreement at three years.
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See Section 6 for a discussion of the merits of continuing the current framework for negotiating the government's financing of universities.

SECTION 7: Detailed Summary of Conclusions and Recommendations

Section 7 has been prepared for the benefit of readers who want some context for understanding the main conclusions and recommendations of this report, without the weight of details contained in Sections 2 to 6.

7.1 Background

A concise statement of the mandate for this report would be “to provide an assessment of Nova Scotia’s university system and to offer recommendations that would maintain or improve its quality at a reasonable cost.” The report is the first of its kind in Canada to be conducted in the aftermath of the severe recession of 2008–09 and in the context of a multi-year program of provincial government fiscal restraint. As a consequence, there is more than a little interest in the extent to which cost savings from the universities may be affected without impairing the quality of the education provided by the institutions. However, the overarching consideration is not the short-term quality/cost trade-offs available, but the long-term viability and effectiveness of the province’s universities.

Along with the prospect of restraint-induced belt tightening, Nova Scotia’s universities are faced with the serious possibility that enrolments will continue the slide of the last several years. The population of 17–29 year-olds is the primary age group upon which universities rely for undergraduate enrolments, and this population cohort is already shrinking in Nova Scotia and will be declining nationally by 2015. A recent Statistics Canada study of future enrolment trends projects full-time university enrolments in Nova Scotia to fall (albeit gradually) from 2009–10 onward.

There is likely to be short-term fiscal restraint imposed by government, whether in the form of a slower pace of increase in or in an outright reduction of the operating grant to universities. In combination with an expected decline in enrolment, there will be financial strain on the universities with some institutions at greater risk than others. These two factors alone would be sufficient to justify an examination of the potential benefits from structural change in the system. However, the existence of eleven degree-granting institutions in a small province has caused periodic consideration of the potential for downsizing the sector. Almost everyone agrees that, starting from scratch, the province would not create a structure of eleven institutions. The pertinent issue now is what changes can or should be made in the system that has been inherited. The report addresses the issue by assessing a range of options for structural change.

The two primary sources of funding for the operations of universities are the operating grant from the government and tuition fees from students: together they constitute over 80 per cent of the operating revenue. The size of the annual transfer from the province is clearly a matter of public policy, but so typically is the level of tuition fees. In recent years government policy has been to lower the average level of tuition fees to the national level. That goal is expected to be accomplished in the academic year 2010–11. With the memorandum of understanding (MOU)

between the province and the universities entering its final year, it is timely to evaluate both the grant and tuition fee policies and to make recommendations about future policy directions. The report does this by considering both the conceptual and empirical underpinning for both policy areas and then making recommendations for future policy. In the case of the operating grant, a distinction is made between the short-term and long-term context for decision makers.

With both public and private dollars providing the financing of universities, there has been, nationally and internationally, an increasing interest in and focus on measuring the quality of the services provided by the institutions. The two main outputs or outcomes provided by universities are teaching and research. In the provision of these services, universities are ultimately accountable to three primary groups: taxpayers; students (and their parents); and boards of governors and senates. There is considerable debate about which indicators might be used to measure the quality of outcomes, although several Canadian and American jurisdictions have mandated several such measures and are using them for, among other things, funding decisions. The report examines the broad issues involved in the creation of a set of performance indicators and provides general guidelines for moving forward to establish quality measurement in the province's universities.

While the educating of undergraduate and graduate students is the main task of universities, the production of both basic and applied research is a fundamental element of the activities of most academics. Both types of research can make a significant contribution to society, although in recent years there has been an increasing (utilitarian) emphasis on the need for applied research that has the potential to add to economic growth through advancing technology and improving processes. The report examines the level of research activity in Nova Scotia universities and discusses the most effective ways to achieve gains from applied research.

7.2 Outlook for the Universities

The labour market in Canada is going to require a substantial increase in the number of university-educated individuals over the next 10 to 15 years to satisfy the demands of a growing economy and to replace the retiring baby boomers. The challenge for the economy and, no less, for the universities is that the primary age cohort (17–29 year-olds) upon which universities have depended for undergraduate enrolments is projected to decline over the next 20 years. This sets up the potential for a serious mismatch between the demand for university-educated individuals and the supply of people willing and able to engage in post-secondary educational opportunities. The supply pressure may be partially mitigated by increases in participation rates. It may also be alleviated by increased reliance on international students, on traditionally under-represented groups such as African Canadians and aboriginals, and on mature students.

The outlook for enrolment in Nova Scotia is not encouraging, even taking into account the potential offsets to the declining numbers of Nova Scotians in the prime age cohort. The outlook can be summarized as follows:

- Enrolment of Nova Scotia students, both in the province's universities and across Canada, peaked in 2003–04 along with their participation rates.
- Full-time enrolment in the province's universities is projected to decline even assuming a modest increase in participation rates over the next five years and an increase in enrolments from Ontario students.
- The number of international students in the Nova Scotia university system peaked in 2005–06 and has gradually declined since then. As other systems compete more aggressively for these students, the prospects for increasing international student enrolments in Nova Scotia are, at best, limited.

- As desirable as it would be to increase the participation of visible minorities in university education, the number of potential students is too small to mitigate declining enrolment.
- Mature students are a potentially large pool upon which to draw, but their participation rates have, for a number of possible reasons, been quite low. Materially increasing them could require significant changes in the mode of university operation.

There are three main drivers of the financial situation that will be faced by universities in Nova Scotia over the next five years: the operating grant provided by the government; the level of tuition and other fees that will be generated by students; and the operating costs incurred by the university. Government policy determines the size of the grant and may dictate tuition fee levels. Enrolments will affect total tuition revenue, and universities determine their operating expenditures.

Financial projections for the university system were made using a variety of assumptions about government policy with respect to grants and tuition fees, about enrolment projections, and about operating costs decisions made by the university. The time frame examined was the next five years. These were not predictions or forecasts about what would happen but a set of scenarios that the government and the universities could face in the medium term.

Four different assumptions were used regarding the possible pace of government funding for universities: the operating grant increases at the rate necessary to ensure fiscal balance in the system; it increases (decreases) at the rate of growth (decline) in the provincial population (constant per capita); it increases (decreases) at the same rate as overall government spending (constant share of expenditures); it changes at the same pace as the level of economic activity (constant share of GDP). With respect to tuition fees, the assumptions included: freezing tuition at current (2010–11) levels; allowing tuition levels to increase but at a regulated pace (e.g., a maximum percentage rate of increase); or completely deregulating and allowing each institution to set its own tuition levels.

Three different system enrolment assumptions were made: a decrease in Nova Scotia and out-of-province enrolment and constant international student numbers; no change in Nova Scotia, out-of-province, and international enrolments; and an increase in Nova Scotia, out-of-province, and international enrolments. Finally, university operating expenditures were anticipated to increase either at an annual rate of 5 per cent (the current pace); at a 2.5 per cent pace; or at the rate necessary to achieve fiscal balance in the university system.

Following is a summary of the results:

- The impact over the next five years of varying the basis for the operating grant ranged from a reduction of \$4 million during that period (using constant per capita) to an increase of \$51 million (constant percentage of GDP). Note that the pace of increase in the grant in the current MOU was \$30 million per year or \$90 million over three years.
- If tuition fees were allowed to increase annually at the (recent) national pace of 4 per cent, system revenue would rise by almost \$50 million over a five-year period.
- A continuation of the 5 per cent rate of increase in university operating expenditures would push them up by \$207 million by 2015–16. Even under the most optimistic set of assumptions used in the report, that pace of expense increase would imply a sizeable financial deficit in the sector as a whole and for most, if not all, institutions.
- In the worst-case scenario used (tuition levels frozen; a constant per capita operating grant, and enrolments falling by 1 per cent per year), the system's deficit by 2015–16 would be \$215 million.

