

The Political Economy of University Education in Canada

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Abstract: Universities promise to “Ensure students graduate with the knowledge, skills and experience needed to thrive in the workplace and be successful global citizens.” (COU, 2017). However it is not obvious that they deliver upon this promise. The incentives within the university system, such as they are, tend to reward research, reputation seeking, and keeping students satisfied. Yet the status quo may no longer be sustainable. Demographic change threatens to undermine the present model of university funding. Technological change and other factors have the potential to radically change the demand for university education. Canadian universities need to be able to adapt to new conditions to survive and thrive. The aim of this paper is to set out a framework for understanding and evaluating proposals to improve the allocation of resources in Canada’s university sector. My premise is that any successful reform must change the incentives within the university system. Hence the first part of the paper is devoted to outlining the economic and political forces that lead the university sector to operate inefficiently. The second section outlines the pressures on the system, while the third discusses reforms that could lead to improvements in teaching and learning: devoting resources to collegial peer review of teaching, greater differentiation within the university sector, and ways of diminishing the importance of reputational effects.

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Introduction

The television series *South Park* once ran an episode featuring imaginary creatures called Underpants Gnomes. The Gnomes had a brilliant business plan. Phase 1: Steal underpants. Phase 2: [blank]. Phase 3: Profit. The question, of course, is “What’s Phase 2?”. The Underpants Gnomes had no answer, and a useless pile of pilfered undergarments.

The university sector’s promise is not entirely dissimilar to that of the underpants gnomes. Phase 1: Attend university. Phase 2: [blank]. Phase 3: Profit. The typical university graduate does indeed earn hundreds of thousands of dollars more over their lifetime than the typical high school graduate (Foley and Green, 2016; Boudarbat, Lemieux, and Riddell, 2010; Frenette, 2014; Lemieux, 2014). Yet it is not entirely clear why.

Economists tell three stories to explain graduates’ earnings advantage. First, students gain “human capital” while at university, that is, they acquire skills and character traits that make them more productive, and thus more valuable to employers (Mincer, 1958; Becker, 1962; Mayhew et al, 2016; Artega, 2018). Second, universities act as a sorting mechanism (MacLeod, Riehl, Saavedra, and Urquiola, 2017). Educational credentials allow students to signal (Spence, 1978; Lang and Manove, 2011) or to reveal (Arcidiacono, Bayer, and Hizmo, 2010) their abilities, and employers to screen potential employees (Lang and Siniver, 2011), thus allowing workers to be matched with the jobs where they can be most productive (Lemieux, 2014). Third, university is a place to form of networks and connections that lead to employment and other opportunities (Mara, Davis, and Schmidt, 2018).

Of these stories, only human capital can justify Canada’s current model of university education. Signals are economically valuable, because they lead to better matches between firms and workers, but a multi-year degree program is an excessively resource-intensive way of signalling. If the primary function of university is for students to network and make connections, it is hardly necessary to spend billions of dollars on professors and lecture theatres. The structure of university education in Canada, with multi-year degree programs and extensive course requirements, largely delivered in research-oriented institutions, can only be rationalized by arguing that students acquire human capital during the course of their studies.

Yet there are reasons to question universities’ effectiveness in building students’ skills and knowledge. First, some longitudinal US data suggests that many students make limited gains in critical thinking, complex reasoning and writing ability over the course of their university careers (Arum and Roksa, 2011). The Canadian education system is similar

enough to that of the US to be concerned that these findings may apply here. Second, the incentive structures within the Canadian university system rarely reward teaching and learning, and often reward other things, as will be described in more detail below. Given these incentives, there is a strong possibility that fewer resources are devoted to student learning than those who pay for the university system would desire.

Who does pay for the university system? Provincial governments are the single largest funders of university education in Canada, contributing \$14 billion to universities and degree granting colleges in 2016/17 (Statistics Canada, 2018a). Unfortunately, most provinces' spending levels are not fiscally sustainable in the medium to long-term, given their revenue outlooks, and the health and long-term care needs of an aging population (PBO, 2017). Revenue shortfalls would be expected to lead provinces to seek opportunities for cost savings. If there is a perception that universities do not effectively build students' knowledge and skills, provincial governments would have a good reason to attempt to reform the way universities operate.

There are many views on how universities could be made better. Some argue for greater accountability (Kelchen, 2018; Clark, Trick and Van Loon, 2011), others cherish a liberal ideal of education, where universities "provide a publicly respectable place . . . for scholars and students to be unhindered in their use of reason." (Bloom, 1987). The aim of this paper is to set out a framework for understanding and evaluating proposals to improve the allocation of resources in Canada's university sector. My premise is that any successful reform must address the fundamental forces that cause resources to be misallocated. Hence the first part of the paper is devoted to outlining the economic and political forces that lead the university sector to operate inefficiently. The second section outlines the pressures on the system, and the third discusses reforms that could lead to improvements in teaching and learning.

Before I begin, two notes are in order. First, in this paper, "post-secondary education" and "tertiary education" includes CEGEPs and colleges as well as universities. The term "universities" refers to both universities and degree-granting colleges, although the analysis here applies more to the former than the latter. Canada has a much larger college sector than other OECD countries, partly because of Quebec's CEGEP system. The issues facing this large and diverse sector are beyond the scope of the analysis here. Second, I largely ignore the non-pecuniary benefits of education described by, for example, Oreopoulos and Salvanes (2011) because so little is known about how university education actually generates these benefits.

1. Inefficiency in the University Sector

In a world of perfect competition, market discipline leads to efficiency. Firms that offer consumers a better product at a lower price thrive. High-cost firms fail to attract custom and exit the market. Over time, the entry of innovators and the exit of non-competitive firms will push the market towards a Pareto efficient outcome.

The argument that market discipline puts firms on the path towards efficiency relies upon a number of critical assumptions. Consumers know what they are getting when they purchase a product, so hucksters selling snake oil cannot survive. Firms aim to maximize profits, and so respond to market forces, not other interests. New firms are free to enter the market, and so can check the market power of existing firms. In Canada's university sector, none of these assumptions are satisfied. In this section, I describe the key market failures in Canada's university system, and discuss their consequences. The aim is to explain why things go wrong, with a view to figuring out how to put them right.

