Policy Options for Improving the Quality and Cost-effectiveness of Undergraduate Education

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Outline

1. Global forces, income, growth and higher education
2. Concerns about learning outcomes and costs
3. Unsustainability of a universally-applied research university model
4. Ideas for improving quality and cost-effectiveness
5. Lessons from other higher education systems
6. Twenty-eight recommendations for Ontario

87 slides!
Part 1

Global Forces, Income, Growth and Higher Education
Global forces and international trends

- Globalization forces government focus on competitiveness (and fiscal sustainability)
- Universities seen as instruments of state economic development
  - “knowledge society”
  - “innovation agenda”
  - “brain gain”
- Instrumentalism: “useful” training and “useful” research
  - privileging STEM disciplines (science, technology, engineering, mathematics)
- Competition for the best faculty and best students
- Rankings and performance measurement
- Quality assurance and curriculum standardization
  - Bologna process in Europe
- International education as a market opportunity
Income and education

- years of education, credential, spending
- but how much is due to innate ability and signalling effects?

- years of education, degrees, spending
- but how much is due to consumption and status effects?
INTRODUCTION

Issues related to a "skills" strategy, or perhaps more accurately a "high skills" strategy, appear to be near the top of the public policy agenda. Internationally, for example, the United Kingdom’s Chancellor of the Exchequer, Gordon Brown, indicated recently that he was "very much focused on the problems that arise for productivity and social cohesion if there is not a sufficient opportunity for people to get the skills necessary" (Riddell and Webster 2002). This statement was followed a few days later by the largest real increase in educational spending to occur in the UK in a few decades together with programs to increase both quality and accessibility. In Canada a similar argument seems to be motivating several public initiatives. The skills and learning agenda of the federal government’s innovation strategy rests on the principle that in the knowledge economy, prosperity depends on innovation which, in turn, depends on the investments through formal education, are crucial to increasing productivity and economic competitiveness.

Despite this clear policy direction, there are challenges to the value placed on education by both the individual and the country. After clarifying a few conceptual issues, I will evaluate these challenges and explore the evidence for them in relation to recent research on the link between education and productivity. I will address three sets of evidence. First, from a microeconomic perspective, I will consider the causal impact of education on individual-level earnings, which has long been considered a measure of at least marginal productivity. Then I will look at the impact of education on national productivity as reflected in economic growth per capita. Finally, I will turn to issues related to the Canadian education system for systems, as there really are many. Since the education system generates the skills that are — barring the above-mentioned challenges — believed to be determinants of productivity, issues surrounding it are of direct relevance.
Cognitive skills and economic growth

Figure 6

Educational performance and economic growth across world regions

\[ y = 0.0231x - 7.7811 \]

Notes: Added-variable plot of a regression of the average annual rate of growth (in percentage) of real GDP per capita in 1960-2000 on the initial level of real GDP per capita in 1960 and average test scores on international student achievement tests (mean of the unconditional variables added to each axis). Own depiction based on the database derived in Hanushek and Woessmann (2009).
Cognitive skills and economic growth

Figure 7
Educational performance and economic growth in the full sample

Notes: Added-variable plot of a regression of the average annual rate of growth (in percentage) of real GDP per capita in 1960-2000 on the initial level of real GDP per capita in 1960, average test scores on international student achievement tests, and average years of schooling in 1960 (mean of the unconditional variables added to each axis). OECD countries are labeled by country codes for better readability and non-OECD countries by symbols only. Own depiction based on the database derived in Hanushek and Woessmann (2009).
Cognitive skills and economic growth

Figure 8
Trends in educational performance and trends in economic growth rates

Notes: Scatter plot of trend in the growth rate of GDP per capita from 1975 to 2000 against trend in test scores for countries whose test scores range back before 1972. Own depiction based on the database derived in Hanushek and Woessmann (2009).
Part 2

CONCERNS ABOUT LEARNING OUTCOMES AND COSTS
Canadian universities must reform or perish

From Today's Globe and Mail
Published Monday, Oct. 10, 2011 7:30PM EDT
Last updated Tuesday, Oct. 11, 2011 12:15AM EDT

Canada has made a big bet on undergraduate education as the path to prosperity. We've opened our campuses and our wallets to produce one of the most educated populations in the world.

But the best educated? Look into classrooms, and it's a troubling sight. Classes of 500 students or more taught by an emerging cohort of indentured PhDs who carry a growing share of the teaching "burden" but have little hope of long-term employment. Professors who get "relief" from teaching obligations to pursue research. Classes and courses of study that prize particular academic disciplines rather than make the connections among disciplines that are so crucial to learning.

For students, it's unacceptable; for taxpayers and families who spend tens of billions of dollars each year, it's unsustainable.

The reformist wave that is transforming health-care delivery in Canada must now reach undergraduate education at our publicly funded institutions.

As former Ontario Undergraduate Student Alliance executive director Alexi White points out, it is curious that we require years of training for high school teachers, but not an hour of training for those teaching students just a year older. Governments should shift the per-student funding formula to hold back money until underperforming faculty members get remedial training in teaching. If you can't explain it, you shouldn't be allowed to teach it.