- In general, if the government applies some degree of restraint in its operating grant relative to the most recent MOU, the burden of avoiding a persistent system deficit would have to be shared between students (through higher tuition fees) and the individual institutions (through a reduced pace of increase in operating costs).
- One of the challenges that the universities will face if they are forced to rein in the pace of expenditure increases is that about 70 per cent of those costs are in faculty and staff compensation. As reductions in faculty complement are very difficult to achieve, the bulk of the spending restraint will have to borne either by (non-faculty) staff reductions or by adjustments to rates of salary and benefits.

7.3 Tuition Fees and Student Financial Assistance

Public discussion of the appropriate level of tuition fees is often couched in terms of the impact of tuition levels on the accessibility to post-secondary education, particularly for low-income individuals, and on affordability for students more generally. The latter issue tends to be framed with reference to the levels of debt with which students are saddled after graduation. However, this focus on accessibility and affordability ignores four significant issues, the first of which is that students are not the only group with an interest or a financial stake in the level of fees. Universities rely on tuition fees as a major revenue source, and if the transfers to universities from the public purse are moderated, tuition is the only significant source of funding over which they can exercise any control. Taxpayers also have an interest in the size of the operating grant to the university system since, for a given level of system cost, the less revenue coming from student fees, the more that has to be provided by taxpayers.

Second, the focus on the costs of university attendance tends to ignore the benefits of post-secondary education in the form of more stable employment and higher lifetime income enjoyed by university graduates compared to high school graduates. Unemployment rates are substantially lower for both men and women who have a university degree compared to those with high school certificates or individuals with less than a high school education. The most significant financial benefit of post-secondary education is its impact on income. A significant premium is earned by those who hold an undergraduate degree. One estimate puts the differential in lifetime earnings (at a national level) between a university degree holder and someone with a high school diploma at three-quarters of a million dollars. The differential for Nova Scotia graduates is slightly higher than the national average.

The third issue is that of the actual impact of tuition fee levels on accessibility. There are a number of barriers to accessibility, which include, among others, financial costs, family background, and academic success in primary and secondary education. Empirical research indicates that financial barriers are not as significant an impediment to the participation rates of under-represented groups as the other factors. It therefore follows that the level of tuition fees, which are only a part of the financial burden borne by university attendees, is not likely, by itself, to be the major barrier to the participation of low-income individuals or visible minorities it is typically claimed to be. It is, therefore, possible to infer from the empirical work that a broad reduction in tuition fee levels as a measure to increase accessibility will be a far less effective policy tool than those directed specifically at financially disadvantaged individuals. Among those more effective tools is student financial assistance.

Finally, there are equity considerations associated with having society underwrite a significant portion of the costs of the post-secondary system. The fact that university students from relatively more affluent families are disproportionately represented raises the question of whether it is fair to have middle-class and lower-middle-class taxpayers effectively subsidizing the university education of students from better-off families. As well, if accessibility for under-represented groups is the central concern, the subsidy provided by middle-class taxpayers ought to be

targeted to those with more significant financial disadvantages. One way in which that targeting could be achieved is to have all students contribute a greater share of the universities' operating revenue through higher tuition fees and then reduce further the costs for financially disadvantaged students by enhancing the levels of student assistance available to them.

There are four main policy options that the government may choose with respect to tuition fees.

- a. Continue to lower tuition fees to drive them below the national average.
- b. Maintain the freeze on tuition fees at the current level.
- c. Completely deregulate tuition fees and allow them to be set, without restrictions, by individual institutions.
- d. Allow tuition fee levels to increase but at a capped or maximum rate.

Lowering tuition fees further is the least attractive option as it would significantly limit the government's capacity for spending restraint, while combining spending restraint with lower fees would make it impossible for universities to function without a significant deficit. As well, the real cost to taxpayers would be rising while the real and nominal share borne by students would be declining. If current tuition policy constitutes an inequitable policy of taxing middle-class families to subsidize relatively higher-income attendees, that inequity would be exacerbated by lowering tuition further.

Similar objections apply, albeit with somewhat less force, to the option of maintaining the current tuition levels. A tuition freeze would also maintain inter-university differences that existed when the current policy was enacted but which may not have been intended by some institutions. On the other hand, it may fairly be argued by proponents of lowering or freezing tuition fees that high levels (however "high" is defined) do discourage participation of financially disadvantaged students to at least some extent. However, the more effective way to deal with this facet of accessibility (and the associated affordability problem) is to target student assistance and increase its capacity.

Completely unregulated tuition fees have several merits but one significant drawback. The drawback is that increases in tuition fees, especially large ones, can have a negative impact on accessibility, on affordability, on student debt levels, and therefore on university attendance, for those for whom financial barriers are a relatively more significant impediment. One way around this problem is to have the government require, as part of a complete deregulation of tuition fees, that some portion of any tuition fee increases enacted by institutions be directed towards increasing student financial assistance. This could be done either directly by the institutions (e.g., increasing their need-based bursaries) or by the government (e.g., clawing back a portion of the institution's grant and allocating the savings to its financial assistance programs).

One of the main benefits of a completely unregulated tuition fee environment is that it gives more freedom to the universities to set tuition at levels they deem appropriate to the quality and range of programs that they are offering. As well, if universities are free to offset a reduction in the level of support from the government through an adjustment in their tuition fees, this provides the government with greater latitude to apply fiscal restraint measures to the sector. Freeing tuition fees, to allow them to move to whatever level individual institutions choose, effectively reduces the argued inequity in taxing the middle class (and lower middle class) to subsidize students who already are (or will be in the future) better off financially than those being taxed.

If the government is unwilling to move to a completely unregulated tuition fee environment, a compromise between the current policy of freezing tuition fees and a completely deregulated environment is to regulate the

rate of increase in tuition fees. The most common and the administratively most straightforward way to do this is to cap the overall rate of increase in tuition fees that universities will be allowed to charge. The capped rate that ought to be set by the province is an arbitrary one. However, it will have to be determined in conjunction with decisions about the level of operating grants that will be provided to the university system over the next three to four years. A regulated increase provides students with some degree of certainty, during that period, about the tuition fees they will be paying.

A somewhat more complicated variation of the capped rate approach is to combine an overall maximum rate of increase with full deregulation of tuition fees for certain programs of study. This has been done in Ontario where fees for professional programs—medicine, law, and business—are set at whatever level an individual institution chooses. A provision for student assistance clawback of a portion of the (unregulated) increase is included in the policy.

Recommendation 1:

Allow tuition fees to increase, both as partial offset to the impact of fiscal restraint and on equity grounds. In descending order of preference, consider the following three options:

- a. Completely deregulate tuition fees and earmark a percentage of tuition revenue increases for student assistance.
 - b. Cap the rate of increase in the short run and transition to complete deregulation in the long run.
 - c. Cap the rate of increase and allow full deregulation in certain programs.
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Whatever tuition fee policy option is chosen by the government, there is an urgent need to also examine the current state of student financial assistance in Nova Scotia. The province already has one of the weakest student assistance programs in the country. Students face the highest total education costs and net out-of-pocket costs as a share of median income. Nova Scotia has the second-highest incidence of unmet need (the gap between assessed financial need and financial assistance provided). Finally, graduates from the province have higher average debt levels than students from other provinces. If the government chooses to allow tuition fees to rise—a recommendation made in this report—it will need to significantly upgrade the capacity of the student assistance program.

The solution to unmet need is either an adjustment downward in the estimation of resources required from student earnings and parental support or removal of the upper limits on the total amount of financial assistance available. If the assessment of requirements and resources is done in a fair manner, eliminating the cap on financial assistance is the most effective way to eliminate unmet need, especially for the most economically disadvantaged students.

Increasing the amount of assistance available has the potential to increase the debt burden of students upon graduation. To reduce the incidence of student debt while targeting the students most in need, an upper limit could be set on the amount of assistance in a given year, which would be in the form of a repayable loan. Those with relatively modest financial assistance requirements would receive most or all of it as a loan. Grants, which are much more costly than loans, would be targeted to those with higher costs or lower individual and family resources. This approach would also have the effect of setting an upper limit on the total student debt of graduates.