1.1 Can students discipline their professors?

Students are the direct consumers of universities' educational services. They have the power to reward high-performing institutions and programs with their tuition dollars, and punish low-performing ones with lack of custom. The first step towards understanding why resources are misallocated in Canada's university sector is explaining why the exercise of consumer choice is ineffective. Students cannot discipline their professors. Competition for student tuition dollars does not ensure that universities build students' knowledge and skills.

The university sector is far from being perfectly competitive. It is not even obvious that universities compete against each other. One reviewer of this paper commented that, in his experience, most programs at most universities are at capacity each and every year. If this is true, there is little reason for universities to vie for students. Additional students bring in extra tuition dollars and, in some provinces, increased government funding (Usher, 2017a). But if each and every lecture theatre on campus is full, and the university's faculty and staff are already working at capacity, seeking out additional students is not worthwhile. The extra tuition dollars and government funds they bring in are not enough to cover the costs of increasing the university's capacity by building new buildings and hiring more professors.

In more competitive industries, even firms that are operating at or near capacity pay attention to the demands of their customers, because of the threat posed by potential market

entrants. But there are considerable barriers preventing new providers from entering Canada's university system. Thus potential students have little alternative but to accept the the education offered by existing universities.

Yet the argument that universities do not compete for students is inconsistent with the evidence that universities devote resources to staffing recruitment offices, producing view-books, and attending university fairs. It is also hard to reconcile with universities' visible and tangible efforts to cater to students. For example, potential students care about whether or not a university guarantees first-year students a room in residence – and the power of competition is demonstrated by the fact that almost every Canadian university makes such a guarantee. Likewise, students enjoy having a fall break week – and the number of universities offering such breaks is steadily increasing.¹

The question is not, “Do universities compete”? They do – if not for students, then to recruit faculty, attract research grants, and solicit funds from donors. The relevant questions are, “Along what dimensions do universities compete?” and “Can that competition create a university system that promotes student learning?”

Universities justify their existence by arguing that students graduate with the “knowledge, skills and experience needed to thrive in the workplace” (COU, 2017). Competition for students will only lead universities to do a better job of promoting learning if three conditions are satisfied. First, students must prefer institutions that offer an opportunity to learn over ones that provide a credential in exchange for little effort. Second, students must be able to observe some signal of instructional quality. Third, professors (or, more generally, the people responsible for educational delivery) must benefit from winning the competition for students. For now I will assume that the first condition is satisfied, and focus on the second and third.

Instructional quality is not directly observable. However the literature on student choice (Drews and Michael, 2006; Hastings, Neilson, and Zimmerman, 2015) identifies two major characteristics of programs and institutions that are both potentially related to quality and also used by students when selecting a program or institution: future earnings of graduates, and the university's ranking. But can students, by choosing degrees on the basis of these indicators, lead universities to improve teaching and learning?

¹ For example, University of Manitoba is introducing a break week for the first time in 2018/19, while University of Waterloo had its first fall break week in 2016.

The average earnings of a program's graduates reflect at least three factors: the program's effectiveness in generating valuable human capital, its effectiveness in sorting out low-ability students through admission and course requirements, and the characteristics (gender, ability, and so on) of the people applying to the program.

A program attempting to increase its graduates' earnings could try to enhance student learning by adopting, for example, better teaching methods. Indeed, the K-12 literature finds that teaching quality has substantial effect on students' life-time incomes (Chetty, Friedman, and Rockoff, 2014). However, there is no evidence that the quality of university education has a similar impact on graduates' earnings. Indeed, to the extent that university education functions as a sorting mechanism, opportunities for learning are largely irrelevant.

Even if better teaching does enhance graduates' employment outcomes, individual professors have little incentive to adopt better teaching methods. Practices that have been found to enhance student learning, for example, requiring students to do extensive amounts of writing, and having high expectations of them (Arum and Roksa, 2011, pp. 130-31), typically involve increased professorial effort. However, as will be discussed in more detail in sections 1.3 and 3.1, professors are rarely rewarded for putting more effort into teaching. It is much easier on professors when graduate outcomes are increased in some other way, for example, by only admitting the best students. Thus students' quest for high paying university majors creates only fairly weak incentives to enhance university graduates' skills and knowledge.

An alternative indicator potential students can use to assess educational quality is the university's position on rankings produced by, for example, Macleans magazine, the Globe and Mail, or Times Higher Education. These rankings are based a mix of survey data, such as reputational surveys and student satisfaction surveys, data on resourcing, such as spending on library acquisitions or the ratio of students to full-time faculty, bibliometric data, such as publication and citation counts, and data on external research funding and awards (Dwyer, 2017; Globe and Mail, 2017).

International evidence suggests that university administrators actively attempt to increase their university's rankings by, for example, hiring research stars who can boost citation numbers, hiring in areas where publication rates and research funding levels are high, such as health sciences, or allocating relatively more resources to educational inputs that factor into the rankings, such as student services or library expenditures (Shin, Toutkoushian, and Teichler, 2011; Kelchen, 2018). The incentives to pursue high rankings are stronger when the competition between universities is more intense. For example, Aghion et al (2010) find

a greater degree of inter-university competition is associated with more patents and research publications. As noted earlier, universities compete – the issue is what they compete on. The evidence presented here suggests that universities compete on research output.

Unfortunately, there is no evidence that research output is positively correlated with teaching quality (Clark, Trick and Van Loon, 2011). Therefore, if ranking exercises create incentives for universities to devote resources to research at the expense of teaching, they could actually reduce educational quality. In response to such concerns, the producers of university rankings are starting to include measures of student engagement and satisfaction (Dwyer, 2017; Globe and Mail, 2017). These measures are based on student surveys, and are thus open to the criticisms made of student evaluations of teaching (SET) in general.