As long as students are guaranteed some small classes, we don't need to abolish large classes. They can be great, as long as faculty get the time, technological tools and training to teach them well. That's especially important now that the Internet has turned information into a commodity. Dumping information from a professor's head onto a student's notebook isn't education.

There are lessons to be drawn from Britain, which has experimented with teaching training for faculty for decades and is considering making it mandatory. Academic Reform, a forthcoming book by Ian Clark and his collaborators, suggests the creation of new, undergraduate-focused universities. And to force universities' hands, the authors suggest separating universities' operating support for universities into two streams: a teaching grant and a research grant.

Many university leaders want change. They now have to steer their institutions, so good at producing new knowledge, to get smarter about their own affairs.

As a country, we have made some strides in making undergraduate education affordable, with government-funded scholarships, more public lending and private giving.

Now we must tackle the quality of that education. Let's begin a reformist agenda and bring the values and practices of a liberal arts and science education to the masses – and create the kind of citizens and future workers essential to a free and democratic society.
Measuring cognitive performance

The Collegiate Learning Assessment

- critical thinking
- complex reasoning
- written communication

Sample CLA Performance Task

You advise Pat Williams, the president of DynaTech, a company that makes precision electronic instruments and navigational equipment. Sally Evans, a member of DynaTech’s sales force, recommended that DynaTech buy a small private plane (a SwiftAir 235) that she and other members of the sales force could use to visit customers. Pat was about to approve the purchase when there was an accident involving a SwiftAir 235.

Your document library contains the following materials:
1. Newspaper article about the accident
2. Federal Accident Report on in-flight breakups in single-engine planes
3. Internal Correspondence (Pat’s e-mail to you & Sally’s e-mail to Pat)
4. Charts relating to SwiftAir’s performance characteristics
5. Excerpt from magazine article comparing SwiftAir 235 to similar planes
6. Pictures and descriptions of SwiftAir Models 180 and 235

Sample Questions: Do the available data tend to support or refute the claim that the type of wing on the SwiftAir 235 leads to more in-flight breakups? What is the basis for your conclusion? What other factors might have contributed to the accident and should be taken into account? What is your preliminary recommendation about whether or not DynaTech should buy the plane and what is the basis for this recommendation?
“Growing numbers of students are sent to college at increasingly higher costs, but for a large proportion of them the gains in critical thinking, complex reasoning, and written communication are either exceedingly small or empirically nonexistent.

“At least 45 percent of students in our sample did not demonstrate any statistically significant improvement in Collegiate Learning Assessment [CLA] performance during the first two years of college. [Further study has indicated that 36 percent of students did not show any significant improvement over four years.]

“While these students may have developed subject-specific skills that were not tested for by the CLA, in terms of general analytical competencies assessed, large numbers of U.S. college students can be accurately described as academically adrift. They might graduate, but they are failing to develop the higher-order cognitive skills that it is widely assumed college students should master.”
Whose fault?

<table>
<thead>
<tr>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>hours per week studying</td>
<td>hours per week teaching</td>
</tr>
<tr>
<td>1950s</td>
<td>1950s</td>
</tr>
<tr>
<td>1990s</td>
<td>1990s</td>
</tr>
</tbody>
</table>

Saint Augustine, 397 AD (The Confessions)

“I set about diligently to practice what I came to Rome to do - the teaching of rhetoric. Yet, the Roman students - breakers of faith, who, for the love of money, set a small value on justice - would conspire together and suddenly transfer to another teacher, to evade paying their master’s fees.”

George Kuh, 2003 AD (Change, 35, p 28)

Students and faculty have struck a **Disengagement Pact** “I’ll leave you alone if you leave me alone ... I won’t make you work too hard (read a lot, write a lot) so that I won’t have to grade as many papers or explain why you are not performing well.”
The coming fiscal crunch

- Although better positioned than many others, Canadian fiscal environment in next decade will be similar to 1990s
- Ontario and several other provinces in much worse shape than others

Assumption: Average program spending growth will be 1.9% after 2012-13
Threat to the American model?

- Fees rising faster than ability to pay
  - Median household income has grown by a factor of 6.5 in the past 40 years
  - Cost of attending a state college has increased by a factor of 15 for in-state students and 24 for out-of-state

- Productivity declining
  - In 1961 full-time students in 4-year colleges spent 24 hours a week studying; that has fallen to 14
  - In US, only 40% of students graduate in 4 years

- Professors not particularly interested in students’ welfare
  - Advancement depends on published research, not teaching

- Administrative bloat
  - Spending on university administrators rose faster than teaching faculty
Part 3

UNSUSTAINABILITY OF A UNIVERSALLY-APPLIED RESEARCH UNIVERSITY MODEL
The research paradigm and its consequences

• Knowledge production: the challenge of contributing to national productivity, competitiveness and sustainability
  – Additional funding for the direct costs of research
  – Greater status for research at the university
  – Pressure to expand graduate programs