Even with the proposed changes, there could still be graduates who face debt levels that they cannot service out

of their current income. In Nova Scotia, provision is made for such individuals to apply for debt management programs. Nova Scotia was the first province to institute the Repayment Assistance Program. This program is an income-contingent repayment program and it should be retained.

Recommendation 2:

Increase the capacity of student financial assistance programs in Nova Scotia and focus more on students with the greatest financial need. Specifically:

- a. Raise or eliminate the cap on student loans.
 - b. Increase substantially the non-repayable grant portion of student loans, thereby capping the level of debt that can be incurred.
 - c. Retain the Repayment Assistance Program.
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7.4 Government Funding

In Canada, government funding for universities has tended to be cost-based, enrolment-based, or some combination of the two. In the MOU in Nova Scotia there has been a combination with the total grant based on universities' cost projections and the allocation among institutions dictated by (weighted) enrolments. However, there is no analytical or empirical underpinning for an optimal level of the operating grant provided to universities. In fact, no such foundation is available for determining the optimal level of overall government spending, let alone what it might be for a particular category, although there has been considerable debate over the issue.

There are several commonly discussed principles for long-term growth in government spending, which can be applied to a specific category of spending as well. These principles were used in the scenario financial projections in the report, and include the following:

- a. (Nominal) spending increases at the pace of population growth plus expected inflation (constant per capita spending).
- b. (Nominal) spending rises in line with overall economic growth; i.e., at the pace of population growth plus inflation plus productivity growth (constant share of GDP).
- c. (Nominal) spending in a particular category increases at the same pace as total government expenditures (constant share of government activity).

The rationale for a constant per capita funding approach might be that the province already has one of the highest levels in Canada of per capita spending on university education and that Nova Scotia taxpayers should not be expected to further increase their comparative contribution to the university system.

The rationale for a constant share of expenditures would be that, with a substantial increase in university funding in recent years, the appropriate proportional contribution of government funding has now been reached. With enrolments more likely to be moderating than rising in the foreseeable future, maintaining the share of government spending going to universities might actually be seen as generous.

The rationale for an allocation based on the province's level of GDP would be that, as the province's prosperity

increases, the ability to afford a range of publicly funded services also rises and funding for universities should be linked to the taxpayers' capacity to support them. However, changes in funding should be linked to changes in GDP growth trends, not to annual fluctuations.

These principles are not the benchmarks conventionally used in the discussions about the appropriate level of university funding. When examining government spending on post-secondary education from an historical and comparative-jurisdiction perspective, the more commonly used measures include: funding levels in current and constant dollars; funding per full-time equivalent (FTE) student (current and constant dollars); and the ratio of government grant to tuition revenue (or the share of total operating revenue provided by government).

All six measures can be calculated for the province alone or compared to other jurisdictions including provinces and other countries. Each has its merits in displaying part of the story about patterns of university funding. For example, both levels of funding and funding per student began to decline in Nova Scotia by the mid-1990s, and the pattern was not reversed until the middle of this decade. As well, funding per student in the province is the lowest in the country. On the other hand, funding per capita and as a share of GDP is near the top among the provinces.

Not only do the several measures appear to tell quite different stories but may be subject to conflicting interpretations. For instance, the low per student funding could imply a comparatively weak effort by the province in supporting university education. Alternatively, it may indicate that the universities in Nova Scotia are more efficient than their counterparts in other provinces at delivering undergraduate and graduate programs. Although it is the most widely used comparative indicator of post-secondary funding, spending per student is only one of several input measures. It provides no information on the sector's outputs nor does it account for taxpayer capacity or willingness to underwrite university education.

An examination of comparative benchmarks does not provide a compelling basis for judging whether the level of public sector support is adequate, appropriate, or optimal. Historical peaks or historical averages for a particular jurisdiction are irrelevant if divorced from an examination of the context within which those decisions were made in the past. Inter-jurisdictional comparisons are somewhat more helpful, as they indicate what the current normal practice is. But normal practice is not necessarily best practice.

In the short term, the level of funding for universities will be guided less by benchmarks than by the pace of overall fiscal restraint that the government chooses to implement. The university system will be one of many sectors facing the prospect of outright reductions or a significant slowing in the pace of government transfers. While there is no basis for recommending a specific level of grant in the short run, several factors need to be considered. They include the following:

- The examination of potential cost savings from administrative (back-office) integration suggests scope for cooperative reduction in universities' operational expenditures.
- Declining enrolments and a slower pace of government funding will require the province's universities to restrain spending. As over 70 per cent of operating costs are for compensation of faculty and staff (including administrators), any significant restraint will have to come, to a considerable extent, from that source.
- The greater the restraint imposed on the university system, the more compelling will be the argument to remove the freeze on tuitions. The merits of partial, if not complete, deregulation of tuition fees are argued for in this report.
- Some universities will be affected more severely than others, not only by the restraint but also by the differential impact on institutions of the anticipated enrolment declines. The government may wish to pre-

emptively initiate discussions with institutions assessed to be at greater risk of experiencing financial crisis over the next three to five years.

- The government will need to incorporate into its determination of the funding level for the university system the fact that, starting in 2011–12, there will be a \$29 million gap created by the termination of the Nova Scotia University Student Bursary Trust.

Turning to the long run, the government should be assessing the framework that will be used for university funding when the province's fiscal challenges are resolved. Several benchmarks for funding have been outlined in the report. They comprise: (a) maintaining a constant per capita grant; (b) maintaining the grant at a constant share of public expenditure; or (c) increasing the grant at the rate GDP growth. There is no conceptual basis for choosing any one of the benchmarks. In fact, there are many who would argue that the grant should be grounded in historical or comparative levels of funding per student. However, the rationale for at least including these benchmarks in deliberations of university funding is that they explicitly incorporate consideration of the capacity and willingness of taxpayers to underwrite a significant portion of the cost of the universities.

Recommendation 3:

In the short term, government funding for universities will be affected by the pace of fiscal restraint the government decides upon. This report recommends no specific benchmarks for setting the operating grant, but offers the following guidance:

- a. Look to cooperative administrative (back-office) integration to reduce system costs over the next three to five years.
- b. Share the burden of the restraint between students (through higher tuition fees) and universities (through a moderation in operating expenditures, particularly compensation).
- c. Deal with institutions identified as potentially facing significant financial risk before a crisis develops.

Recommendation 4:

In the long term, the government should choose one of three benchmarks when setting university funding:

- a. Increase funding at the rate of population growth.
 - b. Increase funding at the rate of overall government spending growth.
 - c. Increase funding at the rate of GDP (gross domestic product) growth.
-

The division in operating revenue between government funding and tuition has varied significantly over time. Although there is no conceptual foundation for a specific sharing rule, individual and social benefits, and taxpayer capacity and willingness, should be considerations in the determination of the split.

7.5 System Restructuring

It is widely argued that, if the province had a blank slate, it would not create a university system with eleven institutions, but would design one with no more than four or five. This has led periodically to suggestions for consolidation of institutional administration. The proposals have included the creation of a University of Nova Scotia, establishment of a single university in Halifax, integration of programs in a single institution, and bilateral mergers of institutions. Along with these four, two others considered in the report are internal restructuring in individual institutions and administrative (back-office) integration. The latter is less a restructuring than an extension of a structure already in place.

The rationale often proffered for institutional consolidation is that it will reduce the operating costs of the organizations or operating units being merged. In the current fiscal context, the dominant interest of the government is likely to be in the extent to which various types of restructuring might lower the baseline costs of the university system without compromising quality. Conceptually, the cost savings or efficiencies come from what economists term “economies of scale.” That is, increasing the size of an institution (through merger or some other form of consolidation) will reduce the per-unit cost of operations.