First, the response rates are low. For example, the US National Survey of Student Engagement (NSSE) and the 2018 Canadian University Consortium Student survey both had response rates of 29 percent (NSSE, 2016; CUSC, 2018). Second, the relationship between survey-measured student satisfaction and student learning is unproven. For example, Arun and Roksa (2011, p. 132) report that “NSSE measures of engagement do not track strongly or consistently with objective measures of learning.” Further reasons to have reservations about using student surveys as an indication of educational quality come from SET literature. Professors are able to buy higher course evaluations with higher grades (Langbein, 2008), evaluations reflect students’ biases (Boring, 2017), and may even be negatively correlated with teaching effectiveness (Braga, Paccagnella, and Pellizzari, 2014). University rankings derived from student satisfaction measures are deeply flawed indicators of student learning.

One way of characterizing the university sector is as a series of principal-agent problems (Clark, Trick and Van Loon, 2011; Deming and Figlio, 2016). Students are the principals, hoping to get a good quality education, and universities are the agents, providing that education. However, as Holstrom and Milgrom (1991) argue, an economic agent, when faced with an incentive structure that rewards only observed activities, will neglect the unobservable. The Holmstrom-Milgrom hypothesis explains why universities vie to offer readily-observable student-friendly amenities, and for position on various university rankings. It also predicts that student choice will do little to improve the quality of hard-to-observe aspects of university education, such as teaching and learning.

It is also worth emphasizing that, even if learning could be observed, it is not obvious that students prefer credentials requiring intense study effort over those that are easier to obtain.

Hence student choice fails to ensure that universities do the primary thing that justifies their existence in their present form: build students' knowledge and skills.

In theory, reputations can mitigate principal-agent problems: an economic agent will do the right thing in the hopes of gaining a good reputation; an economic principal will be able to trust a high-reputation agent. In the university system, however, reputations can spiral out of control, as I explain in the next section.

1.2 Unintended consequences of reputation seeking

“I’m going to be picking from the law schools that basically are the hardest to get into. They admit the best and the brightest, and they may not teach very well, but you can’t make a sow’s ear out of a silk purse.” – Antonin Scalia

A lucky university can find itself caught in an upwards reputational spiral. It starts when, for some reason, the graduates of that university enjoy above average, and observable, success in the job market. That success might reflect a well-designed curriculum, but could also be completely unrelated to the university’s actions. For example, the university might be located in a city with a strong labour market. When the success of the lucky graduates is observed by others, the university attracts more applicants. If it responds to this increased demand by increasing admission requirements (and, perhaps, raising tuition fees), it can produce higher ability graduates – even if it is no better at teaching than other schools. The increased quality of the university’s graduates, in interaction with any favourable initial conditions, will lead them to become even more successful. This in turn will generate more applicants, higher admission standards, and so on, as a university’s reputation spirals upwards.

Reputations can spiral downwards too. A university hit with a negative shock to its reputation will find it harder to attract good quality applicants, and so the average quality of its graduates will fall, further tarnishing its reputation, and so on.

Reputational effects in higher education have been analyzed by MacLeod and Urquiola (2015). In their model, employers do not directly observe a potential employee’s skill level, so they use information about the university that the potential employee graduated from to refine their expectations about the likely skill level of a candidate. Students know this. They exert effort into attempting to get into an elite program but, once admitted, have reduced incentives to study. Intuitively, if the wage students can expect to earn depends upon the reputation of their college, as well as their own individual performance, they will study less

than they would if their wage depended solely upon their own efforts. The resulting equilibrium is inefficient because students devote too much effort into (assumed unproductive) preparation for college admission tests, and too little effort into (assumed productive) studying while at college.

The real world is much more complex than that described in MacLeod and Urquiola's model. Programs are differentiated upon multiple dimensions, for example, program content and location. These create the possibilities of inefficiencies over and above the ones that MacLeod and Uquiola describe. Reputation-seeking means programs tend to respond to high demand by restricting entry, so as to boost the quality of their program's graduates – and this has costs for students shut out of, say, computer science or business schools, and for employers in labour markets where high quality graduates are in short supply. Ability matching, that is, assigning high ability students to high reputation universities, comes at the cost of matching along other dimensions, such as geography. For example, reputation-seeking might cause a student to attend a high reputation university far from home, thereby incurring substantial travel costs, rather than a lower reputation university close by.

A reputation-driven education system has equity consequences also. Accidents of birth matter more. A student living in proximity to a high-reputation program, or whose parents' incomes are sufficient to finance the cost of travel, will be advantaged. Geography is already an important determinant of post-secondary educational access in Canada (Frenette, 2006); the more stratified the Canadian educational system, the more one would expect geography to affect the potential returns to education, as well as access to it.

The concept of reputation spirals will be important in section 3.2 below when I discuss the possibility of introducing greater differentiation between Canada's universities. Clark, Trick and Van Loon (2011) and the Commission on the Reform of Ontario's Public Services (2012) have argue that differentiation is desirable. They argue that a system where some universities specialize in teaching, and others in research, would be more cost-efficient and sustainable than the present system. The discussion in this section, however, suggests that stratification can have serious negative consequences for both the efficiency and equity of the educational system.

1.3 Institutional constraints, and the impetus towards growth

The previous two sections discussed universities' incentives to compete for students, to compete for reputation, and the consequences of that competition. However universities' incentives, and universities' responses to incentives, are shaped by political and other institutions.

This section dives more deeply into these institutional constraints, and argues that they have led to a university system with that is, by international standards, relatively undifferentiated and unaccountable, and also heavily reliant on growth.

The governance structure of Canada's post-secondary system is, in international terms, unusual. Canada's universities and colleges, with few exceptions, are publicly-funded. There are no elite private universities. However, unlike many other countries with largely publicly-funded systems (OECD, 2017: 211), there is little to no federal government oversight of the post-secondary system. The federal government funds universities and colleges indirectly through research grants, student loans and scholarships, and transfers to the provinces, but ultimately higher education is a provincial responsibility.