• Consequences, given funding constraints:
  – Full-time faculty shift time to research and graduate student supervision and away from undergraduate teaching
  – Institution subsidizes new related costs from core operational revenue, decreasing that available for undergraduate programs and support
Research universities and undergraduate teaching
Ontario universities’ CPI-adjusted annual $ per student has been relatively stable at about $13,000 ($2007) since the 1980s.
Paradox of stable revenues and financial crisis

• University inflation widely estimated at 4-5% (long-term)
  – faculty compensation: across-the-board increases, progress through the ranks, market adjustments, benefits
  – administrative compensation and non-salary costs (e.g., energy)
  – cost pressures arising from competition: fundraising, research, student recruitment

• Teaching loads for full-time faculty have declined over the long term
  – across-the-board, and through special arrangements for research and administrative responsibilities
  – 4 one-semester courses per year is most common; exceptions up and down
How students are affected

Larger class sizes
- Most students are at a university where more than 30% of first-year classes offered have 100+ students

More part-time faculty
- Part-timers teach more than half the classes in some large faculties

Shorter semesters
- Some universities moving from 13 weeks to 12 (vs. 15 weeks in US)

Impact on student learning?
- We don’t directly measure student learning on a system-wide basis (unlike K-12 system)
What makes a research university expensive?

- Teaching loads are necessarily low
  - Typically 2+2 for full-time faculty
- Expanding teaching always means expanding research
- As a condition of expanding undergraduate enrolments, every university expects funding for graduate/professional enrolments
  - Graduate/professional spaces are the most expensive
- All universities devote resources to competitive research grants
  - Costs of competition (e.g., VP Research offices)
  - Research overhead is underfunded, so resources drawn away from teaching
- High barriers-to-entry prevent the emergence of competing lower-cost models
The “enduring myth”

...that teaching effectiveness needs research productivity

Fig. 1. Teaching-Research Relation. Scatter Plot Showing the Size of the Relation ($r = 0.03$), the Best Fit Regression Line, and the 95% Confidence Interval.

Conclusion

...need to focus on each, but almost independently

The Relation Between Research Productivity and Teaching Effectiveness

Complementary, Antagonistic, or Independent Constructs?

The major responsibilities of academics in the modern university are teaching and research as well as, to lesser extents, administration and community service. Indeed, some (Critenden, 1997) consider that one of the defining characteristics of a university is that all academics are expected to be active researchers and active teachers (while noting the rationale for teachers who are not expected to pursue research in non-University tertiary institutions). Senior academics often contend that this mutually reinforcing, symbiotic relation between teaching and research is what distinguished universities from other research and educational institutions (Neumann, 1992). Conventional wisdom—typically not based on empirical research—is that teaching and research are mutually supporting if not inseparable (Webster, 1986). Ideally, teaching effectiveness and research productivity are complementary. Much of the rationale for the existence of research universities is that these two activities are so mutually reinforcing that they must coexist in the same institutions. Marsh (1987), Hattie and Marsh (1996), Braxton (1996), and others, however, argue that plausible arguments can be made as to why teaching and research activities should be complementary, conflicting, or unrelated to each other.

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Gains from specialization and concentration

• Faculty specialization: Some professors are far more gifted researchers than others; it makes sense to concentrate research dollars, including faculty time, on the most productive researchers.

• Institutional specialization: There are many areas of the university system where there are benefits to be captured by more concentration and specialization.
  – e.g., research and graduate education, where the average cost falls as scale increases, where efficiencies can be gained through specialization, and where benefits can be obtained from working in proximity to those performing related activities.
Specialization and system productivity

- Imagine that research productivity follows something like a “70-30 rule”
- 70 percent of total research done by top three deciles (each successive decile of professors produce 0.68 as much research)

**Suggestive factoid:** Vedder et al (2011) estimate that at University of Texas - Austin, the most productive decile earned 91 percent of research dollars and the next decile virtually all the rest in 2010-11

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**Scenario A:** All faculty spend same amount of time on research and teaching (40-40-20)

**Scenario B:** The 30 percent most research productive faculty shift 50 percent of teaching time to research (20-60-20) and remaining faculty shift 50 percent of research time to teaching (60-20-20)

Teaching output assumed equal for all deciles because teaching performance not correlated with research performance

Scenario B delivers 20 percent more research & 20 percent more teaching than Scenario A
Challenging a uniform system

- Funding can encourage uniformity
  - Expand undergraduate enrolments
  - Raise the proportion of students who are in graduate and professional programs
  - Pursue competitive research grants
- Uniformity
  - Raises costs of serving larger numbers
  - Reduces flexibility to respond to students with diverse needs
- International experience is clear: if a differentiated system is desired, deliberate and sustained government action is necessary

The Contradictions of Isomorphism

In the 21st century, the trend toward isomorphism can still be observed and tends to restrict the development of differentiated academic systems. Public authorities need to ensure diverse academic models to serve varied societal needs, while many academic institutions still tend to emulate the research universities at the top of the system. Academic staff often press the university to emphasize research as its key mission, knowing that a research orientation and productivity in this area promise the highest prestige and (often) the best salaries for academics.

If the universities remain the sole decision makers, many more academic institutions would seek to improve their status by becoming research intensive. In most cases, this strategy does not serve the interests of academe in general nor is it widely achievable.