From empirical work on scale economies for universities, there are indications that significant reductions in unit costs (usually measured per student) occur as institution enrolments climb to 2000 and above. These unit costs continue to decline (at a more modest pace) until institutions reach a size of approximately 10,000 students. However, several critical caveats need highlighting before concluding that institutional mergers are likely to markedly lower the operating costs of the Nova Scotia university system.

First, it appears that unit-cost reductions come, to a considerable extent, from an increase in the average class size post-merger. Although there is little empirical evidence of an inverse relationship between class size and quality of education received, cost-reduction benefits from this source may be at least partially offset by a deterioration in the perceived or anticipated quality of the student experience.

Second, there tend to be significant short-term costs in the amalgamations of universities, including the levelling up of compensation, relocation of faculty and staff, integration of information technology (IT) and communications systems, legal and professional fees, and modifications to physical plant. Hence, whatever long-term cost reductions may be achievable, mergers raise costs in the short run.

Finally, it appears that the key motivation for consolidation in many mergers is not cost efficiencies but other objectives such as enhancement of academic offerings, improvement in strategic focus and entry into new markets. For smaller institutions in a merger, the main driver often is survival. These findings suggest cost savings from consolidation are more likely to occur where there are other strong academic and strategic reasons for amalgamating.

Even if cost savings were the primary focus of the government’s interest in various types of consolidation, there would need to be consideration of the potential impacts on the quality of the university system. Such qualitative impacts could include: access by students to a greater range of programs and courses; access to alternative modes of delivery, such as distance learning, and to a wider array of teachers; more and better-quality resources for faculty and staff; and more extensive collaboration on curriculum design, teaching methods, and joint program development. It is also possible for the merging of institutions to lead to a raising of the overall standards of teaching, research, management, and/or curriculum if discrete qualitative differences exist among the institutions.

There needs to be a framework upon which the analysis of and recommendations for system restructuring might be based. Whatever form the consolidation effort might take, it should satisfy one or more of the following conditions:

- a. It reduces the operating costs of at least one institution and thereby of the system. If it is a merger of two or more institutions, it must lower the costs below what the separate institutions would achieve on their own.
- b. It improves the quality of education (teaching and/or research) at one or more institutions without a reduction somewhere else in the system.
- c. It prevents a high-probability crisis from occurring at one or more institutions (e.g., deficit or rising debt leading to bankruptcy and closure).
- d. It mitigates a recurring problem at one or more institutions that ultimately may threaten their sustainability (e.g., revenue volatility, weak management).

Regardless of the framework or specific proposals for consolidation, one principle needs to be established when considering options for dealing with financial difficulties at one or more institutions: It should be made clear that extraordinary support for a financially troubled institution is not an option unless significant structural adjustments are negotiated and agreed upon. Such structural changes might include a merger (or some other form of affiliation) or a major restructuring of an institution, including such measures as downsizing of the institution and/or increasing its degree of program focus.

A number of restructuring possibilities are examined in the report, including the following:

- maintaining the existing system—i.e., the status quo
- creating the University of Nova Scotia
- creating the University of Halifax
- consolidating programs
- implementing bilateral mergers
- restructuring internally
- integrating administrative (back-office) operations

Proponents of retaining the current structure point to the benefits of the diversity of institution types that the Nova Scotia system allows as well as to the dispersion of universities across the province, which provides local access for students. They also point to their well-established identities (or brand names), to the ownership of physical and financial assets, to the unique characteristics of individual institutions, and to the advantages of considerable competition in the offering of undergraduate programs.

Critical observers of the existing system argue that diversity has a cost which is borne by the taxpayers of Nova Scotia. As well, there would still be significant diversity and competition in a system with fewer institutions or one in which there is a greater degree of integration or consolidation among the institutions. Local access is only relevant for the five institutions that exist outside of the Halifax area. Brand identity is a relevant issue with respect to the ownership of assets and to impacts on fundraising. This would argue for some form of affiliation rather than full amalgamation, as the former would allow the partner institutions to maintain their separate and distinct identities.

There are two additional reasons for not simply accepting the existing university structure in Nova Scotia. First, past efforts to increase the collective efficiency of the university system through cooperation and coordination have been, at best, halting and incomplete. This points to the need to critically examine the prospects for structural change in the province's university system. Second, the university system is facing, for the first time, the prospect of

two distinct negative financial pressures, namely a structural decline in enrolments and sustained fiscal restraint by the government. In the episode of fiscal restraint in the 1990s, the universities were experiencing increasing enrolments and an unregulated tuition fee environment.

The creation of a University of Nova Scotia is an idea that has waxed and waned for a number of decades but often has been treated both by proponents and opponents rather more glibly than the concept deserves. There are obvious potential benefits to the establishment of a provincial university that integrates all (or most) of the eleven degree-granting institutions. These include the prospect of scale economies or unit cost reductions from a single large entity and unfettered mobility for students across a much broader array of programs and institutions than is currently possible. A single university in the province could establish more consistent and higher standards than may currently exist while retaining separate campuses with distinct programs of study and areas of specialization. Finally, a University of Nova Scotia could enhance the strengths of existing institutions by enabling them to focus on areas of comparative advantage and complementarity.

On the other hand, the creation of a University of Nova Scotia from the existing institutions in the province is almost certainly too massive a task to attempt. There are just too many institutions for a full consolidation to be reasonably contemplated even over an extended period of time. One key reason is that distance is a significant factor for those institutions outside of the metro area. It is evident from most of the examples of fully merged university systems that the separate entities, to be most effectively operated, have to be reasonably close together. As well, there are typically significant upfront costs for even a bilateral merger, such as the one between Dalhousie and Technical University of Nova Scotia in the 1990s. The transition costs for the consolidation of eleven institutions would be truly daunting. In addition, the creation of such a large institution—there are currently over 35,000 full-time students in the system—would be more likely to generate diseconomies of scale or unit-cost increases rather than decreases.

Recommendation 5(a):

Eliminate the creation of a University of Nova Scotia from consideration.

Establishment of a University of Halifax would be a far less daunting challenge than an attempt to create a single provincial institution. It would require amalgamation of a smaller number of universities and it would operate within a well-contained geographic area. It would be much less prone to either diseconomies of scale or the disadvantages of distance. Consolidation of a smaller number of institutions would be more readily manageable by a central administration. The constituent institutions of a University of Halifax would likely find it easier to allocate resources more efficiently on the basis of areas of strength or comparative advantage. Cross-department program development and cross-appointments of faculty could be more readily carried out where the merging entities are physically contiguous.

A key issue to be addressed is whether all of the institutions in the metro area should be part of the merger. While Mount Saint Vincent, Saint Mary's, and Dalhousie would have to be part of any such integration, it is not as obvious that Nova Scotia College of Art and Design (NSCAD), University of King's College, and Atlantic School of Theology (AST) should logically be involved. Among the potential complications is whether the complementarity of the three smaller institutions with the three larger ones is as straightforward as is the case with the three larger ones taken alone. For example, the University of King's College may not be as natural a fit in a larger entity as it is with Dalhousie alone.

Although the upfront costs of creating a University of Halifax would almost certainly be lower than those for a provincial university, they still would be considerable even for the three larger institutions alone. As well, the costs

of integrating each of the small institutions would likely not be much lower than those for the larger ones. The basic costs of integrating information technology platforms, support structures, procedures and processes, and administrative units are likely to be the same irrespective of institution size.

While the concept of a University of Halifax is both more logical and more appealing than that of a University of Nova Scotia, it is too large a consolidation effort to contemplate, at least in the current environment. For a government faced with having to impose fiscal restraint, the transition costs for a merger of six institutions would be far too high to seriously contemplate. Even in much better fiscal circumstances, it would be a huge task and arguably one that would prove not to be financially feasible unless the anticipated improvement of quality in the system were expected to be substantial.

Recommendation 5(b):

Remove the creation of a University of Halifax from consideration, at least over the next five years.