The political and institutional environment within which Canada's educational system operates has real implications. First, because there are no high-quality domestic alternatives to the public tertiary education system, people cannot express their dissatisfaction with the public sector by exiting it (unless they want to forego higher education altogether). Instead, they will voice their dissatisfaction, to use Hirschmann (1970)'s term, and demand quality within the public system. Because there are voters in every community who demand high quality education, introducing a funding model that rewards some universities and hurts others is politically risky.

These political constraints explain why Canada's university sector is relatively undifferentiated. Most undergraduates are educated in research universities (Clark, Trick and Van Loon, 2011) partly because voters in every community want access to high quality education. These constraints also explain why Canadian provinces been relatively slow to tie funding to output or performance measures, such as graduation numbers or publication metrics, as compared with some European countries (Jongbloed and Vossensteyn, 2016; Usher, 2017b) and US states (Kelchen, 2018; Usher, 2017b). Output-based funding has been tried. For example, the Harris government in Ontario introduced a formula that tied a small percentage of university funding to key performance indicators such as employment rates six months and two years after graduation (OCUFA, 2006). This funding formula was disadvantageous to universities located in weak labour markets, and did not last. Ontario still has some output-based funding through its Strategic Mandate Agreements with universities, but the targets under these SMAs are specific to each institution, and portion of funding at stake is relatively small (Usher, 2017c).

Even when provinces create incentives for universities to change how and what they teach, institutional constraints make it hard for universities to respond. University professors are

typically only able to teach within their own discipline or sub-discipline, so cannot be reallocated in response to changes in demand. Tenure, in combination with the absence of a standard retirement age, means that it takes can many years before the current crop of professors can be replaced with a new one. Consequently, in order to meet an increase in the demand for a subject, a net increase in the faculty complement is typically required. The most straightforward way for a university to meet new demands is through expansion.

The typical university’s tendency to expand is further fueled by the basic technology of university education. As noted in section 1.1, the fixed costs of running a university are substantial, but the marginal costs are relatively low. With a high fixed cost/low marginal cost production technology, if a university that is operating at a break-even point shrinks, it will run a deficit. If it grows, it will run a surplus – at least until it reaches the constraints of its physical infrastructure. Thus it is not surprising that, as Figure 1 shows, for the past 20 years Canadian universities have chosen to grow. Unfortunately, as I will argue in the next section, growth is no longer sustainable.

2. Pressures on the system

“Campus life isn't what it used to be.” (Wente, 2017)

There are good reasons to expect that pressures for the university system to change will mount in the coming decades. In this section, I discuss some of these reasons: demographic change, stagnant or declining returns to university education for men, the changing gender balance of the university, technological change and, finally, politics.

2.1 Demographics

Canada’s population is aging. In the 2016 Census counts, the number of seniors over the age of 65 surpassed the number of children aged 14 or younger for the first time ever (Statistics Canada, 2017). Over the next 20 years, aging baby boomers will need increasing amounts of health and long-term care. The growth in spending needs for seniors comes at a time when, as Figure 1 shows, we may have hit “peak student”. The number of university-age Canadians will be decreasing, in absolute terms, until 2021-22, and will then only slowly recover.

Demographics matter because education, health care, and long-term care are all provincially funded. The Parliamentary Budget Office estimates that most provinces’ spending levels are not fiscally sustainable in the medium to long-term, given their revenue outlooks, and the

needs of an aging population (PBO, 2017). There are good reasons to believe that provinces will respond to these fiscal pressures by cutting education budgets, rather than attempting to reduce health and long-term care spending. First, spending on health care is mandated through the Canada Health Act. There are no, equivalent, federally-imposed standards for higher education spending. Second, no one dies, or suffers horribly, as an immediate consequence of being unable access post-secondary education.

Third, Canada's tertiary education sector is larger than other countries'. Canada spends a higher percentage of its GDP on tertiary education - 2.6 percent – than any country except the United States – and is well above the OECD average of 1.6 percent (OECD, 2017). We have more people with a post-secondary credential than any other country except for South Korea. If a provincial government was looking to reduce its expenditures, it would seem reasonable to cut spending in areas such as post-secondary education, where expenditures are high relative to international standards. It would also make sense to look for savings in the most expensive part of the post-secondary education sector, namely universities.

A final reason to expect population aging to affect education budgets is the political and economic literature finding that population aging decreases public support for spending on education relative to the degree of support for spending on, say, health care or seniors' benefits (Poterba, 1997). Consistent with Poterba's (1997) hypothesis, direct provincial funding for universities peaked, in real terms, in 2010/11, and has since declined by 7 percent (calculated from Statistics Canada, 2018a). It should be noted, however, that the overall downward trend in direct funding is largely driven by Ontario's decision to direct more resources to student financial assistance.²

Universities may be able to survive and thrive, despite demographic change, if they are able to maintain enrolment levels and make up for lost government funds with increased tuition revenues. But will students continue to get undergraduate degrees in ever increasing numbers? Will they be willing to pay increasing amounts for university tuition? That depends upon the returns to education.

2.2 Returns to education

Education is, for most students, a good investment. As noted earlier, the typical university graduate earns hundreds of thousands of dollars more over their lifetime than the typical

² This is consistent Levy's (2005) hypothesis that there can be complex interplays between demographic changes and support for public education.

high school graduate (Boudarbat et al, 2010; Frenette, 2014; Lemieux, 2014). But it is an increasingly risky one.

The earnings advantage men with bachelor’s degrees have over high school graduates and holders of college diplomas has decreased over the past ten to fifteen years, partly because of the natural resource boom in Western Canada and strong opportunities in the trades (Foley and Green, 2016). In Ontario, 23 percent of those who started an undergraduate degree in 2007 did not finish (Ontario Ministry of Training, Colleges, and Universities, undated). The earnings variation among male university graduates is substantial, as is shown in Figure 2. Some university graduates have hourly earnings below those of the typical high school or college graduate.

Yet, while choosing a university education is one of the most important economic decisions an individual can make, people are typically poor at estimating a crucial factor determining *ex ante* benefits of going to university: their ability. For example, 82 percent of respondents to the 2013 National Graduate Survey reported that they ranked somewhere in the top 25 percent of their graduating class.³ Section 1.1 emphasized the importance universities place on keeping students satisfied. University drop-outs, and graduates who enjoy poor employment prospects upon graduation, are unlikely to be satisfied – and their dissatisfaction has the potential to put further pressure on the university system.