Often, it takes governmental "steering" to keep the academic system diversified and institutions within the system serving larger national goals...The essential problem of isomorphism involves unbridled competition among academic institutions pursuing the same goals. This trend may undermine efforts to develop a system of institutions that is appropriately differentiated, based on the specific needs of a given system-with different goals and responsibilities, patterns of funding, admissions policies, and other characteristics.
The need for reform, particularly east of Alberta

• Saskatchewan, Manitoba, Ontario, PEI, Newfoundland try to have a high-access university system using the most expensive model
  – Almost 100% of undergraduates are at “research universities”
  – The norm for faculty is to allocate their effort on a 40-40-20 model (teaching-research-service)
• This model is unsustainable
  – Increased share of teaching done by part-timers
  – Larger class sizes
  – Students from disadvantaged backgrounds less likely to succeed in this environment
• These provinces should look at new models of baccalaureate education, learning from BC’s five primarily teaching universities and from Alberta’s Grant MacEwan and Mount Royal
Part 4

IDEAS FOR IMPROVING QUALITY AND COST-EFFECTIVENESS
Where we looked for ideas on improvement

• Studies by international bodies
  – United Nations (UNESCO)
  – World Bank
  – OECD

• Studies by governments
  – Bradley report in Australia and Browne report in England
  – Plant report in British Columbia and O’Neill report in Nova Scotia
  – Spelling commission in United States
  – Various commissions in Texas

• Studies by higher education research centres
  – including the Higher Education Quality Council of Ontario (HEQCO)

• Selected (from the over 100!) higher education journals

• Studies by university, faculty and student associations
Principles for public sector improvement

• OECD and IMF have reviewed general principles for improving the quality and cost-effectiveness of public service delivery.
• We use the following principles to generate and evaluate options for improving the quality and cost-effectiveness of undergraduate education:
  – focusing on core functions (i.e., undergraduate education and leading-edge research)
  – specialization and differentiation
  – market-sensitive compensation
  – performance measurement and management
  – transparency and public accountability
Common themes from other studies

- System planning
- Student choice
- Regulated differentiation
- Teaching improvement
- Teaching assessment
- Quality assurance
- Outcome assessment
- Performance measurement
- Public reporting
- Performance funding
- Accountability agreements
- Faculty engagement and internal leadership
Teaching improvement and assessment

• The scholarship of teaching and learning (SoTL)
• Using learning technologies
• Teaching support centres
• Curriculum reviews, high-impact practices, optimal class size mix
• Student course evaluations
• Faculty performance review
• Options for encouraging teaching improvement
  – targeting funds to teaching support centres
  – commitments on strengthening teaching support in each MYAA
• Options for improving teaching data
  – replicate Australian reporting requirements
  – supplement with data on teaching loads teaching loads and course intensity (number and length of classes and weeks of instruction)
Academic standards and quality assurance

• Degree standards and qualifications frameworks
  – Lumina Foundation’s 2011 Degree Qualifications Profile
  – European Commission’s Tuning Educational Structures project
• Quality assurance in Ontario universities
• Options for strengthening quality assurance
Assessing outcomes in undergraduate education

- Employment success and graduate surveys
- Student satisfaction and the National Student Survey (UK)
- Student engagement and the NSEE survey (Ontario and NA)
- Student experience and the Course Experience Questionnaire (Aus.)
- Assessment of learning outcomes
- Options for assessing learning outcomes
Performance funding and accountability pacts

- Philosophy and practice of accountability instruments
- Mission-based compacts and performance funding in Australia
- Multi-Year Accountability Agreements (MYAAs) in Ontario
- Options for strengthening accountability agreements in Ontario
Performance measurement and public reporting

- Performance measurement and reporting in the UK
- The Voluntary System of Accountability in the US
- Common data reporting in Ontario
- Performance plans and reports in Ontario
- Performance measurement and reporting in Australia
- Options for strengthening performance measurement and reporting
Part 5

Lessons from Other Higher Education Systems
Other systems

• We looked at many other systems in Canada, Europe, England, Australia, several US States
  – Alberta
  – British Columbia
  – Nova Scotia
  – Germany
  – Nordic countries
    • Denmark, Finland, Sweden
  – England
  – Florida
  – Minnesota
  – New York
  – California
Lessons and observations from Alberta (1)

• Personal contacts and relationships are very important, particularly as its grant system is not clearly formula-based
  – The previous year’s allotment is augmented in large part by special-purpose pools that may be shaped to suit particular institutions
  – By Ontario standards, grants are quite generous, but it is not always clear that they are impartially made
  – A good university president will therefore be in frequent contact with the departmental officials and, especially, the minister

• While the ACAT system is well developed and many of its management ideas are likely portable to the recently proposed ONCAT in Ontario, the Alberta system was established with transfers in mind, whereas Ontario system designed as binary
  – Much work remains to be done in Ontario to put in place the preconditions for an expanded transfer system
Lessons and observations from Alberta (2)