Program consolidation involves reducing the number of institutions that may offer a particular program. In the 1990s the B.Ed. and M.Ed. programs in the Halifax universities were consolidated at Mount Saint Vincent, and the faculties of education at Dalhousie and Saint Mary's were eliminated. Three other universities maintained their B.Ed. and M.Ed. programs, namely St. Francis Xavier (St.FX), Acadia, and Université Sainte-Anne. The proposed amalgamation of the business faculties in the Halifax universities was not effected.

If the primary benefits of program consolidation are cost reductions and the potential for upgrading the overall quality of the combined programs, the issue is whether there are any obvious candidates for another attempt at program consolidation. Because the programs in the business and education faculties were more like those of a department than those of arts or sciences faculties—more homogeneous, easier to coordinate and to integrate into thematic majors—the rationale for consolidating them across institutions was more obvious. There are no obvious additional candidates from the humanities, social sciences, languages, mathematics, physical and biological sciences areas.

Recommendation 5(c):

Remove program consolidation (reducing the number of institutions that can offer specific programs) as a restructuring option.

It has been argued that the challenges of merging all or several of the province's universities are too daunting to consider either option, at least for the time being. However, bilateral mergers—consolidation of just two institutions—can deliver the same types of benefits as multilateral mergers, albeit on a much smaller scale. In fact, it may actually be easier to achieve the benefits because the process would be so much less complex. It could also be easier to take advantage of areas of complementarity and to eliminate unnecessary duplication when dealing with only two institutions.

Regarding the disadvantages of bilateral mergers, even with only two institutions, there remain the branding and legacy-asset challenges referred to in the case of multi-institution consolidation. There will also be upfront costs of transition, although they will be on a smaller scale than those associated with larger mergers. It could be the case that the benefits are proportionately lower than the transition costs, thus limiting the net gains.

Apart from a directive from government to merge, the driving forces that might compel two universities to consider consolidation, or at least closer integration, include the following:

- a. One of the institutions is in such serious difficulty that it cannot resolve the problem on its own and merging with another institution is one way—perhaps the only way—for the institution to survive. Either the “receiving” institution is prepared to deal with these problems or government assistance is required to make the merger viable.
- b. One or both institutions are significantly constrained in their capacity to grow or in their ability to enhance the quality of their teaching and research activity, and a merger is an obvious route to overcoming the constraints.
- c. Two institutions foresee possible improvements in areas such as research capabilities, program development, or cost savings in administration that would come from a merger.

Of the three driving forces, the one most likely to be the catalyst for two institutions merging would be an existing or impending crisis. The severity of the problem must be sufficient to overcome the normal resistance to the loss of some or all of the independence of one of the universities.

There are steps short of complete amalgamation in which some of the benefits of full integration may be attained. These are affiliation arrangements that leave intact some degree of independence, identity, and asset legacy for one or both of the institutions. Affiliation would be preferred to full amalgamation in cases where the losses from eliminating distinct institutional identity are significant and far outweigh any gains that may occur from a full merger. If the estimated cost savings or quality improvements are not much different between the affiliation and merger alternatives, the former is likely to be easier to achieve.

In the report, several institutions are identified as being at risk for serious financial challenges that could threaten their long-term viability. They included NSCAD, Nova Scotia Agricultural College (NSAC), AST, Mount Saint Vincent University (MSVU), Cape Breton University (CBU), and Sainte-Anne. The first four are potential candidates for mergers, and the pros and cons in each case have been assessed in a very preliminary way. It must be stressed that these are not recommendations for mergers of these institutions but explorations of the options available to them should the risks referred to become a reality.

Nova Scotia College of Art and Design (NSCAD) currently faces a significant cash flow problem in which there is no resolution short of a government intervention. However, even without its current deficit and debt problems, NSCAD has significant constraints on its capacity to expand its offerings or even to continue to offer the full range of current courses and programs. A significant portion of its existing space is not adequate for many of its programs, and it will ultimately require new infrastructure and new premises. Therefore, it makes sense to consider integrating NSCAD with an existing institution in the Halifax area as one way to circumscribe the infrastructure constraint.

The arguments that have been made against the prospect of a merger with another university include the following: (a) the reputation of NSCAD is significantly stronger as an independent entity; (b) the perceived value of a merger would be less obvious in the absence of the current fiscal challenge, albeit the space constraint problem will persist even if the financial issue is resolved; and (c) ongoing operating and capital costs (beyond any short-term transition costs) would increase for a merged institution due to the high unit costs of many of NSCAD'S programs and to the need to expand the specialized physical space required for those programs.

The most obvious merger partner would be Dalhousie University, as NSCAD already has some affiliation with the university and there is potential complementarity between the design programs at NSCAD and the architecture programs at Dalhousie, as well as between the broader fine arts programs at the two institutions. On the other hand, MSVU and Saint Mary's University (SMU) have the physical space for a NSCAD expansion, although the latter is more limited than the former in that regard. However, it is likely that any prospective partner would demand significant government support to overcome any significant cost consequences.

A completely different option to consider is that NSCAD remains an independent institution but shrinks the range of programs it is currently offering. This is the internal restructuring option discussed below. If the most significant structural problem NSCAD is facing is adequacy of space to mount its full range of programs, it could reduce the scope of programs and courses offered to fit the infrastructure now available.

Recommendation 5(d):

Explore both merger and internal restructuring options to address future financial challenges at the Nova Scotia College of Art and Design.

The Atlantic School of Theology (AST) is an extremely small institution and highly specialized in the types of programs and courses that it offers. It is also the only divinity school in Canada that is a fully independent institution. AST already has a significant degree of affiliation with Saint Mary's University. With only 90 students and a relatively small staff, the cost savings from any closer integration with Saint Mary's University are likely to be reasonably small. In fact, a closer integration would likely cause an escalation of faculty salaries at AST to match those at Saint Mary's. Because of the highly specialized nature of AST's course offerings, there is little complementarity that has not already been exploited. Perhaps the most significant concern about a merger between AST and Saint Mary's is that it is unclear what would happen to the financial support provided to AST from the endowment of the former divinity school. There may be some greater degree of academic affiliation to be pursued, but an institutional merger seems likely to create more problems than it resolves.

Recommendation 5(e):

Remove a merger of Atlantic School of Theology with Saint Mary's University from consideration.

As Nova Scotia Agricultural College (NSAC) makes the transition from being a government department, a much closer alignment with Dalhousie University is an option worth assessing. Dalhousie already approves and jointly provides NSAC's degrees. There is considerable potential complementarity in the research and teaching activities of the two institutions that could be more extensively exploited through their closer integration.

On the other hand, NSAC has an international reputation, which might be impaired by a merger that eliminated its brand name. As well, there are no evident cost savings available from merger, as the two campuses are not close to each other and most of the administrative structure at NSAC would have to be retained. With faculty and staff salaries at NSAC lower than those at Dalhousie, there would almost inevitably be an escalation in the former's compensation costs. Hence, if a merger or closer affiliation with Dalhousie makes sense for NSAC, it would not be based on expected cost savings.

While there is no imminent financial crisis looming at NSAC, it does have the highest per-FTE grant of the eleven

universities in the province, and its infrastructure is owned and maintained by the government. Whether it becomes a fully independent institution or is more closely integrated into Dalhousie University, it is not obvious that it would continue to receive the level of government support it currently enjoys. During the transition from being a government entity, the status of its operating grant and its facilities operating costs remain to be resolved. Depending on the outcome, NSAC could be faced with a structural financial challenge.

Recommendation 5(f):

Consider integrating Nova Scotia Agricultural College into Dalhousie University as the college ceases as a government entity.

Mount Saint Vincent University (MSVU) is more at risk from declining enrolments than either of the two larger universities in the Halifax area or than Acadia and St.FX. In part this is because its traditional *raison d'être* of educating and empowering women no longer provides it with a comparative advantage in attracting students. There is limited capacity to increase enrolments from non-traditional sources such as visible minorities and low income individuals. MSVU has relied primarily on students from Nova Scotia and has not attracted or recruited out-of-province students to the extent that Acadia and St.FX have. It relies on part-time enrolment, and the potential to materially increase part-time enrolment is likely to be quite small.