In this discussion of earnings I have been concentrating primarily on men for the simple reason that, for women, university is an especially good investment. The relative earnings advantage female bachelor’s degree holders enjoy over high school graduates is larger than for men, and has been holding steady (Foley and Green, 2016). This feeds into a phenomenon that I describe in the next section: the changing gender balance at Canadian universities.

2.3 The academy’s changing gender balance

Universities are becoming increasingly female-dominated places. The majority of Canadian university students are female: women accounted for 57 percent of full-time equivalent students at the masters and undergraduate level in 2014/15, and 48 percent of PhD students (CAUT, 2018). An increasing number of university teaching staff are female also. The percentage of full-time faculty and instructors who are female has grown from 24.4 percent in 1996/97 to 39.6 percent in 2016/17 (Statistics Canada, 2018b), and women now make up

³ Calculated from the 2013 National Graduate Survey PUMF.

the majority (approximately 60 percent) of sessional instructors and full-time teaching-stream faculty members (Field and Jones, 2016; Vajoczki, Fenton, Menard and Pollon, 2011). Since sessional instructors and teaching stream faculty are disproportionately likely to be responsible for large undergraduate courses, for undergraduate students, the face at the front of the classroom is female more often than not.

It is not clear what the long-run effects of a changing gender balance in the university sector will be. Economy wide, the jobs and industries that women work in pay less, on average, than the ones men work in (Schirle, 2014; Blau and Kahn, 2017). Women’s jobs are also worse on most other dimensions of job quality, such as the scope for professional autonomy (Stier and Yaish, 2014). However it is not possible to conclude, on the basis of the published literature, that feminization of an occupation or industry inevitably *causes* wages to fall (Jacobsen, 2007) or working conditions to deteriorate. It is true that in the university sector sessional instructors are majority female, and are also paid less than the majority-male full-time faculty. But there are any number of reasons why a university might want to replace relatively expensive and autonomous full-time, tenure-stream faculty with cheaper, and potentially more malleable, sessional instructors. It might be that women predominate in lower-paid contract instructor jobs simply because they are relatively more likely to accept these positions, either because they enjoy the non-pecuniary aspects of part-time teaching, or because because they have fewer good alternatives in the labour market.

Yet, even if the rising numbers of women in university teaching do not directly affect how teaching is remunerated, they are likely to have real impacts on how the job of “university professor” is perceived. As Goldin (2014: 328) notes “occupations and industries acquire secondary sex characteristics.” For example, when most typists were male, typing was viewed as a task that required strength, but when women took over the typing pool, the task began to be seen as something that involved dexterity (Goldin, 2014: 327). Ben Schmidt’s (2015) innovative use of ratemyprofessors reveals that students are much more likely to use words such as “brilliant” or “genius” to describe their male professors. Female professors, on the other hand, are more likely to be tagged as “kind”, “caring”, “nice” – or “disorganized”, presumably for failing to live up to their students’ expectations. There is a growing body of evidence that the work that female professors do is perceived differently from the work that men do, even with respect to objectively measurable tasks such as returning work promptly (Boring, Ottoboni, and Stark, 2016). In sum, the growing female presence in the academy could lead to a more general change in the public perception of university education – and this, in turn, could intensify pressure for reform of the higher education sector.

2.4 Technological change

Of the various pressures on the university system, technology is the one with the most far-reaching potential effects, and about which there is the greatest degree of uncertainty. The effects of technological change are felt at the individual, institutional, and system-wide level.

At an individual level, new technology changes, and potentially reduces, the skills required for university teaching. Publisher-provided powerpoint slides and test banks, as well as teaching software like Aplia, reduce the depth of subject matter expertise required to deliver a course, and changes the amount of course preparation that is necessary. Technology also profoundly alters the way that students learn, affecting, for example, the way that students find information, interact with faculty and other students, study, and complete assignments. Despite the growing literature analyzing the effects of particular technologies, such as the use of laptops in class (Carter, Greenberg, and Walker, 2017), the long-run impact of these changes for the operation of post-secondary institutions, for teaching and learning, and the non-pecuniary benefits of education are not fully understood.

At the institutional level, new technology changes the scale at which a university can operate efficiently. A typical university will use institutional software systems for admissions, grading, payroll, curriculum management, teaching and a plethora of other purposes. Providing and maintaining these systems is a fixed cost of running a university. If these systems work as they should, they should serve to reduce the marginal costs of admitting and providing administrative services to additional students, as processes such as course registration, prerequisite checks and entering of grades onto transcripts are automated. Basic economic principles tell us that higher fixed costs and lower marginal costs lead to greater economies of scale.

Economy-wide, the digital economy has been associated with increasing market concentration (OECD, 2017b). In the winner-take-all economy, a small number of firms can dominate an entire market, taking advantage of network effects and scale economies. In the university sector, however, institutions have little incentive to “win” by taking over or driving out others. There are no shareholders who can make money by taking over a marginal university, cutting costs by eliminating duplication, and stripping it of its assets.

How, then, can the university sector take advantage of scale economies? One possibility is through consortia. For example, the Ontario Universities’ Application Centre allows universities to take advantage of economies of scale when processing university applications. How-

ever successful consortia arrangements require processes to be standardized – for all universities to accept the same application forms, for example. Yet universities have difficulty standardizing something as basic as GPA calculations and transcript notations, limiting the possibilities for inter-university cooperation.

Another way to take advantage of economies of scale is through system-wide growth. This is consistent with Figure 1, which shows strong enrolment growth in Canadian universities. At the same time, if growth does not allow universities to take full advantage of the economies of scale offered by new technology, we would expect to see increasing administrative cost share – and, indeed, there is evidence that this is the case (CAUBO, 2015). Cost-increasing technological change would be another reason for the university sector to face pressures to change.