- The “new” universities, Mount Royal and Grant MacEwan, provide intriguing precedents
  - particularly because their faculty teaching loads are higher
  - their classes generally smaller, and their commitment to high-quality undergraduate instruction quite clear
- However, it took many years for these “new” universities to be ready to take on this role
  - Mount Royal has been recruiting university-level faculty for two decades, and before it became a university
  - It had established, slowly and not always easily, all of the appropriate academic management structures, such as a senate
  - For Ontario, the lesson is that simply declaring that an institution should become degree-ready is far from sufficient
Lessons and observations from Alberta (3)

• There is a big difference between real and ostensible change
  – The six-level categorization of institutions is certainly good heuristics, and it reflects the fact that the government of Alberta has for many years thought of higher education as an integrated provincial system and has sought ways to make it function as such
  – Still, it is the work done on the ground that ultimately makes a system viable and coherent
Lessons and observations from Alberta (4)

- Alberta will be a good laboratory for seeing whether mission creep can be avoided
  - Neither Grant MacEwan nor Mount Royal currently grants graduate degrees, even though, at Mount Royal, 80 percent of faculty are in the teaching and research category
  - Both new universities appear to have stopped developing applied baccalaureates and are converting some applied programs to academic ones
  - Experience elsewhere suggests that pressure to provide graduate training and conduct more research will arise quickly, as may pressure to drop applied programs
  - If this pressure is not resisted, much of the purpose of denoting these institutions as universities specializing in high-quality undergraduate education, with small classes taught mainly by permanent faculty, will be lost
Lessons and observations from BC (1)

• BC may illustrate that it is possible to over-complicate a higher education system
  – While the provision of multiple pathways is, in principle, a good thing, too many pathways, even as well described and managed as by BCCAT, could pose problems

• Be very careful with private for-profit institutions

• Successful conversions of colleges such as Kwantlen or Thompson Rivers have actually taken place over many years as qualified faculty are recruited, forms of governance changed, curricula developed, and facilities built

• Multiple pathways require major logistical support and major commitments from participating institutions as well as government
  – They also require all the major institutions to participate
Lessons and observations from BC (2)

- BC’s formal use of the associate degree as an integral part of the multiple pathways system is unique in Canada
  - By all accounts, it works well, and it or its functional equivalent should be considered in other jurisdictions
- BC universities were built and financed over many years on the assumption that many of their undergraduates would transfer into third year from institutions more devoted to teaching than research
  - Such a system cannot be simply declared into existence
- A working multiple pathways system also takes time to develop
  - BCCAT is 22 years old, and it built on 15 years of experience with transfer committees before 1989
- A multiple pathways system requires coordination resources
  - BCCAT has a full-time staff of nine, and hundreds of university and college faculty members serve on its committees.
Lessons and observations from BC (3)

• Finally, in a complex system with many levels of institutions, a well-functioning quality assurance system that is trusted by the institutions themselves is extremely important
  – While the Degree Quality Assessment Board appears to be well accepted by the institutions themselves, to an outside observer, there may be some concerns
  – The BC system has similarities with the Australian system in that the older universities are essentially self-accrediting and can simply create their own programs
  – A proposal to bring Australian universities under the umbrella of the higher education quality assessment system is highly controversial, as it would likely also be in BC
  – However, this does not mean it is wrong
Lessons and observations from other countries (1)

- Well working student financial support systems are essential to improving access
  - The most successful combine income contingent loans and grants
  - Not a cost saver for government even when combined with high tuition and low grants
- Low tuition does not equal improved access
  - Limitations on government funding mean fewer places
  - Non-financial barriers more important
  - Quebec: lowest fees, second worst participation rates in Canada
- No system has solved problem of low participation rates by disadvantaged groups
  - Financial support necessary but far from sufficient
Lessons and observations from other countries (2)

• Many systems experimenting with “student market based” approaches to differentiation and better results
  – England highly committed
  – No conclusive evidence it can succeed
  – Not recommended for Ontario

• More mixed systems can work
  – US combines market base and many private institutions with very large public subsidies
  – Australia combining market base and large subsidies but few private institutions
Lessons and observations from other countries (3)

- Private for-profit institutions have at best a mixed record
  - 18 American states conducting investigations
  - Several failures in BC
  - This concern does not extend to not-for-profit institutions
- Increasing concern for quality and results of undergraduate education
  - Shift away from measuring inputs to looking at results
  - Most marked in US
  - Increasing rapidly in Australia
  - Major OECD concern, also evident among Bologna declaration signatories
- Degree qualification frameworks increasingly important
Lessons and observations from other countries (4)

• Most advanced systems have several research institutes
  – HEQCO only significant one in Canada
  – By world standards HEQCO is highly successful

• Quality assurance is important in all advanced systems
  – Increasingly focused on results rather than inputs
  – Commonly managed by independent agencies which deal with all degree granting institutions
  – Ontario is unusual in having two separate structures, one managed by the universities themselves
Lessons and observations from other countries (5)

• Three year baccalaureate degrees are very common outside North America
  – Normal undergraduate degree format in UK and Australia
  – Bologna protocols require them
  – All US States offer two year (Associate) as well as four year degrees