The substantial risk of declining enrolment at MSVU points to the value of its considering merging or, at least, affiliating more closely with either SMU or Dalhousie. The Mount offers two primary benefits to a potential partner. It has the available space to expand the physical infrastructure of the university. It also offers to a potential partner a significant undergraduate enrolment level, which could underpin program expansion and delivery in the Halifax area. In particular, the Education Program, comprising almost 25 per cent of the Mount's enrolment, would be a significant addition to either of the other Halifax universities. There are arguments against such a merger, the most obvious of which is that MSVU has an established reputation and identity, which its alumni, students, faculty, and administration would be loathe to give up. More critically, were the Mount able to sustain enrolment or even increase it, there would be a far less compelling rationale and limited incentive for a merger. Finally, if the merger were with Dalhousie University, the costs of faculty and staff at the Mount could very well escalate to the current levels at Dalhousie, hence increasing rather than decreasing ongoing costs.

Recommendation 5(g):

Explore the potential for merger or significant affiliation of Mount Saint Vincent University (MSVU) with either Dalhousie or Saint Mary's, to mitigate declining enrolment risks at MSVU.

The restructuring options considered to this point are multilateral and bilateral mergers. An alternative for an institution facing serious structural financial problems, but with no obvious or desirable partner, is an internal restructuring of its operations. It would reallocate resources to perceived areas of strength and become a more narrowly focused or specialized institution.

While adding courses, programs, and degrees does diversify the "portfolio" of students and, arguably, lowers the risk of enrolment decline, it also increases operating costs, which will not be covered if enrolment expectations are not realized. By contrast, narrowing the scope of programs offered allows the institution to concentrate its resources and its marketing in areas of strength. This could make it more attractive to faculty and students, thus boosting its hiring and enrolment levels.

A decision to become more specialized would not be an easy one for a university. There are significant impediments to reducing the number of faculty in the given program area. As well, there would be legitimate concern about whether the students lost through program elimination would be offset by the attraction of more students to the areas of identified advantage. The intensity of the internal debates about which programs to reduce or eliminate should not be underestimated. However, if a university were anticipating serious and irresolvable financial difficulty, this might be the most effective option for dealing with the problem. Two at-risk universities should consider this route: Cape Breton and Saint-Anne.

Cape Breton University (CBU) is at high risk of a decline in student enrolments because of its heavy reliance on students from industrial Cape Breton, where the prime age cohort is projected to decline faster than in most other areas of the province. The university has attracted international students but has not recruited significantly from other parts of Canada. As the newest four-year undergraduate institution in the province, it does not have the well-established reputation or brand identity that many of its counterparts have developed over many years of existence. CBU's relatively remote location in Nova Scotia means there is no obvious merger or affiliation partner. This makes increased specialization a more viable option were it faced with irresolvable financial problems. No attempt is made to identify with any specificity possible areas of competitive advantage on which it could focus. However, it has established a reputation in community studies and in particular areas of cultural studies. It is also developing expertise in the area of environmental studies.

With respect to how to reduce its offerings, CBU could consider eliminating whole programs. An alternative approach would be to eliminate four-year degrees in those areas where it may determine it has more limited capacity to compete. Instead, the first two years of the programs would be offered and arrangements made with other universities to accept the students who have completed these two years into the balance of a four-year degree program. However, this is not a proposal that CBU turn back the clock to its former status as a two-year institution or a junior college. It would still offer degrees, but in a more limited number of areas.

Recommendation 5(h):

Consider the need for Cape Breton University to become more specialized in the range of four-year degree programs it offers, as it faces the prospect of a significant decline in enrolment.

Université Sainte-Anne is one of the most heavily subsidized and therefore most costly institutions from the perspective of the government funding required to sustain the university. It has a very small enrolment that is clearly at risk of continuing to decline, at least at the Church Point campus, and it has a limited and declining college population. The university lacks any obvious merger candidate in Nova Scotia, although it has been suggested that it merge in some form with Université de Moncton. There are too many impediments to render this option viable. The most attractive alternative for Sainte-Anne could be a restructuring of its offerings by expanding its programs in the Halifax Region to part-time students who are older adults.

As the Université Sainte-Anne is the only post-secondary institution serving francophone students in Nova Scotia, the government may well choose to maintain the significant subsidization of the main campus programs. However, an increased focus on the Halifax programs could prove an effective way to enhance the financial viability of the university.

Recommendation 5(i):

Consider expanding the programs Université Sainte-Anne offers in the Halifax region to mitigate the small and declining student base at its main Church Point campus.

7.6 Administrative Integration

In lieu of multilateral mergers such as the University of Nova Scotia or the University of Halifax, some of the costs savings may be achievable through a greater administrative integration. In Nova Scotia, the universities already collaborate on the purchasing of a range of goods and services through Interuniversity Services Inc. and on delivery of library services through Novanet. While these joint activities have generated cost savings, there are additional opportunities for reductions in their total spending.

There are several arguments made against a more extensive common purchasing program. First, there are customized elements to the services that preclude joint spending. An example often cited is information technology software. However, such software tends to be designed for universities in general, although an individual institution may choose to use it in ways that others do not. Most standard institutional needs are unlikely to be so different from one university to another as to provide a compelling argument against more extensive common purchasing of software or other services.

If, because of specific institutional requirements, there is a preference for features of some services or products that are available in one offering but not in another, resistance to common purchasing has validity. Even then, it may be possible to negotiate with the supplier an enhancement of the product or service being considered. However, if the resistance is more to change than to significant functional differences in the purchased item, there is no sound basis for refusing a common purchase opportunity.

In short, it is highly unlikely that the benefits of consolidated purchasing have been completely exhausted. However, Interuniversity Services Inc. requires information from each institution on current purchasing activities in order to assess both the potential size of future savings and impediments to achieving them. Assuming that the cost of providing the information does not outweigh the potential savings from its ultimate use, universities in Nova Scotia should be required to provide it.

Recommendation 6(a):

Require universities to provide Interuniversity Services Inc. with the data necessary to assess opportunities to achieve additional savings from integrated purchasing.

Some of the administrative and academic services that are provided from within the institution might be cost-effectively contracted out to a common service provider. Such services might include financial administration, registration services (notably a common application system), human resource management services such as payroll, and even academic services such as program approval and distance education.

Reluctance to move to shared services would likely be substantial, as has been the case with the development of a common application process and other suggestions from a comprehensive study of the issue in the mid-90s. A number of impediments have been cited, including the following:

- a. Individual institutions have unique facets to their particular services, which would preclude an integrated approach.
- b. It may be difficult, especially for the smaller institutions, to get service problems resolved by the common provider; therefore, the university needs its own people who are familiar with the service to provide solutions.
- c. Proposals for instituting a single application mechanism have been considered and rejected as unfeasible in Nova Scotia because of the anticipated start-up costs, limited efficiencies, and minimal savings in staff costs. Concern has also been expressed about the potentially negative effects a common application process might have on recruitment, especially of out-of-province students.
- d. Consolidation of service provision would be undertaken only if significant savings in staff costs would result from it, and that gives rise to a concern—rarely expressed explicitly—that jobs will be lost in the local economy.