Finally, technological change is an existential threat to the university sector. There are now substitutes for a lecturer at front of classroom in the form of massive open on-line courses (MOOCs), or videos readily available on youtube, or more specialized sites such as the Khan academy. Testing services such as testdome.com already provide employers with an alternative to credentials as a way of assessing potential employees. The idea that some future Amazon or Uber or Airbnb could entirely overturn universities’ business model is not implausible.

2.5 Politics

The previous sections have argued that demographics, changing returns to education, feminization and technology will create, or are creating, pressures for universities to change. Yet the political debate over the state of Canadian campuses tends not to focus on these issues. Rather, there is much discussion of political correctness on campus (Toronto Sun, 2017), the need to protect free speech (Toronto Sun, 2018) and the tendency of universities to treat students like fragile flowers (Wente, 2017). Therapy dogs, gender neutral pronouns and the desire to create safe spaces on campus all come under attack. Implicit (or, sometimes, explicit (Soh, 2017) in the political correctness critique is the idea that campuses have become an ideological echo chamber, where any views that threaten the left-leaning orthodoxy are unwelcome.⁴

⁴ The term political correctness has been described as “the rallying cry of the conservative critics of academia, the phrase behind which all of their enemies – multiculturalism, affirmative action, speech codes, feminism, and tenured radicals – could be united into a single conspiracy” (Wilson, 1995).

There are two problems with this view as applied to Canada. First, there is little evidence Canadian university professors are left-wing ideologues. The most recent available data, which admittedly comes from 2000, found that, while university professors are somewhat to the left of the typical Canadian, their political attitudes do not differ substantially from those of other educated people in this country (Nakhaie and Adam, 2008). Second, there is a simpler, and more plausible explanation as to why universities would want to ensure that students feel comfortable and safe on campus. As argued in section 1.1, universities compete on observables, and on things that make students satisfied. Therapy dogs and gender-neutral pronouns are just two more examples.

So what explains the popularity of the “political correctness” and “free speech” tropes? In the United States, a partisan divide has arisen in attitudes towards colleges and universities. In 2010, although Democrats had a more positive view of higher education than Republicans, the typical respondent thought that on balance colleges and universities had a positive effect on the way things were going in the country, regardless of political persuasion. Since 2015, there has been a steep rise in the share of Republicans saying that colleges have a negative effect on the country, and a sharp partisan divide over colleges has emerged (Pew Research, 2017). This suggests that, in the US, universities and colleges are becoming a wedge issue, that is, a policy concern that can be used to divide the opposition’s potential winning coalition (Hillygus, and Shields, 2014). Allegations that campuses are places where “those dare to speak out are thrown to the lions” (Soh, 2017) is a way of drawing those who consider free speech desirable around to the view that government funding towards education should be cut.

I do not see excessive political correctness on campus as a fundamental threat to the future of Canadian universities. The serious threats are demographics, stagnant returns to (male) education, especially the narrowing earnings gap between college and university graduates, competition with health and long-term care spending for provincial funding, and dubious delivery on the core mandate of undergraduate teaching. These are the reasons why a political party would favour cutting educational spending. Getting voters worked up about political correctness on campus is simply a means of achieving that end.

3. Reform

This section addresses proposals to address three sources of pressure on Canada’s university system: the lack of incentives for universities or programs to improve teaching and learning, budgetary pressures that are pushing the creation of a more differentiated system, and the

growth (and unintended consequences) of reputation seeking. The proposed solutions are neither radical nor dramatic – but in the Canadian university context, even incremental changes can be challenging to implement.

3.1 Motivate good (and relevant) teaching

“Refocus provincial funding to reward teaching excellence” – Drummond Report (Commission on the Reform of Ontario's Public Services, 2012).

The first section of this paper argued that competition and student choice fails to create incentives for universities to improve the quality of teaching and learning. One possible response is to introduce new incentives for universities to build students skills and knowledge by, for example, tying government funding levels to teachers' performance. However rewarding teaching excellence requires measuring it, and that turns out to be a bit tricky.

One way of measuring student learning is with standardized tests. For example, HEQCO president Harvey Weingarten (2014) suggested in a blog post that, “Ontario's colleges and universities could evaluate entering and exiting literacy skills in all of their students as the critical first step in a comprehensive assessment of the achievement of desired learning outcomes.” The US K-12 experience, however, suggests that standardized testing must be used with caution. Tying high stakes outcomes to test results can have unintended consequences. As Deming and Figlio (2016) put it “schools typically respond strongly to performance incentives, but not always in the ways that the advocates of such incentives would like.” The unintended consequences of high stakes testing include attempts to manipulate test results, and a narrowing of the curriculum to focus only on what is tested.

Using standardized tests to measure teacher performance within the university sector is even more challenging. Universities aim to instill higher order skills, such as synthesizing knowledge, as well as specialized subject knowledge. There are tests designed to measure these skills, for example, the Collegiate Learning Assessment test used by Arum and Roksa (2011). Still, even if one accepts the premise that a single test can adequately measure critical thinking skills, and even if students can be persuaded to take the testing process seriously, it is impossible to link overall improvements in students' test scores over time to individual teachers, courses or programs. Without such a link, it is impossible to reward good teaching and programming.

Another possible metric of teaching is student evaluations. Yet, as argued in section 1.1, these are largely unrelated to student learning, and reflect students' gender and other prejudices (Boring et al, 2016; Uttl et al, 2017; Braga et al, 2014). Previous sections have also outlined the dangers of using other outcome measures. Graduate earnings, for example, are heavily influenced by the strength of the labour market in the city where the university is located, and the demographics and socio-economic characteristics of the university's student body. Student retention numbers can be gamed by lowering standards.

A newer way to improve the delivery of higher education is through the use of National Qualifications Frameworks (NQFs). Roughly speaking, qualification frameworks state the student learning outcomes (SLO) or competencies students need to demonstrate in order to be awarded an educational credential. By making explicit the learning outcomes students are expected to achieve, qualifications frameworks hope to introduce accountability into higher education in a way that avoids the pitfalls of standardized tests and crude outcome measures described above (Allais, 2010).