• Mission creep is widespread
  – But is far from universal
  – Clear government policies rigorously applied are essential to avoid mission creep
  – It may be a desirable route to creating undergraduate teaching institutions and associate degree-like programs

• Ontario universities subject to less government intervention than almost any other jurisdiction
Lessons and observations from other countries (6)

- Major change in well established systems is quite possible
  - But it requires government determination
  - And implementation will take time and be controversial

- Institutional mandates can be changed
  - Usually in an upward fashion – towards degree granting status
  - Choosing well prepared institutions is essential and preparation will take significant time
Part 6

Twenty-eight Recommendations for Ontario
Develop a plan

• Provide space and resources to support a high level of access
• Address the barriers, both financial and non-financial
• Include programs of study at different levels, including apprenticeships, non-degree programs, baccalaureate programs, professional programs, and graduate studies, across disciplines.
• Include pathways from one program to another
• Set clear and measurable goals for the quality of education provided
• Define and support the higher education system’s role in creating new knowledge and making that knowledge available
• Define ways to achieve these goals at a cost that is affordable to the government and the students
Student demand for baccalaureate education

Growth in student demand for baccalaureate education, 2009 to 2025 (FTEs)

<table>
<thead>
<tr>
<th>If students’ geographic preferences do not change....</th>
<th>If more GTA students want to attend university in the GTA...</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTA</td>
<td>Rest of Ontario</td>
</tr>
<tr>
<td>30,000 – 51,000 (22-37 percent)</td>
<td>20,000 – 53,000 (8-21 percent)</td>
</tr>
</tbody>
</table>

• Projection based on the continuing rise in participation rates
  – Low scenario assumes participation rates grow at half the rate of the past decade
  – High scenario assumes participation rates grow at the same rate as the past decade

• At present 44 per cent of university-bound GTA secondary school students go to a university outside the GTA
Enrolment growth in graduate and professional programs

- Doctoral programs
  - No general shortage of PhDs
  - Watch for shortages in selected disciplines
- Need to focus on
  - Quality
  - Completion rates (withhold last year of operating grant until student actual graduates)
  - Professionally-oriented masters degrees

Ontario residents aged 25–64 holding an earned doctorate (as a share of the population aged 25–64)
System plan

1. The Ontario government, in consultation with higher education stakeholders, should develop and publish a higher education demand projection from 2012 to 2025 by region. This plan should include, for each region in the province:
   a. demand for undergraduate spaces
   b. demand for spaces in the Colleges of Applied Arts and Technology, and
   c. demand for graduate and professional spaces.
Options for accommodating baccalaureate enrolment growth

- Create up to 5 new teaching-oriented universities
- Introduce a 2-year credential at colleges that prepares students to enter 3rd-year of university
- Encourage high-quality 3-year baccalaureates
Students at small universities tend to be more engaged in their own learning

- Small institutions experience higher average scores for
  - Supportive Campus Environment (SCE)
  - Student-Faculty Interaction (SFI)
  - Active and Collaborative Learning (ACL)

- No difference for
  - Level of Academic Challenge (LAC)
  - Enriching Educational Experiences (EEE)

- “Highly similar results hold for senior-year students.”

2. The government should announce its intention to create up to five new teaching-oriented universities and should introduce a bill in the legislature entitled *Ontario Teaching-Oriented Universities Act* that incorporates the features described in Chapter 5. The government should not encourage for-profit entities to enter this field.

3. The government should issue a request for proposals to enter into 20-year agreements with not-for-profit entities to operate a teaching-oriented university with features along the lines of those described in Chapter 5.
### The financial case for teaching-oriented universities

Operating costs per baccalaureate student, campus with 10,000 students (2011 $)

<table>
<thead>
<tr>
<th>Category</th>
<th>Teaching-oriented university</th>
<th>Traditional university</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching and related</td>
<td>$5,500</td>
<td>$9,100</td>
</tr>
<tr>
<td>(including academic administration, classroom support,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clerical support, curriculum development, distance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>education)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic services</td>
<td>$2,200</td>
<td>$2,200</td>
</tr>
<tr>
<td>(including library, student services, recruitment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bursaries, and information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>technology)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional services</td>
<td>$2,200</td>
<td>$3,000*</td>
</tr>
<tr>
<td>(including administration, facilities, capital equipment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>renovation, debt interest, and contribution to capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>costs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,800</strong></td>
<td><strong>$14,200</strong></td>
</tr>
</tbody>
</table>

**Memoranda:**

- Cumulative surplus/debt after seven years: $27 million surplus / $167 million debt
- Annual undergraduate enrolments at maturity: 10,000 / 10,000
- Student tuition per year: $5,300 / $5,300
- Average class size: 44 / 44
- Share of teaching performed by full-time faculty: 70 percent / 70 percent
- Teaching load of full-time faculty (1-semester courses per year): 8 / 4

Note: Numbers may not add due to rounding.
*Includes debt interest of $600.
Smaller classes, lower tuition...

Comparison of teaching-oriented university with traditional university (balanced budget scenarios)

<table>
<thead>
<tr>
<th></th>
<th>Teaching-oriented university</th>
<th>Traditional university</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy for reaching a balanced budget</strong></td>
<td>Preferred strategy: offer small classes and lower tuition for students</td>
<td>Alternative strategy: offer very low tuition and allow class sizes to increase</td>
</tr>
<tr>
<td>Cumulative surplus/debt after seven years</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Annual undergraduate enrolments at maturity</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Student tuition per year</td>
<td>$4,800</td>
<td>$2,900</td>
</tr>
<tr>
<td>Average class size</td>
<td>44</td>
<td>78</td>
</tr>
<tr>
<td>Share of teaching by full-time faculty</td>
<td>70 percent</td>
<td>70 percent</td>
</tr>
<tr>
<td>Teaching load of full-time faculty</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>
Better teaching quality...

• Classes will be smaller
• Curriculum will be designed around learning objectives (not around areas of faculty research interest)
• Faculty will be focussed on teaching and on research on teaching improvement
• Administration will be focussed on undergraduate education
  – It’s not necessary to be a research powerhouse to be an excellent undergraduate university
Recruiting great faculty...

- Campus in the GTA
- Attractive working conditions
  - $4 \times 3 = 12$ hours per week in classroom for 26 weeks/year is demanding
  - but there are 26 more paid weeks in the year to prepare courses, mark exams, conduct research, take vacation and write books
- Supply and demand
  - 5 PhD holders in Ontario for every full-time faculty
  - 2,100 new PhD graduates and 1,400 PhDs coming to Ontario every year (4.4 times the 800 full-time faculty reaching retirement age)
  - Labour market for faculty in the US makes Ontario attractive
- Novelty and opportunity for innovation

AUCC membership criteria built into design
Recruiting great students...

- Campus in the GTA
- Graduate/professional school entrance requirements built into design
- Attention to teaching, small size and high faculty-student ratio are attractive to students and parents
- NSSE and CLA results will soon demonstrate the advantages
- Lower tuition
New teaching-oriented universities will...

- Provide better quality and more cost-effective undergraduate education with enough space to handle most of the 30,000 - 74,000 increased enrolment in the GTA over the next 15 years
- Through example and competitive pressure, encourage traditional universities to improve the quality and cost-effectiveness of their undergraduate education
  - Higher priority on teaching
  - Better control of costs
  - More teaching by full-time faculty, including more use of teaching-stream appointments
Two-year academic credential

4. The government should announce its intention to create a new two-year college credential that will prepare students to enter the third year of university, modeled after the associate degree found in most North American jurisdictions.

5. The government should convene a working group on a two-year academic credential, which includes representatives from the Council of Ontario Universities and Colleges Ontario, to develop a model curriculum for the credential.
Three-year baccalaureate

6. The government should announce its support in principle for a substantial increase in the enrolment in three-year degree programs, and it should equalize the per-student funding for three- and four-year programs.

7. The government should request universities to include their target enrolments in three-year degree programs as an explicit element in each university’s MYAA.
The government should introduce a new formula for the distribution of the operating grant for all of the existing universities, funding teaching and research separately and be phased in over a five-year period.

The teaching grant should be allocated such that, when combined with students’ tuition revenues, every university will have equal funding per student, weighted by program and level of study, and divided into sub-envelopes including separate envelopes for:

a. spaces for first- and second-year students
b. spaces for third- and fourth-year students
c. spaces for research-based master’s and doctoral students, with maximum funding based on a target time for completion and funding for the final year of PhD provided upon completion
d. spaces for professional programs
New formula for operating grant: research

10. The research grant should be based on the following:
   a. Every university should receive a basic amount of research funding to support the time that faculty spend on research, without regard to discipline of study, in the form of a flat amount per full-time faculty member
   b. Every university should receive Research Top Up funding to contribute to the additional costs associated with external research grants with Research Top Up funding allocated to universities in proportion to their receipts from the national granting councils and other performance-based criteria
   c. A portion of the research grant should be used to support special-purpose missions in the area of research and innovation in fields, such as fine arts and technology, that are not well supported by the national research granting councils
New formula for operating grant: 3rd envelope

11. A third envelope should provide funding to support differentiated missions and special priorities. This envelope would include funding to support northern universities and bilingual universities as well as special priorities that the government may negotiate with one or more universities.
Teaching enhancement funding tied to MYAAs

12. A Teaching Enhancement Fund, initially equal to 5 percent of the total teaching grant, to fund strategic initiatives that promote system improvement objectives, and these initiatives should be negotiated as part of the MYAA process, such that:
   a. Initiatives are accompanied by a detailed implementation plan that has verifiable milestones and that relates the initiative to the institution’s overall strategic plan
   b. Each institution would be eligible to receive a portion of the fund up to its portion of the total operating grant
   c. Funding would be contingent on signing a MYAA, and funds for specific initiatives would flow in accordance with achievement of objectives.
Bringing revenues in line with expenditures

• Raising more revenues from students
• Raising more revenues from private donors
  – Valuable but limited (donation income from individuals, corporations, and foundations remained fairly steady at 4 to 5 percent of the universities’ total income for the five years ending in 2008)
• Controlling university inflation
13. A multi-year, regulated tuition policy, with the aim that per-student funding from tuition and government operating grants should grow in line with a negotiated target for inflation
Reducing university inflation and improving quality

The bargain: Government and universities negotiate an acceptable annual rate of inflation

**Government responsibilities**
- Provide full funding for inflation each year (from government grants and/or tuition)
- Fund enrolment growth separately

**University responsibilities**
- Stop the deterioration: class sizes, reliance on part-time faculty, and semester lengths
- In the medium term, introduce system-wide testing of actual student learning
14. The government should announce its intention to establish target institutional inflation guidelines for higher education institutions and begin a process of consultation about what target should be.

15. The government should commit that the combination of grants and fees will fund universities up to the target level of inflation.

16. The government should require that, in return for receiving inflation funding, universities commit to having no deterioration in:
   a. the share of courses taught by full-time faculty
   b. average class sizes
   c. average instructional hours in courses
Uniqueness of university collective bargaining

• University governance gives the faculty a significant role in governing the university
• President of the university – a member of the board of governors and in many cases also presides over the senate – must maintain the confidence of both bodies to continue to be effective
• Collective bargaining affords almost no rights to students
17. The government should announce its intention to withhold its grants for teaching during a strike in proportion to the number of classes that are not being taught as well as its intention to facilitate a process whereby students receive refunds on their tuition, with a portion of these funds being restored to the university if the lost classes are actually made up before the end of the semester.
18. The government should ask HEQCO to create a Higher Education Statistics Branch that would be responsible for gathering and analyzing university data and, through its Web site and research papers, disseminating information on Ontario universities.

19. The Branch should oversee an Ontario University Statistics Web site, modeled on the My University site under development in Australia, to allow students to compare universities on a variety of statistics and performance indicators, including:
   a. information currently available on Common University Data Ontario, plus
   b. for each broad course of study (e.g., economics), class size information, as experienced by the average student and for each year in the course of study
   c. learning outcomes data, such as CLA results.
If the Australians can publish crucial data...
So can Ontario (e.g., full- and part-time faculty)
20. The government should assign to HEQCO the responsibility for conducting the annual graduate survey and refine the survey to include the following components:
   a. a course satisfaction survey similar to that in Australia, and
   b. a graduate employment survey similar to that in the UK that assigns a “university degree required” to specific occupations.

21. HEQCO should specify and gather any additional information it would require on a regularly basis from Ontario universities in order to provide the performance information needed to implement its recommended accountability framework, which includes system accountability, institution accountability, and planning.

22. The government should ask universities and HEQCO to develop a plan to introduce the CLA or an equivalent learning assessment tool, for the majority of undergraduates.
Encouraging teaching improvement

23. The government should ask HEQCO to develop an Ontario Teaching Quality Indicator, adapted from that in Australian teaching quality indicator currently under development.

24. The government should ask universities to develop detailed commitments for strengthening the teaching support activities to be included in their MYAA, including teacher training for new faculty and for graduate students with teaching responsibilities as well as the identification of current and proposed policies for course evaluation and for faculty performance review.

25. The government should ask the Ministry of Training, Colleges and Universities to lead an initiative that uses the proposals from the MYAA process to develop a description of best practices that could benefit other universities.
26. The government should ask the Council of Ontario Universities to transfer its responsibilities for selecting members and providing administrative support for the Ontario Universities Council on Quality Assurance and its processes to HEQCO.

27. The government should update and refine the Ontario Qualifications Framework to give it the level of specificity of the US Degree Qualifications Profile.

28. Using funds from the university operating grant, the government should increase HEQCO’s research budget by $5 million per year.
Challenges comparable to the 1960s: daunting, but manageable

“The majority of young people who found a place in higher education in Ontario in the 1960s and 1970s did so because these leaders – John Robarts, Bill Davis, Ed Stewart, and the university presidents – identified the need and acted without delay.

“As we have made clear in this book (with a half-century of hindsight), we do not think these leaders got everything right.

“But they had the courage to begin.”
Sample reactions to date

Academic reform: tread carefully
Ontario’s system isn’t broken, just stressed. Before we try more radical fixes, why not encourage a robust college-university transfer system?

by Peter Ricketts

Every so often, Canada goes through a period of time when it is in vogue to criticize universities and the role they play in society. We seem to be in one of those cycles right now, where hardly a week goes by without some article in the media commenting negatively on how universities are managing research.

University differentiation should not mean ‘two-tiered’
Quality vs. quantity.

by Maureen Mancuso

The effectiveness of university education in Ontario has been much in the news lately — especially the cost-effectiveness of the overall learning experience. The latest salvo comes from Academic Reform, a new book written by former administrators Ian Clark and Richard Van Loon and former education bureaucrat David Trick (University Affairs ran an excerpt, Time to consider a

Among Ontario’s thousands of professors and academic librarians, there are scholars who specialize in irony.

We are grateful for their expertise, at times like these, their guidance is sorely needed. For it is certainly a truism irony that, after decades of sounding the alarm bell about declining quality at our universities, university faculty are now being singled out as the cause of this malaise.
Thank you

Follow the discussion at:
www.academicreform.ca