Taking each of the objections in turn, these are the counter arguments:

- a. It is unlikely that, in the day-to-day financial and human resource management operations, any one university's requirements are so different that they could not be accommodated by competent, well-managed external providers. There are plenty of examples of shared-service models in Atlantic Canada and nationally, including health care, school boards, and banking.
- b. A reliable service provider with experienced staff should be at least as capable as onsite staff to deal with problems. This occurs routinely when companies have an array of customers with quite diverse needs and problems. A properly designed performance assessment and complaint resolution mechanism can ensure that smaller institutions will get equitable treatment in solving their problems.
- c. If the number of institutions in Nova Scotia is insufficient to generate adequate cost savings from a common applications process, expanding it to all universities in the Atlantic region could well deliver the desired cost reductions. Since universities can advertise and directly recruit students in any manner they choose, a common administration for collecting and sorting applications should not inhibit such activities.
- d. It is not the primary responsibility of a university to maintain every job currently performed by its faculty, staff, and administrators, but to provide quality teaching and research as effectively (and efficiently) as possible. In any event, cost savings generated by outsourcing could be reallocated to create new jobs at the university.

Recommendation 6(b):

Conduct a detailed assessment of the internally provided services that could be outsourced to a common provider to generate cost savings, and establish a timeline and process for implementing advantageous outsourcing.

7.7 Key Performance Indicators for Quality Assessment and Accountability

Universities are accountable to three primary groups: taxpayers; students (and their parents); and the boards of governors and senates responsible for oversight of the universities' operations. The pressure on governments to

account for how taxpayers' funds are used leads to a greater demand for transparency of the outcomes generated by those various uses. As the gains to individuals from a university degree are high and rising, students (and parents) will want better information on where and how to make the investment in higher education. Faced with a range of (often competing) requirements from governments, students, administrators, faculty, and staff, boards and senates need more and better information for their deliberations about the future direction of their institutions.

In the discussion of the assessment of universities, fundamentally the reference is to the effectiveness with which the institutions carry out their primary responsibility of teaching and learning. As well, the preferred measurements of performance are the outputs or outcomes of the institutions' teaching activities. However, while it is possible to delineate potential measures of educational quality and related institutional performance, there is no single set of indicators upon which all agree. Not only are there limitations on what can be measured, but there are significant disagreements about what should be measured, how data should be interpreted, and ultimately how they ought to be used.

Two broad categories of quality indicators are typically cited. Input data include financial resources, quality of faculty, quality of incoming students, educational processes, and facilities/materials used. Outputs include learning and research outcomes, student achievements post-graduation, and student experiences while enrolled. Extensive information is available on the inputs used in the university system. They have been used as proxies for quality both because of ease of collection and because it was assumed that resources such as finances, faculty quality, and faculty/student ratios generated quality outcomes.

There is little empirical evidence that the level or quality of resources available to an institution has an impact on educational outcomes. That has led to the use of two other data types: measures of outcomes; and indicators of the learning process. The former group includes information on post-graduation success of students, enrolment levels, retention and graduation rates, student and faculty awards, and reputational surveys. To date, the learning process assessments have come from the survey of undergraduate students called the National Survey of Student Engagement (NSSE) and the survey of graduate students from the National Graduate Survey (NGS).

Even though using all of the data referred to would not provide a comprehensive picture of each university in Nova Scotia, it would allow a much greater degree of disclosure and transparency than currently exists. With the data already available and that which could be gleaned from existing sources, it would be possible to design a performance indicator report on the individual universities in Nova Scotia and on the system.

The report does not provide a detailed sketch of a possible key performance indicator (KPI) report, as it would merit a comprehensive study on its own. As well, the specific components of a report card will, properly, need to be negotiated with the institutions whose performance is to be measured. However, the main elements can be suggested. There should be considerable emphasis on learning outputs and final outcomes, which implies that NSSE and NGS results should figure prominently. As well, administrative data already collected should be incorporated. Data on the characteristics of entering students will be relevant to a comparative analysis of entering and graduating attributes of students. If counterparts across Canada are interested in the joint funding of new surveys or further development of existing ones, that should be pursued.

University administrators, faculty, staff, and even boards of governors are likely to resist the creation of a publicly available report on their performance. They will be concerned about the potential for it to misrepresent the strengths of their institutions because it is missing qualitative information that would reveal those strengths. The opposition would be more fierce if there were expectations that the report would be used for government funding decisions that could be detrimental.

With respect to the report being misleading, it should be noted that many of the universities that were critical of the initial *Maclean's* surveys now use the ranking data in their marketing to potential students. On the matter of government funding, it is a strong recommendation of this study that any KPI report that is ultimately negotiated not be used for funding decisions. It is far too soon to design a funding formula that incorporates a compilation of performance indicators whose reliability is open to debate.

Recommendation 7:

Create key performance indicators for quality assessment and accountability, under the following guidelines:

- a. Engage experts in the design of quality assessment tools for higher education to assist in the development of a prototype report card for Nova Scotia universities.
 - b. Negotiate the elements of a regular report on the performance of the province's universities.
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7.8 Infrastructure

Funding reductions to universities in the 1990s, not just in Nova Scotia but across the country, forced university administrations to make very difficult choices regarding the allocation of funds within their universities. The funding restraint forced universities to direct their limited resources to the core functions of teaching and research and postpone investment in facilities renewal and modernization. Over the succeeding years there have been updated estimates of the accumulated costs of deferred maintenance. By 2008, the figure stood at almost \$550 million based on an industry standard of 2 per cent annual replacement of the total value of facilities. Using the same standard, the projected annual financial requirement for infrastructure renewal in Nova Scotia's university system is \$48 million.

Since the late 1990s, provincial groups such as the Council of Nova Scotia University Presidents (CONSUP) and regional organizations such as the Atlantic Association of Universities have pressed provincial and federal governments for one-time funding to deal with deferred maintenance and increased annual grants to cover ongoing facilities renewal. Their efforts have met with varying degrees of success. From the \$2 billion Federal Infrastructure Trust Fund established in 2006, Nova Scotia received almost \$29 million. However, the provincial government directed funds from this program towards tuition reduction, student financial assistance, and apprenticeship programs. None of the funds went towards infrastructure renewal.

In 2008, the government created the Nova Scotia Crown Share University Infrastructure Trust Fund to provide capital funding to Nova Scotia universities. The Trust provided almost \$24 million, and the funds were distributed to the universities based on an established allocation schedule for alterations and renovations funding. In 2009, Industry Canada formally announced that Nova Scotia would be receiving \$56.7 million in federal funding for university and community college infrastructure projects under the Knowledge Infrastructure Program (KIP).

Despite the significant level of infrastructure funding provided in recent years, there remain the unresolved problems of accumulated deferred maintenance (estimated to still be over \$400 million) and the lack of an ongoing infrastructure renewal fund sufficient to underwrite the estimated annual requirement of \$48 million.

Although there are sound reasons to propose that governments increase their financial support for university infrastructure, several issues need to be considered, including the following:

- a. Because the estimates of deferred maintenance costs have come from the universities, it would be helpful to have independent verification, especially of whether such standards are applicable to university facilities.
- b. In the context of fiscal restraint, universities will likely have to recalibrate their spending priorities.
- c. If restructuring options were chosen that rendered facilities redundant, it would make little sense to fund their refurbishing.
- d. Private companies may be interested in owning and managing certain university facilities in a public–private partnership model used for other types of publicly owned infrastructure.

However, it will be important for the government to consider increasing its funding for university infrastructure to ensure that the individual institutions remain attractive places for students to attend and for faculty and staff to work.

Recommendation 8:

Address infrastructure needs, under the following guidelines:

- a. Seek an independent assessment of both deferred maintenance and ongoing facilities renewal costs.
 - b. Encourage universities to explore private ownership and management opportunities for some of their facilities.
 - c. Consider increases in funding for university infrastructure.
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7.9 Research, Technology Transfer, and Commercialization

While teaching is a university's most important responsibility, research carried out in its various disciplines is also a critical contribution to society. The gains from university research—in the physical and biological sciences, engineering, social sciences, humanities, and business—accrue to society, especially for pure or discovery research that expands the foundations of our knowledge. Applied research also advances our knowledge but is closer to being directly and immediately usable by businesses, government, and other organizations. The focus in the report is on applied research that has the potential to be commercialized.