Ontario is the Canadian province that has moved furthest in the direction of a qualifications framework. It sets broad degree-level expectations, that is, skills that a student should have regardless of their course of study. An example is, "The ability to communicate accurately and reliably, orally and in writing to a range of audiences" (Ontario Universities Council on Quality Assurance, 2016). Each program has broad latitude to define its own specific learning outcomes, as long as all degree-level expectations are met. For example, an economics department might expect that students completing an undergraduate degree have "...an ability to use economic methods to discuss, evaluate and propose economic policy". This shift of focus from *how* material is presented to *what* is taught and learned is a major potential strength of the qualifications framework movement.

The effectiveness of these frameworks is, as yet, unproven. Allais (2010) suggests that "Expectations that qualifications frameworks can achieve the ambitious policy objectives claimed for them in relatively limited time periods seem to be ill-founded" (Allais, 2010, p. 2). A plausible reason for the lack of dramatic results is provided by Raffe (2013), who observes, "With respect to many of their objectives [qualification] frameworks provide tools for change rather than the agents of change; the tools will only be used if incentives or requirements are built in to the framework or provided through other policy measures." The question then is: what kinds of incentives or requirements can act as an agent of change?

Qualification frameworks can trigger changes in teaching and program delivery simply by mandating that certain core skills are taught. For example, every economics program in

Ontario now has to be able to identify a series of courses where students learn something that contributes to their “ability to communicate accurately and reliably, orally and in writing to a range of audiences”. The process of setting out learning outcomes also forces a re-examination of a program’s curriculum. Done well, this can be beneficial. Done poorly, this can lead to “worthless bean-counting and cataloging exercises that give faculty members every reason to ignore or reject the approach” Shireman (2016).

Changing the curriculum is only stage one. Changing what instructors do within the classroom requires something more. There is a growing body of K-12 evidence that this “something more” might be good management (Bloom, Lemos, Sadun, and Van Reenen, (2015)). Good principals lead to better student performance (and bad ones to worse) (Dhuey and Smith, 2014; Coelli and Green, 2012).

One way that leaders can make a difference is by mentoring teachers. Dobbie and Fryer (2013) find that, in the K-12 context, observing teachers in the classroom, and giving them frequent feedback on their performance, is associated with student success. In a university context, this type of feedback could be expanded to reviewing assignments, final exams and essay rubrics in a collegial fashion, or sitting in on student presentations in colleagues’ classes. It can be thought of as coaching faculty members, rather than rewarding or punishing them. Unfortunately, there are few incentives for research-active faculty to take on management positions within the university. Department chairs have responsibility but, given the institutional structures of Canadian universities, little authority. Having leadership in place who have the trust of faculty is part of the problem, rather than part of the solution.

There is something paradoxical about many attempts to measure university teaching. The structure of university education is premised on the assumption that a professor must have specialized skills and knowledge to evaluate students. Yet often the quality of that professor’s teaching is assessed asking handful of students answering a short multiple choice quiz. The most promising directions for improving the quality of teaching require devoting real resources to assessing teaching quality, and recognizing that evaluating professors requires as much effort as evaluating students.

3.2 How to differentiate

Canada has, at present, a differentiated university system. Instructors are differentiated into three groups. At the top is a large cadre of relatively well paid, nominally research active,

tenure and tenure-stream faculty members. Next there is a small group of full-time, teaching-stream faculty, who have the same job protections as research-stream faculty, but greater teaching obligations and, generally speaking, lower pay. At the bottom is a large group of relatively low-paid part-time faculty with little job security.

This model of differentiation is inequitable. Part-time instructors are paid less than full-time faculty for doing the same work. The salary differentials between full-time and part-time faculty might be justified for research active full-time faculty, but not all faculty are research active. The ending of mandatory retirement has exacerbated this inequality. Academic salaries for full-time faculty members are constant or rising in age, while research productivity is falling (Goodwin and Sauer, 1995). Thus when the average age of tenured full-time faculty members increases, the pay and productivity gap between the typical full-time tenure-stream faculty member and the typical part-time contract instructor widens. Moreover, both research-stream faculty and part-time instructors typically have major commitments aside from undergraduate teaching, and blunted incentives to engage in the kinds of practices that enhance student learning.

An alternative form of differentiation is proposed by Clark, Trick and Van Loon (2011) and the Commission on the Reform of Ontario's Public Services (2012): differentiation at the institutional level. Some universities would have mandates to teach; others would have mandates that included research. Even if such differentiation was feasible – and the tendency of universities to become more research-intensive⁵ over time suggests that it is not – it would be undesirable. Students choose between universities on the basis of their reputations. University rankings are largely driven by research and, to a lesser extent, student satisfaction. One might hope that teaching-oriented universities would be able to attract students by gaining a reputation for teaching excellence. However, since teaching excellence is largely unmeasured, if not unmeasurable, this seems unlikely. Thus differentiation would be expected to create reputational gaps between research-intensive and teaching-intensive universities, triggering the unintended consequences of reputation seeking described in section 1.2. For example, a system which is differentiated at the university level has the potential to increase inequality of opportunity. Students who, because of geographic or other circumstances, do not have access to a high-reputation research-intensive university risk being burdened with a lower-value degree.

Canadian universities now appear to be moving towards a third model of differentiation. The research-stream is no longer the standard for faculty members. Increasingly, universities

⁵ This tendency is documented by Clark, Trick and Van Loon (2011).

are adopting what is known in the industrial relations literature as a “two-tier” model, with full-time faculty being divided between the research-stream and teaching-stream. (Strictly speaking, this is a three-tier model, once part-time instructors are included). Some academics might welcome a multi-tier system on the grounds that it will free them to do research. Such a view is short-sighted. Academic research is a public good, and Canadian governments could rationally choose to freeride on research done in other countries. In a two-tier wage system, the top tier is always at risk of being deemed too expensive, and gradually whittled away.