University faculty in Nova Scotia rely on both government and private sources of funding to support their research, with the former providing about 55 per cent of the total financing. The individual institutions vary significantly in the level of financial support per faculty member they receive. In addition, the data on research funding at a national level indicate that the province's university faculty are not attracting financial support at the same pace as their colleagues in the rest of the country. The reasonable conclusion to draw is that the universities in Nova Scotia are relatively less research-intensive than their counterparts in other provinces.

If it is considered desirable that, for the purposes of commercial application, there be a significant increase in the transfer of research-based knowledge and technology from the university to the wider community, the current

level of research activity in the province's universities may be inadequate to that task. This implies a need to be as effective as possible in utilizing the applied research that is being done.

There has been a longstanding debate on the extent to which university research should be deliberately tilted more towards the applied end of the spectrum. Universities and their faculty tend to assert that those engaged in research should be free to follow the paths towards which their curiosity and experience lead them. The contrary position, often associated with policy makers, is that public funds support university teaching and research. Taxpayers have a right, from this perspective, to expect more tangible benefits from this research than the satisfying of academic curiosity.

The practical approach to resolving this debate is to accept that many university researchers are inclined towards the applied end of the research spectrum. Policy efforts should be directed towards harnessing the potential commercial benefits that may be embedded in such research rather than attempting to mandate that faculty engage in more applied work.

There are, in fact, internal university/college mechanisms and federal and provincial government-supported programs that are designed to effect the transfer of knowledge and technology from the university community to the business community. For universities, the primary internal mechanism for technology/knowledge transfer and research commercialization is the industrial liaison office (ILO). The core function of the ILO is to be the institutional focal point for commercializing a university's research activity and facilitating and supporting enhanced linkages between this research activity and business. Springboard Atlantic is a regional coordinating organization for the network of Atlantic region ILOs. Both the individual ILOs and Springboard Atlantic are financially supported by the federal government.

A number of federal and provincial programs have been developed to support and encourage the technology transfer and commercialization process in Nova Scotia and the Atlantic region. Some of them are directed towards university researchers (e.g., the Early Stage Commercialization Fund), while others provide funding for businesses to support their purchase of services from university researchers (e.g., the Productivity and Innovation Voucher Program and the Industrial Research Assistance Program). As well, there are federal agencies and programs whose focus is on fostering academic–industry partnerships. The best known of these is the Atlantic Innovation Fund (AIF), which has awarded, since 2001, a total of \$640 million to 247 individual projects across Atlantic Canada.

Most of the programs of support are of relatively recent vintage, having emerged only in the last decade. As a consequence, Nova Scotian and Atlantic Canadian institutions are in the early stages of developing a formal and focused capacity for facilitating increased commercialization of their research activity. Although the region's universities are far behind their counterparts in other parts of Canada, there are indications of some modest catch-up occurring. Data on licensing and royalty income, level of industry-sponsored research, and the number of spin-off ventures for the member institutions of Springboard Atlantic point to a better performance on these metrics for Atlantic Canadian institutions relative to counterparts elsewhere in Canada.

The programs supporting and facilitating technology transfer and commercialization of applied university research have been in place long enough for some initial assessment of their effectiveness. Before the renewal of government funding, especially for AIF and Springboard Atlantic, such an evaluation should be conducted. One area that ought to be examined is the value of having ILOs in all of the province's universities. Given the modest level of funded research being carried out in most of the universities, an ILO for Dalhousie and one for the other universities should be considered.

Recommendation 9:

Encourage more research, technology transfer, and commercialization, under the following guidelines:

- a. Create an effective mechanism for harnessing the potential of applied research currently being conducted by university faculty.
 - b. Before renewing major funding directed at encouraging research commercialization, carry out a comprehensive assessment of the effectiveness of such funding.
 - c. Consider maintaining the Industry Liaison and Innovation (ILI) office at Dalhousie, and amalgamating the industrial liaison offices (ILOs) of other universities into one.
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7.10 University Funding Formula

Substantive and broad-based provincial funding of Nova Scotia's universities began in the early 1960s. The role of the federal government has, since the late 1960s, been to provide grants—initially tied and later unrestricted—to assist provinces in post-secondary education financing. It also provides support directly to universities for research and special projects. From the beginning, the province has used some version of a funding formula that has enrolment as a key factor in setting the allocations.

From the mid-1970s to the late 1990s, the province used a funding structure first set up by the Maritime Provinces Higher Education Commission (MPHEC). In it, 75 per cent of the government grant was based on historical funding patterns, and the enrolment portion (25 per cent) was determined by a three-year weighted FTE average for each institution. This was to ensure that there were no dramatic funding shifts among institutions. However, over that period, there were substantial changes in enrolment, new programs were introduced, and funding decisions became increasingly ad hoc and disjointed. A new formula for financing Nova Scotia's university system had to be established. The revised university funding formula was first used for the 1998–99 fiscal year. The funding formula, almost from the beginning, became a funding allocation formula divorced from the decisions about total grant levels.

In 2003, two significant changes occurred in the operating grant structure that have continued to the present. The government decided to proceed with the negotiation of a multi-year agreement with the universities, the key objective of which was to bring rationality, comprehensiveness, stability, and transparency to the system's funding. There have been two successive three-year MOUs signed with the province's universities.

The other change was creation of a two-part structure for determining system and institutional funding. The first part involved establishing projections of the system's costs over the lifetime of the MOU. There was agreement on twelve “budget drivers” for the system that were standardized for each university. That is, the individual elements—faculty salaries, benefits, utilities, debt servicing, technology, etc.—were accounted for in the same way by each institution. Projections for the budget drivers and for inflation—along with the fiscal position of the government and tuition levels—were incorporated into the negotiations. This process set the total level of the operating grant.

The second stage laid out the allocation of the grant among the eleven universities. With the total funding level determined, 90 per cent of the allocation to universities is enrolment-driven and 10 per cent addresses special

circumstances and other items such as research. In the first MOU, the University Funding Distribution Formula used enrolment data for the three-year period 1994–95 to 1996–97, rather than the most current enrolments available. The enrolment levels were fixed for the three-year period of the MOU to prevent radical changes in the funding shares going to each university. For the second MOU, enrolment levels for years 2003–04 to 2005–06 were used and also fixed for three years.

The enrolment-driven component of the formula is built from data provided by the MPHEC through the Post-Secondary Student Information System (PSIS). Enrolments are arranged in 12 “bins” that reflect the relative cost of instruction/delivery. The least expensive bin (Alpha) has a weight of 1 and includes most of the courses taught in an undergraduate Bachelor of Arts program. Alpha’s value is set at an estimated course cost, and all courses in the other bins are set relative to Alpha. Dentistry, the most expensive program, has a bin weight of 10; therefore, one full-course-equivalent (FCE) in Dentistry would have a cost of ten times an Alpha (FCE). When the global funding for the system is increased, the base value of the operating grant per FCE changes for each course in every bin.

For the current MOU, use of the funding formula with updated enrolments would have meant that some universities would receive funding lower than their projected costs, and some would receive more. Consequently, an adjustment was made so that all universities received a funding increase for each year of the MOU.

The approach employed by Nova Scotia to determine the level of the university system grant and its allocation is basically logical, consistent, and well-structured. It combines a focus on the projected costs of the operation of the system with an allocation linked to enrolment levels at each institution. If one measure of the performance of a university is an ability to attract students, public funding should reflect success in that endeavour. Nova Scotia’s framework for funding its universities is, arguably, the best of its kind in Canada and should be retained in future.

The two MOUs on university funding have served all stakeholders in Nova Scotia well over the past six years. They have provided stable and predictable funding for the universities and allowed them to do medium-range planning. The MOU model appears to be unique in Canada and is certainly worth retaining.

Recommendation 10:

Retain the basic framework of the University Funding Distribution Formula and the multi-year funding agreement, under the following guidelines:

- a. Negotiate the enrolment baseline and the proportion of the formula driven by changes in enrolment levels.
 - b. Set the minimum length of the agreement at three years.
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