One way of maintaining the viability of the research-stream is by periodically reviewing faculty’s research-stream privileges. While I have serious reservations about such a strategy, it seems to be the best response to the end of mandatory retirement. Without such a review, a non-productive faculty member could continue in the research stream for decades. While Warman and Worswick (2010) find that such faculty members are relatively rare, even a small probability of being stuck with an unproductive colleague for many decades makes it risky for a university to commit to a research stream faculty member.

A multi-tier model with a substantial teaching stream has significant risks. For the reasons outlined in section 2.3, the teaching stream is likely to be lower-paid, female-dominated and lower-status. A research stream without periodic review of faculty member’s research activity may not be viable. Yet the major advantage of introducing a substantial teaching stream is that it would create a group of faculty with ownership of the undergraduate curriculum, and could potentially reduce the exploitation of part-time contract instructors. Thus it is, in my view, the least-bad way of achieving differentiation.

3.3 Reduce the importance of reputation

Economists might believe that the primary role of university is human capital acquisition. Students, however, might rationally prefer to gain an advantage in the labour market by sorting and signaling. As argued in section 1.2, it is less effort. One way of preventing students from reducing their effort, and free-riding upon their university’s reputation, is to reduce their ability to use their alma mater’s reputation as a signal. This could be achieved by uncoupling students’ qualifications from particular educational institutions.

At an undergraduate level, the link between qualifications and institutions can be weakened by facilitating course and credit transfers – a policy which has other benefits, including making it easier for students to switch institutions in response to changing circumstances. At a graduate level, a more radical model is possible, what I call “deterritorialization”: the

process of severing the links between a student's qualification and any one particular university.

A model of graduate program delivery which comes close to deterritorialization can be found in Scotland, where the Scottish Graduate Program in Economics is offered as a collaboration between eight Scottish universities. The Scottish Graduate program does not completely deterritorialize graduate education because courses are, for the most part, taught at single university, University of Edinburgh, and students graduate with a university of Edinburgh degree.

However even this limited degree of deterritorialization has many advantages. In Canada, the best supervisor for a particular student may not be at the highest-reputation school. For example, not all of the top-three experts in Canadian immigration policy are at top-three schools, forcing a student who is interested in working in this area to trade off supervisor quality and school reputation. Second, deterritorialization allows PhD programs to enjoy greater economies of scale in program delivery. Third, the total number of PhD graduates can be better controlled. Some university rankings, including the Times Higher Education (THE, 2017) use the ratio of PhD students to bachelors students to rank universities, giving universities an incentive to create and expand PhD programs. However the returns to pursuing a doctoral degree can be very low. Dampening universities' incentives to create doctoral programs is, on balance, a good thing.

From a broader labour market perspective, is only desirable to reduce the importance of reputation if, in some sense, reputation does not matter much, that is, if every university meets basic quality standards. For PhD programs, quality can be assured by vetting each faculty member involved in offering the PhD program individually. For undergraduate degrees, ensuring quality is, for reasons that have already been discussed, more challenging.

4. Conclusion

There is a nightmare scenario for Canadian universities. Reduced enrolments and reduced government funding lead to budget shortfalls. In the short run, the only option is to attempt to reduce variable costs: paper clips, land lines and voice mail for faculty, and, in the medium term, professional services staff and sessional instructors.

These cuts, together with hiring and salary freezes, may be enough for a university to ride out the storm. But if not, are few other options. One is recruit students any way possible,

including actively recruiting international students, and lowering admission standards. Unfortunately, lowering admission standards can put a university on a downwards reputational spiral, which in turn depresses enrolments further, and so on, and so forth.

Now imagine that this happens to universities across Canada. The signaling value of a university degree would start to weaken, depressing demand system-wide. Given their lower returns to university education, and the changing gender balance of higher education, men would leave the system first, then women. Then, if there was no radical change, the post-secondary bubble could burst.

It is not obvious that universities can avoid a bubble-bursting event. But I would argue that the chance of the educational bubble bursting is somewhat reduced if the relevance and quality of student learning at universities can be improved. There is no magic bullet policy solution that will improve teaching quality, but good leadership, collegial feedback, and reduced structural rigidities in the system might help.

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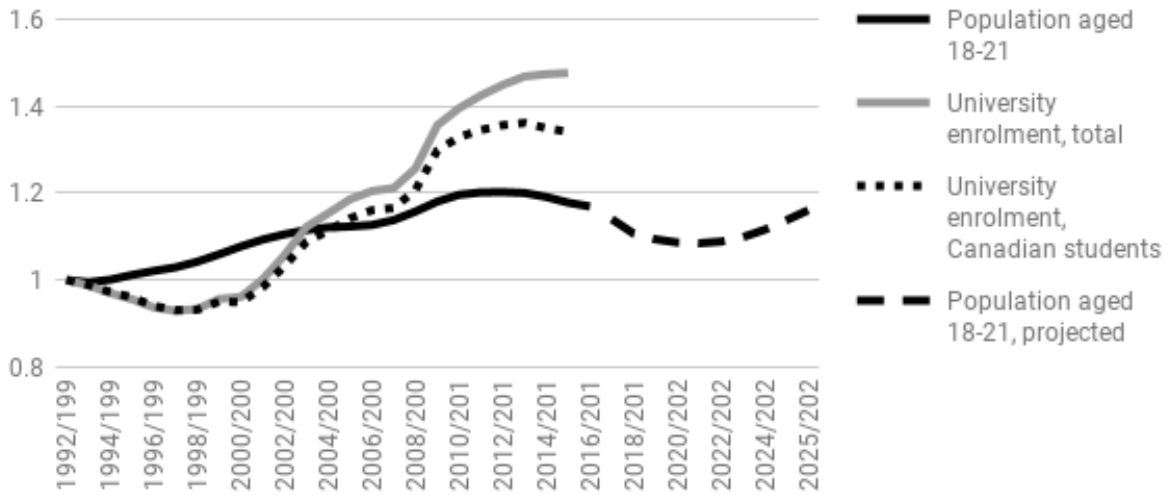
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Figure 1:

Number of students enrolled in university and population aged 18-21. Canada. 1992/93=1.0



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Figure 2:

