Exploring Ontario Universities' Strategic Mandate Agreements' New Performance-Based Model

in Relation to SMA's Original Differentiation Goals

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Submitted in partial fulfillment

of the requirements for the degree of

Master of Education

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Abstract

Efforts have been underway for over a decade to define and differentiate Ontario's postsecondary education (PSE) system by creating differentiation clusters out of the 21 universities and 24 colleges, the primary tool being strategic mandate agreements (SMAs). In 2019 through 2020, the third iterations of SMAs (SMA3) were negotiated. This research discusses SMA3's 10 new Performance-Based Funding (PBF) metrics that will govern up to 60% of provincial transfers. SMA3 also introduces an institutionally allocated metric weighing scheme. A summary of PBF literature and Ontario's SMA policy is followed by descriptions of each metric accompanied by relevant experience with similar PBF programs in other jurisdictions, and a discussion of each metric's implementation. Metrics created for SMA3 are justified only by their adherence to neoliberal new public management objectives; not PBF literature. SMA3 fails to incorporate established mitigations against access bias while introducing the risk of untested and ideologically motivated metrics.

Keywords: Performance-based funding, outcome-based funding, Strategic Mandate Agreements, SMA, postsecondary education, higher education

Acknowledgements

I would like to express my gratitude to Brock University, as both a university and employer. Brock University's employee tuition assistance program is at the same time evidence of the institution's belief in its academic mission and its employees. Thank you, Dr. Robert McGray, for your support, guidance, and humor during unprecedented times. Thank you to my family, who might have expected to see more of me during two Ontario lockdowns. I was lucky to have the best classmates to work with.

Dedication

This paper is dedicated to a family that is distinguished by generations of contributions to education.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

AUTM: Association of University Technology Managers

CAUBO: Canadian Association of University Business Officers

COU: Council of Ontario Universities

CUDO: Common University Data Ontario

ELMLP: Education and Labour Market Longitudinal Platform

HEQCO: Higher Education Quality Council of Ontario's

MCU: Ministry of Colleges and Universities

NPM: new public management

MTCU: Ontario Ministry of Training, Colleges and Universities

OSAP: Ontario Student Assistance Program

OUGS: Ontario University Graduate Survey

OECD: Organisation for Economic Co-operation and Development

OBF: outcome-based funding

PBF: performance-based funding

PSE: postsecondary education

RESP: Registered Education Savings Plans

TIPS: Tri-Agency Institutional Programs Secretariat

USER: University Statistical Enrolment Report

CHAPTER ONE: INTRODUCTION TO THE STUDY

This research focuses on the most recent iteration of a linage of Ontario Ontario's

postsecondary education (PSE) funding and governance policies that generated

documents known as Strategic Mandate Agreements (SMAs).

Positioning of the Study

SMAs were first published for all of PSE institutions in 2014. SMAs have been

the primary focus of research into Ontario PSE funding and governance since their

introduction. This research focuses on the performance-based funding (PBF) introduced

to the SMA framework that was announced in 2019, negotiated in 2019 and 2020, and

published during the 2020 writing of this paper.

On June 7, 2018, Ontario elected a new government led by Doug Ford, breaking a

succession of governments led by the Ontario Liberal party and returning the Ontario

Progressive Conservative Party to government after 15 years of Liberal rule. This new

government promised a reduction in provincial expenditures. On January 17, 2019,

Ontario's then-minister of the Ministry of Colleges and Universities (MCU), Merrilee

Fullerton, announced a 10% cut in regulated tuition across the province's publicly

assisted colleges and universities. This announcement coincided with an approximate

$600 million cut from the grants associated with the Ontario Student Assistance Program

(OSAP) and a modification to the needs assessment formula (Ontario Ministry of

Training, Colleges and Universities [MCTU], 2019a).

Subsequently, on April 11, 2019, the Government of Ontario announced its first

full budget with additional changes to how Ontario's PSE system would be funded,

announcing that up to 60% would be performance-based by the 2024–25 academic year

(Government of Ontario, 2019). The performance-based funding (PBF) component would increase from the current 1.4% (MTCU, 2019b, p. 9) that is derived from a mix of system-wide metrics and institutionally idiosyncratic metrics. The PBF component includes familiar metrics, such as graduation rate and research funding, as well as less-common metrics such as graduate employment rates and graduate earnings. Novel metrics, not found in other PBF models, included community/local impact, graduate earnings, and institution-specific economic impact metrics. In isolation, this represents good news for Ontario students by lowering their college and university tuition by 10%. However, the corresponding reduction in the previously generous grant portion of OSAP that was assessed by Ontario's Auditor General to have done a poor job of growing student access (Office of the Auditor General of Ontario, 2018), indicates that many students will experience a larger net expenditure on their education after these adjustments (Usher, 2019c).

Nationally, Canada is ranked 30th out of the 37 Organisation for Economic Co-operation and Development (OECD) member countries providing data for the proportion of public funds contributed to tertiary education in 2016 (OECD, 2020). Canada's position at 30th is located at the inflection point between the countries with predominantly publicly funded PSE to privately funded. The removal of further public funds from Canada's largest higher education system will likely shift Canada further away from the majority of OECD members. PBF has been implemented in other jurisdictions as a tool for the strategic allocation of funding in the service of neoliberal new public management (NPM) conceptions of accountability for both public funds spent and the actions of public institutions in the service of political leadership (Dougherty &

Natow, 2020). The primary justification for PBF PSE funding is efficiency of existing funds rather than adding funds to PSE systems (Adam, 2020; Dougherty & Natow, 2020). As described in the *2020–2025 Strategic Mandate Agreement Template*, Ontario's implementation tasks the institutions themselves with the responsibility to negotiate targets for each of the 10 metrics with MCU and then meet them (MCU, 2020, as cited in Ryerson University, 2020; see also University of Windsor, 2020). Research on the application of PBF in other jurisdictions suggests that there can be both positive and negative effects, and that much relies on the institutions' performance, as intended, but also on what metrics are adopted and how they are measured and administrated.

Alberta was the first province in Canada to adopt a PBF model for PSE in the 1990s by allocating small strategic funding envelopes that were competitively awarded, with the performance component representing 5% of overall sector funding in the 1990s and for some institutions it was as high as 20% (Barnetson, 1999). A report commissioned by Alberta's Minister of Advanced Education in 2005 placed system-wide funding related to the competitive performance envelope at 2% (Alberta Advanced Education, 2005). Ontario is the first province to consider transitioning from a majority enrolment-based funding model to a predominantly PBF model. Previously, under the 2017–2020 SMA model, only 4% of the 2017–2019 funding model in Ontario was based on performance (MTCU, 2015). Alberta subsequently announced its intent to implement a base PBF model that could account for as much as 40% of funding in response to recommendations from the 2019 MacKinnon Report on Alberta's Finances recommendations (Government of Alberta, 2020). Media reports have suggested that Manitoba's premier is considering a Tennessee-influenced PBF model (Froese, 2020).

In the United States, as of 2018, 24 states have implemented some form of PBF and six more states are developing funding models (Kelderman, 2019). In 1979, Tennessee became the first state to adopt a limited form of PBF for its PSE system, but the funding remained mostly enrolment-based (Ness et al., 2015). This sparked limited adoption in other states that was not sustained and was known as PBF's first wave. At the turn of the millennium, PBF models were again being considered as states recovered from the early 2000s recession and PBF's second wave began. In January 2010, Tennessee passed the Complete College Tennessee Act, directing the Tennessee Higher Education Commission to develop an entirely PBF model that went into effect for the 2011–2012 academic year, with additional state funds for the first three years to supplement the outcomes-based funding while institutions adjust.

PBF is a growing trend in PSE funding. There are existing PBF models available to compare Ontario's new metrics against, and experience with PBF in practice for funding teaching and research across the United States and some research funding models in Europe.

Background of the Study

The 2019 Ontario budget changed how Ontario's PSE system is funded. The budget proposal described the Ontario government's intention that 60% of public funds granted to Ontario universities and colleges were to be performance-based by the 2024–25 academic year. Previous SMAs had included performances metrics, but these were mostly accountability metrics, as funding was almost entirely based on a set of grants primarily associated with a corridor midpoint that was previously negotiated and derived from multiplying full-time equivalent enrolments by a weighting. The pre-SMA funding

process established a Basic Income Unit for full-time equivalent enrolments that ranges

from 1 to 8, depending on programs of study. Examples of programs of study values

range from General Arts and Social Work at 1, to Agriculture and Engineering at 3,

Education and Law at 6, and Ph.D. programs at 8 (MTCU, 2009). These weights,

originally established for the 1966-67 academic year, evolved into the Weighted Grant

Units that establish an institution's corridor midpoint. By the 2024-25 academic year

40% of funding will be based on the corridor midpoint, while 60% will be PBF-based.

 The shift from the current, mostly enrolment-based, funding model places

institutions at risk of losing funds that they had previously relied upon. In 2019, Ontario

institutions had the lowest percentage of general operating grant revenues provided by the

province as a proportion of institutional income, 32.5%, with institutions in the western

provinces averaging 49.6%, Atlantic institutions 52.5% and Quebec 64.3% (Canadian

Association of University Business Officers, 2020, p. 873).

 The original SMAs were negotiated in 2013 and published in 2014, followed by

the negotiation of a second iteration of SMAs in 2016 and publication in 2017 (see Figure

1). The publication of the third iteration of SMAs on November 26, 2020, by MCU made

the 10 metrics available on the Ministry's website for the first time (each discussed later

in this paper). Technical documents and agreement templates have been shared with

universities who have made them available publicly; notably, Ryerson University and the

University of Windsor. The University of Windsor (2020) shared an initial timeline that

suggested SMA3s were to be finalized by March 31, 2020, but the COVID-19 pandemic

delayed negotiations and publication (see Figure 2). The press release that accompanied

MCU's posting of the SMA3 documents clarified that in response to the COVID-19

pandemic, provincial funding for colleges and universities would not be linked to performance until 2022–2023. MCU also announced that all other aspects of the model, including data collection, evaluation, and publication, will continue as planned, and each SMA includes three years of historical data to support some of the performance data collection (Government of Ontario, 2020b).

Figure 1

Ontario SMA Generations, With 2020 COVID-19 Related Delay and Unchanged SMA3 Conclusion Date

Beginning of the academic year

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
SMA Negotiation	SMA1 2013			SMA2 2016			SMA3 2019+2020					
SMA Effective Period		SMA1 2014 - 2017			SMA2 2017 - 2019			SMA3, No-PBF, COVID-19 2020-2022		SMA3 (PBF) 2021-2025		

Figure 2

SMA3 Intended Bilateral Discussion Timeline
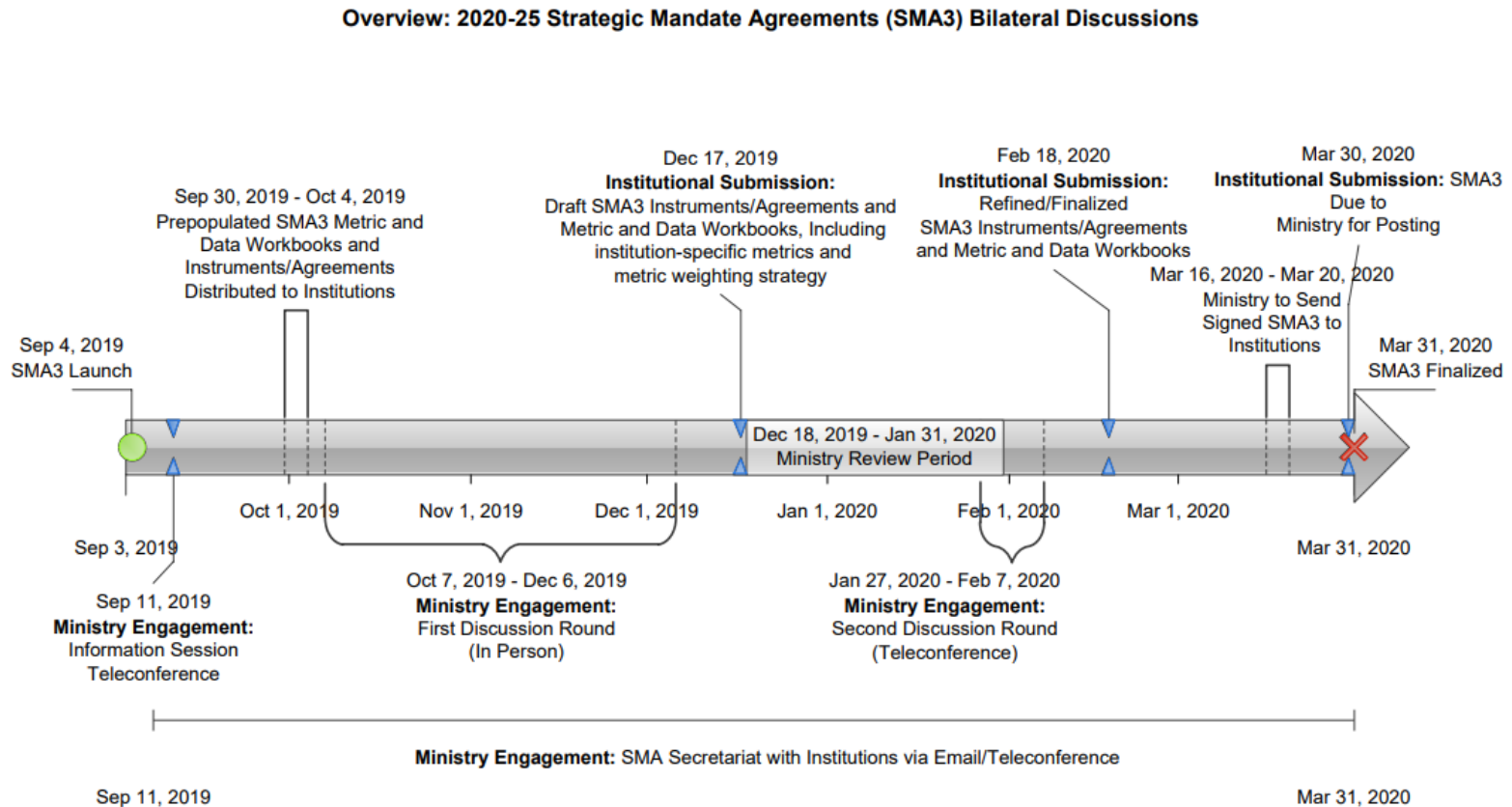
Note. As summarized in *Overview: 2020-25 Strategic Mandate Agreements (SMA3) Bilateral Discussions,* , by Michael Callaghan or the Ontario Ministry of Training, Colleges and Universities (https://www.uwindsor.ca/strategic-mandate-agreement/sites/uwindsor.ca.strategic-mandate-agreement/files/sma3_timeline.pdf)

The *Performance/Outcomes-Based Funding—Technical Manual* (MTCU, 2019b) introduced SMA3 outcomes to be as follows:

- Increasing trust and accountability through transparency and improved performance outcomes;

- Reducing red tape by striking an appropriate balance between accountability and reporting;

- Incentivizing colleges and universities to redirect resources and invest in initiatives that result in positive economic outcomes;

- Encouraging alignment of postsecondary education with labour market outcomes; and,

- Incentivizing differentiation and specialization to support increased efficiencies. (p. 4)

Section 4 of the technical manual added that

key objectives for performance/outcomes-based funding include supporting an increased institutional focus on postsecondary education alignment with labour market and economic outcomes, while demonstrating accountability and transparency through improved performance outcomes tied to government priorities. (MTCU, 2019b, p. 10)

Purpose of the Study

The research sought to answer the following three questions:

1. What does the academic literature and experience elsewhere with performance-based funding tell us about Ontario's 10 proposed performance-based funding metrics for universities?

2. All 10 performance-based metrics are to be weighted, and one is an institutional measure specifically negotiated with each institution. How is this novel application of performance-based funding expressed in SMA3?

3. Does SMA3 reflect the initial differentiation policy goals laid out by Weingarten and Deller (2010) and the ministry's subsequent policy statement(s)?

Theoretical Framework

The theoretical framework for this study is situated within social constructionism. Social constructionism draws upon concepts from European sociologists such as Weber's writings on ideal types, meanings, values, and rationalization, such as how the objectives and demands of authority figures are perceived (Griffiths et al., 2021). Marx's concept of false consciousness describes how populations can be complicit in their own oppression (Weinberg, 2014). Berger and Luckmann's (1967) *The Social Construction of Reality* described individuals' perception of the world as mediated by the socially inherited meanings actors actively confer upon it. This way of understanding the world relies upon the assumption that one's "interpretations, descriptions, analyses, and theories are socially constructed to do particular kinds of work" (Weinberg, 2014, p. 22). As such, any claims made based upon these assumptions are legitimized not by absolute or indisputable natural evidence, but by one's willingness to defend them through dialogue.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Implementation of PBF programs for PSE systems have grown since the first PBF program was introduced in Tennessee in 1979. This chapter reviews the literature and jurisdiction-based experience that have both grown considerably since PBF's first introduction. This literature review is focused on a review of the relevant performance management literature and PBF programs literature. The literature associated with the specific measure follows in the discussion of the proposed SMA3 2020–2025 metrics.

Ontario's Strategic Mandates

In 2013, what is currently known as the Ministry of Colleges and Universities (MCU), but at that point was known as the Ministry of Training, Colleges and Universities (MTCU), adopted a policy framework that outlined a goal to pursue greater institutional differentiation in the postsecondary education system (MTCU, 2013). Before the 2014 provincial election, work on the framework began under then-minister Brad Duguid during his two-year tenure as Minister of Colleges and Universities. After the 2014 election, the newly appointed minister, Reza Moridi, ultimately signed the first 24 college SMAs and 21 university SMAs on behalf of the Government of Ontario. The framework included incentive funding in areas with system-wide metrics and measurements defined by the government and institutionally identified incremental funding tied to desired outcomes proposed by each postsecondary institution with performance measurements and indicators (Ontario & MTCU, 2014, p. 14).

The roadmap for differentiation was first proposed in the Higher Education Quality Council of Ontario's (HEQCO's) 2010 report, *The Benefits of Greater Differentiation of Ontario's University Sector* (Weingarten & Deller, 2010). Following

the roadmap that was outlined by Weingarten and Deller (2010), the SMA framework was created by the MTCU in 2013 and individual SMAs were negotiated between MTCU and each university. The MTCU roadmap outlined the path for differentiation and began what has now been three rounds of negotiations between MTCU and individual universities and colleges for the initial period of 2014–2017, the recently completed 2017–2020 SMA2, and the current 2020+ SMA3.

Weingarten and Deller (2010) suggested that "put simply, universities will do what you fund them to do. If you don't tell them what you want them to do, they do what they want. This may, or may not, be consistent with public goals" (p. 19). Accordingly, the framework split metrics into two types:

a. Institution-specific metrics identified by individual colleges and universities. Institution-specific metrics are optional but help identify unique strengths. These are rooted in historical data to enable measurement of progress over time and are linked to the institutional internal planning processes.

b. System-wide metrics identified by the ministry. These metrics, based on current data collected or already available to the ministry, are applicable to all institutions and form the basis for measuring progress. (MTCU, 2013, p. 13)

The outcome was the establishment of an SMA with each PSE institution and MTCU in 2014 (Buzzelli & Allison, 2017). The second phase of the SMA process, dubbed "SMA2," was negotiated in 2016 and ran from 2017 to 2020. The 2020 to 2025 agreements that form SMA3 were the subject of this study.

Piché (2015) summarized the policy debate in Ontario during the creation of the first SMAs, noting that the Ontario Confederation of University Faculty Associations was

critical of the HEQCO report, in 2012 accusing it of being an opportunity to reduce

expenditures in the guise of differentiation. The confederation objected to the prospect of

universities competing for funding and did not conclude that HEQCO had succeeded in

making a case for more differentiation and failed to recognize universities' autonomy.

Piché and Jones (2016) also noted the contemporary influence of the Drummond Report,

which was commissioned by Premier Dalton McGuinty and Minister of Finance Dwight

Duncan. The former TD Bank chief economist Don Drummond was asked to chair the

Commission on the Reform of Ontario's Public Services, providing a report on how the

Ontario budget could be balanced (Drummond, 2012). The report called for less

duplication in the sector, which, Piché and Jones suggested, failed to account for values

of student accessibility in the context of such a geographically large province. The report

also called for increased outcome measures tied to funding as part of mandate agreements

(Drummond, 2012).

Piché and Jones (2016) suggested that the SMA approach discards opportunities

to create new types of institutions, such as teaching-focused or open universities, and

instead sticks with the current types and commits to an evolutionary process of limiting

missions, program offerings, and aspirations of existing institutions. They concluded the

paper by suggesting that the initial SMA process "implies a long-term strategic approach

to higher education policy combined with sustained system-level planning, two elements

that have, at least to-date, been largely absent from the Ontario higher education system"

(Piché & Jones, 2016, p. 16).

Piché (2015) has contended that the uniform environment in the university sector

before the differentiation initiative was partially due to the lack of diversity objectives in

Ontario's funding policies and a long-standing funding model that treated every institution equally despite differences in region, scale, and existing mandates. Piché suggested that mandates and funding within the diversification framework would need to balance any funding policy changes with their related impact on quality and accessibility. Differentiation goals can only be obtained by the government of Ontario taking on more of a central planning role and negotiating multi-year agreements "that identify areas of strength and aspirations but should also identify programmes that will be discontinued over time" (Piché, 2015, p. 66).

Webber and Butovsky (2018) placed the creation of Ontario's initial SMAs within a greater era of accountability governance, neoliberalism, and shrinking budgets. They aligned the SMA process with the program prioritization and review initiative that many Ontario universities undertook in the years before the first SMAs were negotiated. Not all universities engaged in these reviews, which were to varying degrees modelled on Dickenson's (2010) approach and provided a method to rank both academic and nonacademic activates as a means of targeting remaining funds. The provincial government did not require universities to engage in such an exercise, but it provided funds for these reviews as well as other programs through a Productivity and Innovation Fund. The growing imposition of accountability governance in Ontario, with its roots in neoliberalism and corporatization, has not only diminished the autonomy of universities as a whole but the role of university senates and faculty unions (Webber & Butovsky, 2018).

Performance-Based Funding

PBF differs from basic funding formulas in that it does not simply use input measures, such as student enrolments or process measures such as instructional costs; instead, it ties funding to institutional outcomes. PBF connects the relevant governments' funding directly to a PSE institution's performance on outcomes such as student retention, graduation, transfers, and job placement via a formula (Dougherty et al., 2014). The measures, metrics, and formulas may, or may not be negotiated between the postsecondary institutions and the relevant government. PBF generally refers to an accountability-driven funding formula with funding tied to measured outcomes. PBF can sometimes be interchanged with outcome-based funding (OBF), or sometimes meaningfully distinguished to suggest that the measurement of outcomes is more objective than performance. More specific definitions of PBF, or how they contrast to other funding models, can often be difficult to define due to local contexts, including where the majority of the cost of student's higher education is borne (student/state split, national/subnational split, etc.), goals of growing or shrinking expenditures that accompany implementation, and local definitions often prevent a clear lexicon for PBF.

There is also no strong consensus on PBF's effectiveness and motives, with most attributing it to neoliberal ideologies, such as NPM and its accountability objectives, within this ideology. As a result, negative impacts of PBF are expected and seen as a cause for regular revision, not a fatal flaw of PBF or performance management (Adam, 2020; Dougherty & Natow, 2019). NPM is a public sector reform movement with its origins in the United Kingdom and Prime Minister Margaret Thatcher's government in the 1980s. NPM has since had a global influence on neoliberal politicians. NPM reforms

centre around privatization, developing intermediary bodies such as executive agencies,

research councils, all tied to market-based principles and seeking to produce a smaller,

more efficient and more results-oriented public sector. Ferlie et al (2008) itemized

NPM's market-based principles as follows:

1. Markets (or quasi-markets) rather than planning.

2. Strong performance measurement, monitoring, and management systems, with
   the growth of audit systems rather than tacit or self-regulation.

3. Empowered and entrepreneurial management rather than collegial public
   sector professionals and administrators.

Types of Performance-Based Funding

Each PBF program and jurisdiction has its idiosyncrasies. To understand and

compare each PBF program, Adam (2020) provided useful categorization of the three

main types: results, performance set-asides or reservation, and performance contracts or

agreements (also compacts).

Results funding is attached to key performance metrics, awarding funds based on

quantifiable measures of teaching and research (Adam, 2020). These measures can

include a mix of process indicators (e.g., credit accumulation) and output indicators (e.g.,

graduation rates). This model is typically noncompetitive, allowing institutions to earn

funds within a band based on their performance, allowing all institutions to potentially

achieve a maximum. This model offers fewer savings and less predictability for public

budgets, but funding impacts can be projected and quantified by institutions themselves.

In performance set-asides or reservation funding, a portion of the public budget is

set aside to fund teaching or research and is then allocated based on quantifiable

measures of teaching and research (Adam, 2020). This can be a non-competitive model where unclaimed funds are returned to the treasury, but it is commonly administered as a competitive model where funding is zero-sum. In a competitive model, participant institutions with the highest levels of performance can claim the most from certain allocations before relatively less-performing intuitions can. This model offers savings and predictability for public budgets, but funding impacts cannot be projected and quantified by institutions themselves, rather they must consider the performance of their peers to a greater extent.

The third type of PDF program Adams (2020) categorized is performance contracts or agreements (also compacts), which are negotiated agreements that are struck between the government and individual institutions. These contracts become the regulatory documents that set out the performance goals, indicators, weights, and success standards that each individual intuition will be measured by. Metrics typically have a mix of system-wide measures and intuitionally specific measures.

The actual funding model for a higher education system may vary in the actual proportion that is performance-based, both for teaching and research. Likewise, the degree to which metrics are system-wide or contractually unique to an institution may vary.

Experience With PBF Programs

The English-language literature naturally focuses on PBF's application in the United States and national applications across Europe. Canada has had limited experience with PBF.

The U.S. Experience

PBF for higher education has received the most study within the context of the United States. Notably, Tennessee introduced some performance-based measures into the appropriations process for universities in 1979 and is credited as the original PBF model. As of 2014, over 20 states have adopted some form of OBF into their university funding model, with Tennessee now at 85% OBF and Ohio fully adopting the OBF model in 2010 (Callahan et al., 2017; Dougherty et al., 2014; Kelderman, 2019; Testa, 2017).

Dougherty, Natow, Hare Bork, Jones, and Vega (2013) examined the origins of state PBF programs and their prevailing and alternative explanations and the associated advocates, and later Dougherty worked with Jones, Lahr, Natow, Pheatt, and Reddy, (2014) to segment PBF into two waves that define its adoption in the United States and further examined each wave's advocates. There is agreement in the research that the first wave of PBF occurred between 1979 and 2000 and the second wave emerged during the recovery from the recession that marked the start of the millennium and was intended to help stabilize funding during recessions (Kelchen & Stedrak, 2016).

The two main political coalitions driving the first wave of PBF adoption were state higher education coordination boards and public higher education institutions. This group was interested in securing public funds during a time of growing resistance to taxation and criticism of higher education's effectiveness and efficiency. The second group was legislators, particularly Republicans, governors, and state business leaders. This group perceived PBF as an opportunity to inject more business-like funding and neoliberal market thinking into higher education (Dougherty et al., 2014) and similar

neoliberal concepts of increasing the accountability and incentivizing performance, such as principal agent theory (Dougherty & Natow, 2019; Ferlie et al., 2008).

The second wave emerged from the early 2000s recession and was exemplified by new PBF programs in Indiana (2009), Ohio (2009) and Tennessee (2010), where performance funding metrics were embedded in the base state funding. Dougherty and colleagues (2013) noted that it was governors who requested proposals from coordinating boards for new approaches to higher education funding and that at least nine of the 13 states that adopted or re-adopted PBF had Republican governors. National policy foundations and philanthropic organizations, such as Complete College America, the Lumina and Gates foundations, regional boards, and the federal government were key sources of ideas for these programs (Dougherty & Natow, 2019). In the states where PBF was re-adopted, the existing funding boards played a substantial role in the policy development process (Dougherty et al., 2014). The second wave often included metrics on subgroup performance, such as first-generation students, equity-seeking groups, and Pell Grant[1] recipients. Much of the existing literature focuses on PBF programs in 13 states: Florida, Illinois, Indiana, Kansas, Michigan, Missouri, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Washington, and Wisconsin (Boelscher & Snyder, 2019; Dougherty et al., 2013; Dougherty & Natow, 2019; Hagood, 2019; Zhang, 2009).

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[1] Pell Grants: According to the U.S, Federal Department of Education (2015), "The Federal Pell Grant Program provides need-based grants to low-income undergraduate and certain postbaccalaureate students to promote access to postsecondary education. Students may use their grants at any one of approximately 5,400 participating postsecondary institutions" (U.S. Department of Education, 2015, para. 2).

Tennessee Republican governor Bill Haslam's renewal of PBF came with the so-called "Tennessee Promise" that was intended to boost economic growth by increasing the skill level of the Tennessee workforce through tuition grants drawn from state lottery funds. The renewed PBF model is administered by the Tennessee Higher Education Commission to fund the 23 two-year colleges that range in enrolment from 3,000 to 11,000 students per institution. Tennessee's 13 four-year universities have enrolments between 2,000 and 57,000 students per institution (Hillman et al., 2018). The 23 two-year colleges are part of the Tennessee Promise to offer free college tuition to all Tennessee students under a last-dollar tuition grant program, meaning the state covers any tuition and academic fees not already covered by other grant aid, such as Pell Grants. Because of the last-dollar design, low-income students who receive Pell Grants receive less, if any, Tennessee Promise funding when compared to students who are ineligible for Pell Grants.

Undoubtedly, student financial need also includes housing and other nontuition costs, not simply tuition alone. The Tennessee Promise program cannot address all the unmet needs of low-income students as Pell Grants regularly cover full tuition for high need students, but the promise grant will not go beyond tuition costs, leaving all nontuition needs unmet. This leads to students of moderate needs, who qualify for less assistance including Pell Grants receiving more from the Tennessee Promise program despite having less tuition and nontuition unmet need (Poutre & Voight, 2018).

The Tennessee Promise grant program and the renewed PBF model that put an emphasis on certificate and degree completion were associated with significant gains in community college certificate production, doubling the number of certificates in a very

short period. Tennessee's four-year colleges and universities did not, on average, outperform colleges and universities across the United States during the same period (Hillman et al., 2018). Tennessee's PBF program currently has metrics that are weighted differently based on the type of institution and those institutions' mission (Wilson et al., 2020).

PBF supporters and advocates have not always been external to higher education institutions. Some higher education institutions were key supporters of PBF and related neoliberal reforms, even while other PSE institutions stood in opposition. This support was often attributed to sentiments favouring neoliberal concepts of accountability, but not just from the institution to government and other sources of funding, but within the institution. PBF measures were also perceived to be more innately justifiable when governments are seeking targets for reductions in expenditures (Dougherty & Natow, 2020; Rutherford & Rabovsky, 2014).

Research has also suggested that PBF can introduce unintended consequences. The second wave of PBF funding programs often had a design goal of discouraging gaming the system, but there is evidence to the contrary. Quantitative and qualitative studies have found that specific measures, such as retention and graduation rates, have increased the selectivity in university admissions and changed university financial aid practices to preferentially recruit well-prepared students (Dougherty, 2016; Kelchen & Stedrak, 2016; Ortagus et al., 2020; Umbricht et al., 2017). Kelchen and Stedrak (2016) suggested that institutions may be strategically targeting wealthier students because of their greater graduation rate, as evidenced by a decline in Pell Grants. Though a 2017 survey by the State Higher Education Executive Officers Association did identify that 16

out of the 20 responding states include at least one metric targeting underrepresented students, most commonly Pell Grant eligibility (Laderman & Carlson, 2018). The reduced intake of less advantaged students has the effect of narrowing institutions' missions and contributing to the stratification of the institutions and academia more generally (Dougherty & Natow, 2020). PBF's second generation is defined by additional metrics and funding to encourage positive outcomes in targeted groups such as first-generation, low-income families, or underrepresented minorities (Kelchen, 2018). Without analysis of the impacts of these PBF programs, these metrics that are intended as mitigations against selection bias risk being only symbolic, and state legislatures seem more willing to set targets for low-income groups than underserved racial or ethnic minorities (Ortagus et al., 2020).

In 2017 the State Higher Education Executive Officers Association conducted surveys of members with regard to OBF and 20 out of 28 respondents indicated that their PSE system or state- had outcomes-based funding in that fiscal year. Almost all states indicated that outcomes-based funding had been adopted recently. Only Indiana, Kansas, Tennessee, Washington, and Wyoming indicated the current model had been adopted prior to 2012. In most states, outcomes-based funding is applied to both their four-year and two-year sectors (Laderman & Carlson, 2018).

PBF has placed previously viable financial models at risk. A special report published by *The Chronicle of Higher Education* described Southern Oregon University's focus on liberal arts education and its location 40 kilometers north of the California border as having been sustainable prior to the introduction of PBF in Oregon (Kelderman, 2019). Gregory Perkinson, vice president for finance and administration at Southern

Oregon University, suggested that the 40% nonresident student population helped sustain the institution, but the new PBF model's focus on funding only Oregon resident students has placed the institution at risk (Kelderman, 2019). A subsequent report by the Oregon Higher Education Coordinating Commission (2019) suggested the funding changes are a partial cause for Southern Oregon University being financially unstable in addition to declining enrolment and increasing expenses.

Not all institutions are affected by PBF in the same way. Smaller, lower-capacity institutions are more likely to report difficulty in meeting performance funding objectives in comparison with higher-capacity intuitions (Dougherty, 2016). The PBF policy design process often favours wealthier, higher-capacity intuitions. Recent research by Hagood (2019) found that PBF programs reward larger higher-capacity institutions for maintaining the status quo but often lack the sensitivity to detect an improvement in low-resource institutions. This hinders low-resource institutions in their response to PBF outcomes and improving performance. In fact, institutions that demonstrated declines in funding were also the ones that demonstrated gains in bachelor's degree production (Hagood, 2019). Institutions within PBF programs consistently find that capacity constraints are among the most significant barriers to responding to goals outlined by PBF (Dougherty 2014; Hagood, 2019; Hillman et al., 2018).

The Tennessee experience and others suggest that PBF programs can have immediate but short-lived effects on policy goals such as degree completion. These positive effects are primarily associated with two-year college certificate programs, not universities. There is evidence that universities are incentivized to meet performance targets and that this can lead to a highly selective admissions process and decreased

access to students with existing challenges to their academic success. This effect has encouraged access targets as a corrective measure as well as other interventions. Negative effects are either tolerated or addressed through program revision as typically Republic governors and legislatures peruse accountability goals.

The European Experience

There are 44 PSE systems across the countries in Europe. Of those 44 public systems, 28 incorporate some form of PBF into their basic funding allocation mechanisms. According to the OECD (2020), European countries contribute more public funds to student tuition than students provide privately; as high as 96% in Norway and 93% in Finland, or as low as 61% in Italy and 58% in Portugal (see Figure 3). The exception has been the United Kingdom's 25% public funding level (OECD, 2020).

Figure 3

Spending on Tertiary Education, Private/Public, Percent of Education Spending, 2016 or Latest Available
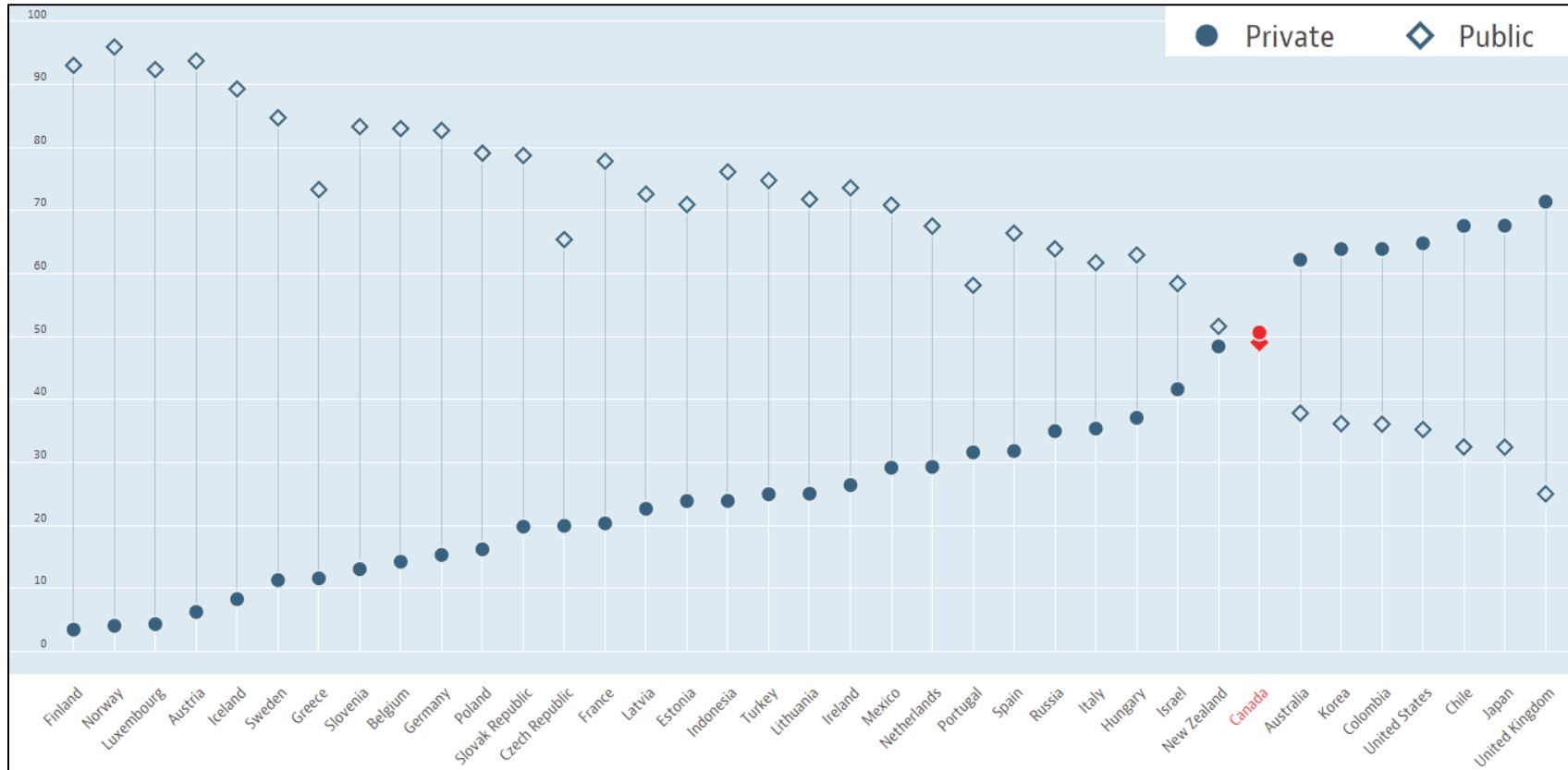
Note. As summarized in *Spending on Tertiary Education,* by OECD, 2019 (https://doi.org/10.1787/a3523185-en). Copyright 2019 by OECD.

Though not as numerous as the subnational systems found in the United States and Canada, it is worth noting that the multiple languages contained within countries can result in multiple national-level systems within the same country. European PBF has until recently been primarily tied to research performance and otherwise layered on top of block grants. Teaching-related funds are still predominantly enrolment-based funding models, even though three countries moved to a PBF funding model that included teaching in 2019. Germany has historically shown the most interest in funding research based on performance measures through its Excellence Initiative. The initiative, launched in 2005, is now known as the Excellence Strategy. The four rounds of federal funding associated with the Excellence Initiative have marked a period of increased funding for teaching and research, along with increases in student access, and notoriety for German PSE (Forsyth & Pitman, 2014; Teichler, 2018).

Austria is the only country that has performance contracts that dictate all its university funding. This contract-based program was first established by Austria in 2013. The Austrian federal government provides two envelopes of funding that both include performance-based elements, the basic budget and *Hochschulraum-Strukturmittel*. The basic budget covers 94% to 96% of the global budget, and the *Hochschulraum-Strukturmittel* about 4% to 6% (de Boer et al., 2015). Denmark began using a system-wide metrics formula for 53% of funding in 2019. In 2019 Sweden began using a performance formula for 65.9% of funding. Finland also began using a performance formula and performance contracts in 2019 for 75% of funding (de Boer et al., 2015).

Eighteen jurisdictions use a formula-based block grant as the primary funding source and nine other systems use a historical or negotiated process for allocating block

grants. Eight systems use PPF as a source of funding in addition to formulaic or negotiated block grants. Ten systems use PBF as a secondary source of funding, representing less than half of public funds appropriated for universities in these countries. These secondary PBF programs are administered either through project-based initiatives or targeted research initiatives, as in the United Kingdom, or programs that are either system-wide or use contractual measures (Adam, 2020; Pruvot et al., 2015). Both Austria and Finland administer their PBF program over funding cycles that span three- or four-year periods. Longer durations of funding and measurement offer flexibility to balance between short-term outcomes, and their potential instability, and long-term policy goals (Adam, 2020).

PBF had been primarily limited to research funding in Europe and is used as a form of targeted strategic policy, not as a primary or even partial funding tool, with the notable exception of Austria, which uses PBF as its primary funding tool. The focus on research funding over the funding for teaching activities is likely related to the greater percentage of student tuition covered by the state and related access guarantees. Similar to the U.S. and Canadian experience, most large-scale changes to PSE funding are focused on integrating performance or outcomes-based metrics.

The Canadian Experience

The two jurisdictions in Canada that have implemented PBF are Alberta and Ontario. As compared to other members of the OECD, the proportion of public funds contributed to tertiary education tuition across Canada is in the lower quarter of the 40 members reporting their public to private split of the sources of tuition funds (OECD, 2020). Ontario recently had the highest 2018–19 tuition fees in Canada (Statistics

Canada, 2018), though Ontario became the third highest after Nova Scotia and New Brunswick in 2020 (Statistics Canada, 2020b).

In the 1990s Alberta became the first province in Canada to adopt PBF by allocating small strategic funding envelopes that were competitively awarded, with the performance component comprising 5% of overall PSE system funding in the 1990s, but for some institutions it was as high as 20% (Barnetson, 1999). A 2005 report commissioned by Alberta's Minister of Advanced Education suggested about 2% of system-wide public funding for universities and colleges was tied to performance and that the competitive model head caused the University of Alberta to contribute 0.5% to its budget to the performance funding envelope after missing enrolment targets (Alberta Advanced Education, 2005).

Universities in Prince Edward Island, Nova Scotia, and New Brunswick have participated in performance measures through the Maritime Provinces Higher Education Commission quality assurance program. The commission is an agency of the Council of Atlantic Premiers. The quality assurance program provides reports, but they are not tied to funding (Alberta Advanced Education, 2005).

In Ontario, under the SMA2 process that came into effect in 2017, each university in the system has been funded equally for each student in equivalent programs and to conduct teaching and research functions proportional to the university's type or size. A few additional grants have been specifically targeted to promote access to identified demographics such as first-generation students, Indigenous students, and students with disabilities. There are also institutionally targeted grants, intended to acknowledge the challenges of northern universities (Piché & Jones, 2016). In Ontario under SMA2, 1.4%

of funding was performance-based and tied to negotiated targets for system-wide metrics as well as contract-based institutional metrics and measures (see Figure 4).

Media reports suggest that the government of Manitoba is interested in outcomes-based funding after the president of the University of Manitoba, Michael Benarroch, met with Manitoba Premier Brian Pallister. Tennessee's PBF system and history were specifically mentioned as an influence (Froese, 2020). Alberta is the only other province to formally announce its intent to implement a performance-based PSE funding model. The recommendations from the 2019 MacKinnon Report on Alberta's Finances (Government of Alberta, 2020) suggested Alberta adopt PBF model. Both Ontario and Alberta have delayed the implementation of PBF plans due to the COVID-19 pandemic (Spooner, 2020). As the PBF portion of SMA2 is relatively small scholarly work related to Ontario's SMA process has focused on the differentiation goals. Scholarship around SMA3 has focused on how the system-wide and contract-based metrics that compose the PBF 1.4% influence that differentiation goal.

Figure 4

Summary of Public Funds Projected to Have Been Granted to Universities as Part of SMA1 in 2015–16
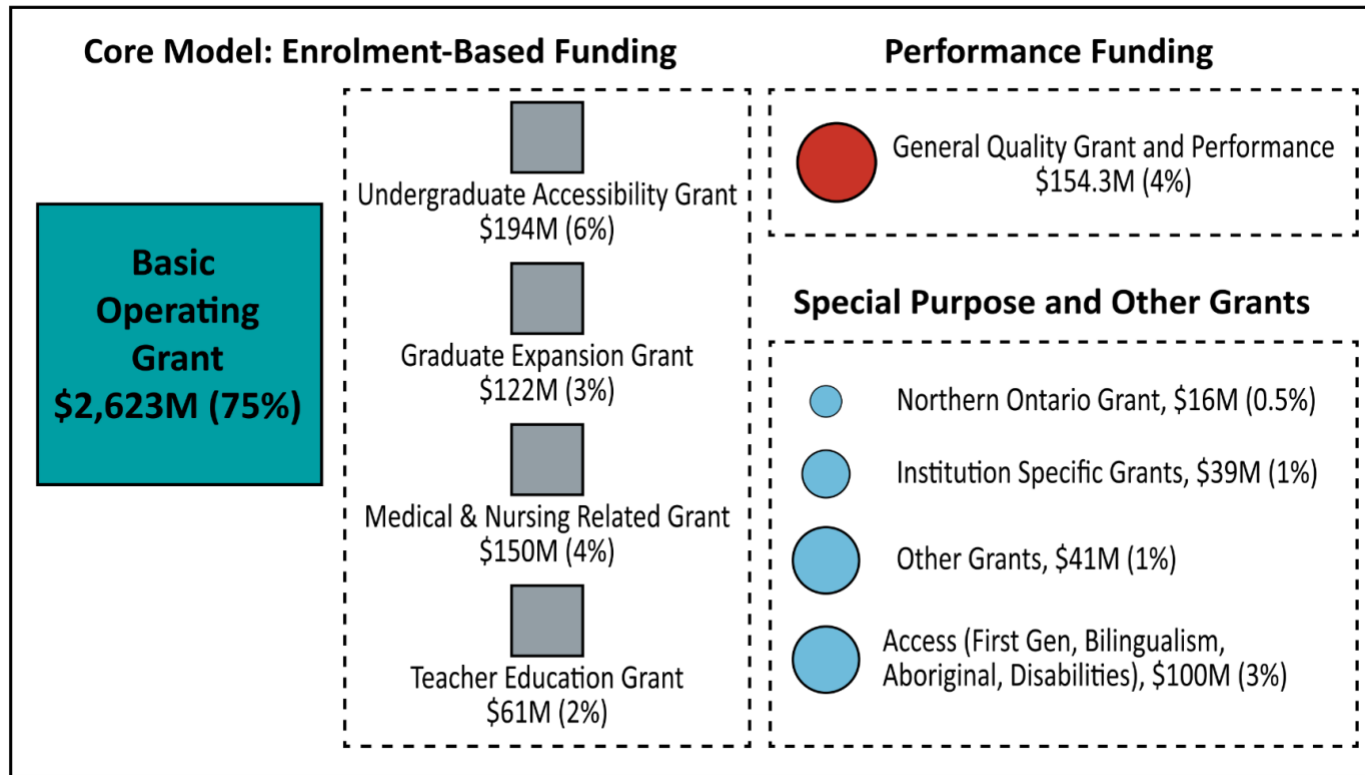
Although Piché and Jones (2016) noted that Ontario lacks a formal university accreditation process and that institutions have been expected to develop and report publicly on measurable program outcomes on the basis of accountability, teaching quality assessment has been left in the hands of universities. By implication, Piché and Jones did not consider the Post-Secondary Quality Assessment Board, created by the 2000 Post-Secondary Education Choice and Excellence Act, to be able to adequately assess teaching activities or ongoing quality, likely because its primary role is assessing if an organization is worthy of granting degrees or being titled a "university." The Ontario Universities Council of Quality Assurance's Institutional Quality Assurance Process was similarly not considered, though the process is likely an appropriate measure, because its status as a membership group dissociates it from a university's title and public funding relationship.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

This research analyzes SMA policy through the public statements of policy

makers and the related primary policy documents.

The Social Construction of Target Populations

The economic value to the public through the tax revenues and social

contributions from highly skilled and highly educated populations is described in the

OECD's (2020) Education at a Glance report (p. 273). Canadian society has accepted this

premise and worked since the post-war era to establish a higher education system that

favoured social equality and access (Axelrod, 2002, p. 28). The means and justification

and the identification of who benefits from the subsidization of higher education in

Ontario as implemented through public policy are complex. Schneider and Ingram's

(1993) framework of social construction and policy design provides a method of analysis

based on perceptions of the socially constructed groups on whom benefits, and burdens

are placed.

Schneider and Ingram's (1993) social construction of a target population

recognizes the shared characteristics that distinguish a target population as socially

meaningful and socially constructed, and that these values are associated with the

characteristics of this grouping. Groups can be mapped to stereotypes or cognitive

shortcuts that can be used to classify individuals that society believes are either deserving

or undeserving of government help. These stereotypical groups can come from the biases

that are held within a society in the form of cultural stereotypes, social or economic

groups, demographics, and other simplified attributes of large populations. These

stereotypes shape perceptions, that Schneider and Ingram argue also shape the way society decides who deserves help.

The social construction of a target population framework begins by constructing a fourfold table that assesses groups across two dimensions (see Table 1). The first dimension of the framework's analysis places groups on a spectrum of positive or negative values associated with the group, the second dimension describes the relevant power of the group and the resources they may have that makes them strong or weak in terms of their ability to get what they want or to be heard in politics. The resulting quadrants are groups perceived as "advantaged" because of their high level of political power and positive perception; "contenders," who are perceived negatively but have access to power; "dependents," who are weak but perceived positively, and "deviants," who are both weak and perceived negatively. The location a group might be placed in these four quadrants influences how society as a whole think about the benefits and punishments in public policies and if they are deserved or undeserved.

Public policies generally benefit the politically powerful, positively constructed, advantaged. Similarly, public policy typically places burdens on the politically weak, negatively constructed, deviants, as this alignment of benefits and burdens demonstrates to policymakers that policies will be well received. Tensions are created when benefits are considered for the powerful contenders or burdens for the weak dependents. Likewise, considerable resistance can be anticipated when powerful contenders are burdened, and negative policy outcomes can go unchallenged when burdens are assigned to the weak.

Table 1

Social Constructions and Political Power: Types of Target Populations

| Power | Constructions | |
	Positive	Negative
Strong	Advantaged	Contenders
	The elderly	The rich
	Businesses	Big unions
	Veterans	Minorities
	Scientists	Cultural elites
		Moral majority
Weak	Dependents	Deviants
	Children	Criminals
	Mothers	Drug addicts
	Disabled	Communists
		Flag burners
		Gangs

Note. Adapted from "Social Construction of Target Populations: Implications for Politics and Policy," by A. Schneider and H. Ingram, 1993, *American Political Science Review*, *87*(2), p. 336 (https://doi.org/10.2307/2939044). Copyright 1993 by Cambridge University Press.

Schneider and Ingram (1993) offered examples of group placement in these quadrants and how these constructions are often contested. The social construction of the poor could portray them as disadvantaged and that their poverty is not their fault, this would portray the poor as dependents. Alternatively, the poor could be constructed as lazy people who are benefitting from other people's hard work, portraying the poor as deviants. A further, more specific example given is that of motor vehicle policies, which do not identify automobile drivers as a target population, but typically subpopulations with negative values associated with them, such as young drivers or intoxicated drivers (Schneider & Ingram, 1993, p. 2). Similarly, examples can be identified in this framework within PSE. For example, policies that improve access to education for the elderly will generally be well received, as the elderly are constructed as an advantaged group with the power to advocate for their interests and are associated with positive values; however, improved access for the rich would create tension as contenders they have the power to advocate for access, but society will generally view this benefit as negative.

An example found in Canadian postsecondary education is the continuing increase in university tuition rates and the policies that support this trend. The long-term rise in tuition rates can be analyzed within this framework. Christofides et al. (2009) identified that family income was consistently related to differences in children attending PSE. Their analysis also suggested that shifting the cost of PSE more towards taxation would have a greater benefit to higher-income families because of participation rates; thus, government grants to the children in lower-income families would be a more equitable approach (Christofides et al., 2009). Specifically, the structure of the federal

Canada Education Savings Grant, introduced in 1998, does provide extra grants to families with an income of $93,208 or less, but the grant's signature benefit is that it offers up to $2,500 to all Registered Education Savings Plans (RESPs) per year. Both measures would appear more targeted than tuition freezes. Notably, unused RESP contributions may be transferred to other beneficiaries, with many RESP providers offering family plans for multiple children or beneficiaries. The benefit of this transferability has the effect that a family who can afford to save more in a RESP can accrue the annual $2,500 top-ups for multiple children, and further retain them if only one child continues their education after high school. Furthermore, if one child chooses a cheaper postsecondary education than another, more affluent families could use more of the RESP funds for one child and less for another. A less advantaged family with multiple children that can afford to save less in a RESP will not receive additional top-ups and possibly only one child will be able to continue to PSE.

When one considers the social construction of these target populations children and students are viewed positively and policymakers would be inclined to benefit them. However, in this example the method of that benefit is biased towards the politically more powerful high-income families. Larger families may also have a slightly greater socially constructed value than smaller families. Policymakers are presented with a difficult choice about equity and the efficiency of policy and their perceptions of how target populations may receive this policy. Within this framework, policymakers could be understood to be favouring the positive reception of grants that are available to all families, including these powerful and positively constructed groups, over the limited political benefits of direct subsidies to low-income families.

Schneider and Ingram's (1993) social construction of a target populations framework suggests that, for the purposes of this study, how the political power of the target population and the public opinion of the target population are constructed will inform how policymakers design policy. Where evidence of specific PBF metrics are available, they are likely to benefit the advantaged. Where policy approaches are without precedent, it is expected that they are similarly designed to target advantaged populations.

Research Design

In this paper I adopted a meta-analysis research design to analyze both the qualitative and quantitative elements of Ontario universities' SMA3 documents. This method of analysis integrates the findings from existing research on the design and impact of PBF. Card (2011) argued that what "distinguishes meta-analysis from other approaches from research synthesis is the method of synthesizing findings to draw conclusions" (p. 6). Assuming the same information is available to all reviewers, the benefit of meta-analysis is in both the efficiency of reviewing a synthesis of other information and the methodological approach it brings to the review. Card (2011) distinguished this methodological approach from how a single reviewer simply reading the same information will draw their own conclusions "somehow," leaving the exact method of analysis unknown, whereas a meta-analysis establishes a method of synthesis.

This study reviewed each of SMA3's targets and their comparison as well as a textual analysis of the written portion of each SMA3's differentiation from the corpus of SMA3s. Ontario's SMA3 predecessors were much less uniform in their metrics and measures than SMA3 is to be, making comparison and meta-analysis previously lacking. The meta-analysis of SMA3s is likely to provide insight into institutional priorities and

intentions and will offer a measure against the initial SMA goal of differentiation.

Quantitative SMA3 Comparative Data

The collection and comparison of metrics was conducted by reading all 21 SMA3s and collecting the system-wide and institutional metrics and targets. Each of the 10 metrics were compared in a way that allowed all 21 universities to be compared. The corridor midpoints, that represent the non-PBF funding assessment, and other related historical data were also collected. To facilitate comparison and other analysis, the metrics were charted with Microsoft's Power BI tool (https://powerbi.microsoft.com/). As applied here, Power BI allows individuals to compare specific universities to each other or the system as a whole, and it also can compare multiple dimensions of data.

Qualitative Data

Corpus linguistics word lists and concordance links were used to computationally quantify and qualitatively analyze specific narrative sections of the SMAs. Word lists provide insight into the frequency of the use of terms, where concordance allows for analysis of words in context, because unlike word lists, the linkages are depicted to allow for words (or groups of words) to be studied in their more or less immediate environment (Postolea, 2014). Textual analysis was performed with the open-source application Voyant-Tools (https://voyant-tools.org/), specifically its terms table and links graph, to determine selected content words' collocations and meaning signified by the words' semantic lexical relationships. The co-occurrence of words in different contexts is fundamental to their meanings and helps one understand their relationship to the larger corpus (Yule, 2010, pp. 117–122).

CHAPTER FOUR: PRESENTATION OF RESULTS

This chapter presents finding from the analyses of each metric introduced in SMA3 2020–25 and the metrics' application across all 21 universities' SMA3 documents.

Differentiation and Strategic Mandates in Ontario

MCU published the Ontario university and college SMA3s on November 26, 2020, with many universities and colleges also posting signed versions on the institution's website. These documents described the targets that had been negotiated individually with the MCU and each institution, as well as the weighting of each PBF metric over each year covered by SMA3. Institutions assign weights to each metric within a permitted minimum and maximum for each of the five years (see average weights in Figure 5 Average Institutional Percentage Weighting of Metrics *Over All Five Years of SMA3*).[2] At the government's discretion, institutions will have an opportunity to adjust metric weightings once during the SMA3 cycle. The SMA3 technical manual (MTCU, 2019b, p. 13) indicated that institutions will be assessed annually based on performance against institutional-specific targets. Targets will be updated annually, and the three most recent data points will be averaged to set the funding targets and for percentage-based targets, the smallest absolute (positive or negative is considered positive) annual variation between each of the three years will be added to the most recent year's value.

MCU's technical manual (MTCU, 2019b) described how the ministry will also set bands of tolerance around targets to help mitigate against small year-to-year variances in

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[2] With the exception of the skills & competencies metric, which will be uniformly weighted at 5% starting in 2022–23 for participation and posting of results online.

performance (noting in the anomalies section that the bands will be rounded up to 1% should calculation yield a smaller value). These bands of tolerance will be set using the average annual percent change from the three most recent years of data. Each institution will receive 100% of the funding for a PBF metric by meeting or exceeding its allowable performance target through the formula: target - (target * band of tolerance). The target minus the band of tolerance is how each allowable performance target is set. If the target is not met, partial funding, commensurate with actual performance, will be received (MTCU, 2019b, as cited in University of Windsor, 2020, p. 13). The unspent provincial funding associated with underperformance makes fund redistribution possible, which is new to PSE funding in Ontario.

If targets are not met and an institution's metric funding is reduced, any funding made available through underachievement by institutions will be redistributed to all institutions that have earned 100% on the same metric. As nine metrics are common between colleges and universities it is possible that these potential redistributions of funds will be redistributed from both colleges and universities to colleges and universities equally. The technical manual stated,

> The amount of funding available to a successful institution is determined by an institution's share of the total notional funding of all institutions receiving reallocated funds for the individual metric and the relative notional allocations recognize both the level of risk an institution has in a metric through the assigned metric weighting, as well as the size of the institution. (MTCU, 2019b, p. 21)

This formula would account for the scale of the institution and the weighting it applied to that metric.

As the no-less-than 1% tolerances will also account for historical variations the likelihood of an institution underperforming a target appears to be low, given consistent circumstances. This conclusion was shared by industry analyst Alex Usher (2020) when his Higher Education Strategy Associates consultancy reviewed the SMAs and technical manual. The COVID-19 pandemic should prove to be the type of unprecedented circumstances that affect institutional performance, and it should be interesting to see what information the MCU or Ontario colleges and universities make public about under-performance-based fund redistribution calculations for the 2020 and 2021 exempted performance funding metrics.

Figure 5

Average Institutional Percentage Weighting of Metrics Over All Five Years of SMA3
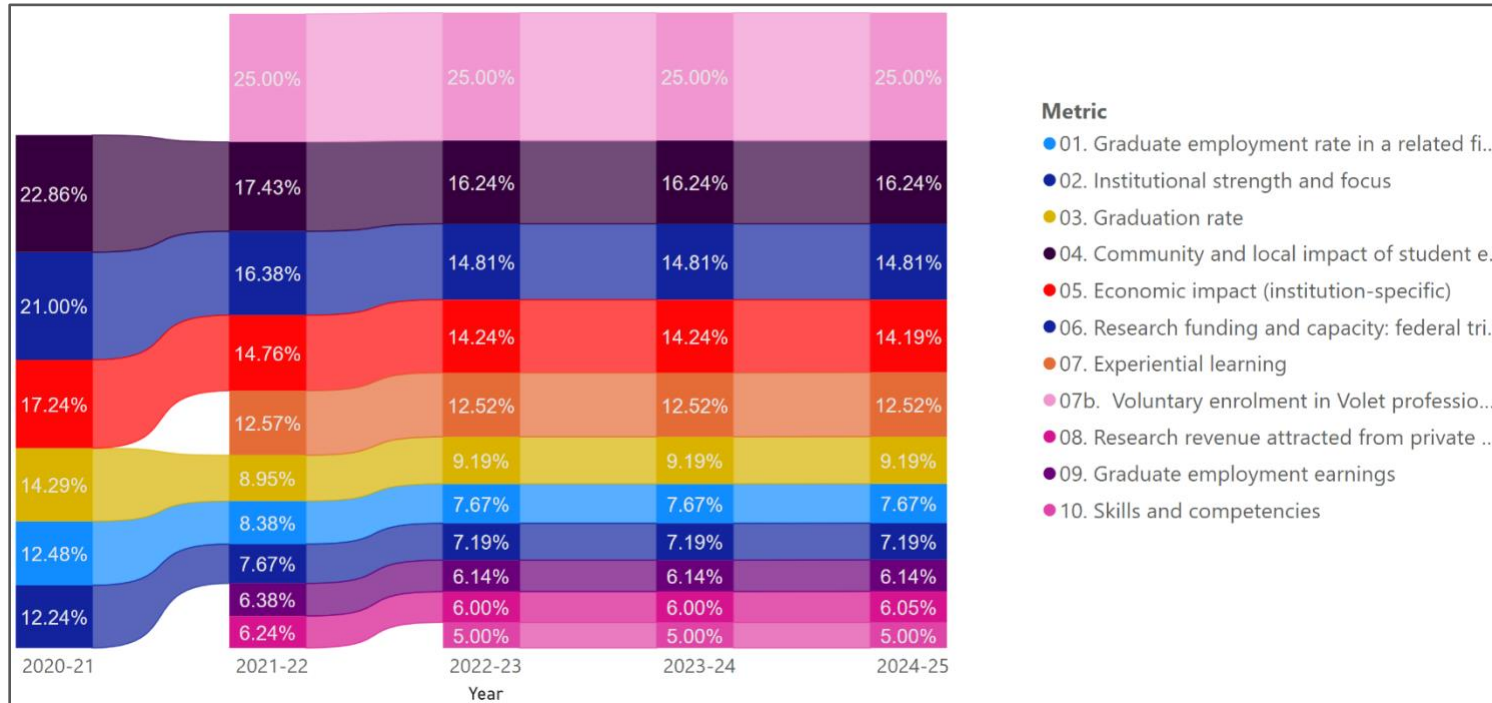
Note. The Université de Hearst has a specific metric noted as 07b (Voluntary enrolment in Volet professionnel), and does not weight 06 (Research funding and capacity: Federal Tri-Agency funding secured), 08 (Research revenue attracted from private sector sources) or 09 (Graduate employment earnings). A dynamic version of this figure is available at https://bit.ly/3sykIrZ. Each of the 21 universities weightings are available in the full table found in Appendix A, Table A1.

SMA3 Measures Individually

The list of metrics shown in Table 2 includes the six described as skills and jobs outcomes and four metrics that are related to economic and community impact. In this section each metric is described and analyzed technically, contextually, and based on existing literature. For each metric, a summary of the implementation of the metric in all 21 Ontario university SMA3 documents follows the initial analyses of the metric. Metrics are simply sequenced in the order in which they were provided in one of the first "leaks" describing SMA3's PBF metric composition (Usher, 2019b).

Table 2

Ontario's PSE Performance Metrics

Metric name	Operational definition	Data source	Initiated
	Skills and jobs outcomes		
Graduate employment rate in a related field	Proportion of graduates of bachelor or first professional degree programs employed full-time who consider their jobs either "closely" or "somewhat" related to the skills they developed in their university program, two years after graduation.	MTCU Ontario University Graduate Survey	Tracked: Year 1 Active: Year 3
Institutional strength/ focus	Proportion of enrolment (FTEs, domestic and international) in an institution's program area(s) of strength.	USER	Tracked: Year 1 Active: Year 3
Graduation rate	Proportion of new, full-time, year one undergraduate university students (domestic and international) of bachelors (first-entry), or first professional (second-entry) degree programs who commenced their study in a given fall term and graduated from the same institution within seven years.	USER— Enrolment and Degrees Awarded data collections	Tracked: Year 1 Active: Year 3
Graduate employment earnings	Median employment earnings of university graduates, two years after graduation.	ELMLP, Statistics Canada	Tracked: Year 2 Active: Year 3
Experiential learning	Number and proportion of graduates in undergraduate programs, who participated in at least one course with required Experiential Learning (EL) component(s).	Institutions	Tracked: Year 2 Active: Year 3
Skills & competencies	Random sample of undergraduate students (domestic and international).	Education and Skills Online Tool, OECD	Active: Year 3

Metric name	Operational definition	Data source	Initiated
	Economic and community impact		
Community/local impact	Institutional enrolment share in the population of the city (cities)/town(s) in which the institution is located.	USER; enrolment data; census data (Statistics Canada)	Tracked: Year 1 Active: Year 3
Institution-specific (economic impact)	Definition to be provided/confirmed with institutions during SMA3 bilateral discussions, dependent on metric proposals.	Institutions	Tracked: Year 1 Active: Year 3
Research funding & capacity: Tri-Agency funding secured	Amount and proportion of funding received by the institution from federal research granting agencies in total Tri-Agency funding received by Ontario universities.	Research Support Program, TIPS	Tracked: Year 1 Active: Year 3
Innovation: Research revenue from private sector sources	Research revenue attracted from private sector sources.	CAUBO	Tracked: Year 2 Active: Year 3
	University reporting metrics: Productivity, accountability, and transparency		
Faculty compensation	TBD	Institutions	Tracked: Year 1
Faculty workload	TBD	Institutions	Tracked: Year 1

Note. Year 1 = 2020–21; Year 2 = 2021–22; Year 3 = 2022–23; USER = University Statistical Enrolment Report; ELMLP = Education and Labour Market Longitudinal Platform; OECD = Organisation for Economic Co-operation and Development; TIPS = Tri-Agency Institutional Programs Secretariat; CAUBO = Canadian Association of University Business Officers. Adapted from *Ontario's Postsecondary Education System Performance/Outcomes Based Funding—Technical Manual*, by MTCU, 2019b, p. 24 (http://www.uwindsor.ca/strategic-mandate-agreement/sites/uwindsor.ca.strategic-mandate-agreement/files/performance_outcomes-based_funding_technical_manual_-_v1.0_-_final_september_419_en.pdf).

Graduate Employment Rate in a Related Field

The graduate employment rate is a measure that is often independently cited by PSE institutions based on the institution's own measures, methods, and exemplary experiences, but it is not a common metric in PBF programs. Across the established PBF programs, Florida's PBF program's Percent of Bachelor's Graduates Enrolled or Employed (earning $25,000+) in the nation metric is the closest metric to SMA3's graduate employment rate in a related field.

In Florida's PBF program, the data source is the national Wage Interchange System, which is a data-sharing agreement among individual state unemployment insurance agencies to share wage data for individuals whose employers pay unemployment insurance (State University System of Florida, 2019b). Missouri measures students that are employed or volunteering more than part-time, or serving in the military, while not making a distinction if the field the former student is employed in is related to their area of study or not. Wisconsin has a metric that includes employment in target sectors such as STEM. Ontario's PSE sector is already collecting these data in the form of the Ontario University Graduate Survey (OUGS), which is conducted annually by the MCU with support from Ontario universities. Each undergraduate cohort is surveyed two years after graduation. The survey collects data on the employment rates and experiences of graduated students from undergraduate programs, both six months and two years after graduation.

In Ontario, the graduate employment rate in a related field metric is a measure of the "proportion of graduates of bachelor or first professional degree programs employed full-time who consider their jobs either 'closely' or 'somewhat' related to the skills they

developed in their university program, two years after graduation" (MTCU, 2019b, as cited in the University of Windsor, 2019, p. 24).

Employment measures are clearly linked to professional programs and disciplines because those programs largely define themselves by the professions they study; such an explicit linkage is not available to most humanities or less-applied fields. This metric could be interpreted as privileging professional and applied disciplines over others. The humanities are familiar with this perception, and there are many arguments for the broader value of a humanities or liberal arts-based education that rely on a more sophisticated understanding of how education relates to employment (Lutz, 1979; Moro, 2018). It is difficult to unequivocally conclude that an employment-based metric discriminates against the humanities without denying the essential skills argument for the humanities that former associate dean of humanities at McMaster University Dr. Anna Moro and many others have made.

This metric includes the assumption of student degree completion (or at least some positive form of completion through certificates and related programs) underpinning the subsequent employment. Most established PBF programs consider five or six-year graduation rate a suitable metric of student success, which SMA3 also includes. As a measure of ultimate positive student outcomes, this metric has the potential to incentivize institutions to increase their selectivity in the admissions process and modify university financial aid practices to preferentially recruit well-prepared students. Students with favourable pre-admission socioeconomic conditions have proven to possess an academic advantage that improves related PBF metric results. This resulting admissions selection incentive could be twice as influential with this PBF metric (thrice

with the graduate employment earnings metric). Students with high socioeconomic status typically enjoy expanded opportunities and less restrictions that could impede their academic performance, which literature has suggested results in better graduation rates (Dougherty, 2016; Kelchen & Stedrak, 2016; Umbricht et al., 2017; Zhang, 2009). Similarly, these same students are also more likely to have access to better social networks and employment opportunities.

Many other PBF programs have included metrics related to access, such as metrics related to students receiving Pell Grants, to improve access goals and mitigate this selectivity incentive related to student performance outcomes. The economic value of highly skilled and highly educated populations is understood (OECD, 2020, p. 273) and Canadian society has accepted this premise and worked since the post-war era to establish a PSE system that favoured social equality and access (Axelrod, 2002, p. 28). Access goals were part of Weingarten and Deller's goals for a differentiated PSE system (2010). Without the mitigations against anti-access selectivity found in established PBF programs this metric has the potential to do twice the harm to student access goals while being generally redundant to the established graduation rate metric and possibly the similarly untested year 3+ metric graduate employment earnings (each discussed in their own section).

Implementation of the Graduate Employment Rate in a Related Field Metric

Across the five years of SMA3, the average weight given to the graduate employment in a related field metric is 12% in the first year and 8% in the subsequent years, the most often allocated weight in the first year was 10%, 15% in the second year, and the minimum of 5% in the subsequent years. The University of Waterloo constantly

allocates the maximum percentage available to this metric: 30% in the first year and 25% in the subsequent years (see Figure 5). Within the SMA3 framework, a high weighting would suggest that the University of Waterloo is expecting this measure to be consistent for its graduates or an area of growth, even more than graduation rate, at 15% then 10%. From 2022–23 and onwards, 13 universities weighted the graduate employment in a related field metric at 5%, the lowest weight allowed.

The institutional narrative that accompanies each metric provides an institutional commentary on the subject; some choose to describe related programs and initiatives, or efforts to sustain each metric, or how the targets set in the SMA for a particular metric align to existing goals in existing institutional strategic documents. For this metric, most institutions described existing programs and university services that support the graduate employment in a related field metric, often with evidence of past success. The most evidence of differentiation between institutions came in the specific existing programs and discipline-related services each choose to highlight, reflecting distinctive localities, such as Algoma's Sault Ste. Marie and Brampton campuses, or the specific professional disciplines that are taught at comprehensive universities. Some institutions such as Laurentian, Nipissing, Laurier, Queen's, and Waterloo have made specific mention of past results in the OUGS, with Waterloo joining McMaster and the University of Toronto in referring to performance in international surveys and rankings such as the *Times Higher Education* and *Quacquarelli Symonds* global employability rankings. Most narratives cite past performance, strategic plans and programs and services as sufficient evidence that the institution will meet its target.

Only the University of Windsor offered a distinctly more tactical four-point "Next Steps" sub-section in its narrative. The University of Windsor's first next step is to "increase student awareness of transferable skill development through expanded and coordinated approach to portfolio development and co-curricular transcripts" (University of Windsor & Ontario Ministry of Colleges and Universities, 2020, p. 9). The other three bullets' growth-related goals and the initial awareness-related goal will serve University of Windsor students well in their studies and after graduation, but perhaps most importantly, this step will make students better informed about their transferable skills when they respond to the OUGS and based on that better understanding attribute their field of education more broadly in relation to their current employment.

Graduation Rate

Graduation rate is one of the most common metrics across PBF programs and general PSE accountability frameworks. A graduation rate metric was part of the reporting associated with SMA2 and SMA1. From a student-centred perspective, it makes intuitive sense that as graduation concludes a student's academic experience it would be a natural metric to select. It is measured by all institutions in some form, and in the United States it was codified in federal law in the 1990 Student Right-to-Know Act. The act requires degree-granting postsecondary institutions to publish the percent of students that graduate

> within 150 percent of the normal time for completion of or graduation from the program, the student has completed or graduated from the program, or enrolled in any program of an eligible institution for which the prior program provides

substantial preparation. (Student Right-to-Know and Campus Security Act, 1990, s. 103[a])

Organizations such as the U.S. National Student Clearinghouse Research Center, and the Consortium for Student Retention Data Exchange track both the normal four-year graduation rate and the six-year 150% graduation rate. SMA3 defines graduation rate as measured in the University Statistical Enrolment Report (USER):

Proportion of all new, full-time, year one undergraduate university students (domestic and international) of bachelors (first-entry), or first professional (second-entry) degree programs who commenced their study in a given fall term and graduated from the same institution within 7 years. (MTCU, 2019b as cited in University of Windsor, 2019, p. 24)

The specifics in the SMA3 measure both extend the duration for students to complete an undergraduate degree from the typical six years (150%) to seven years (175%) and targets students who started at the same institution, excluding transfer students. The Consortium for Student Retention Data Exchange SMA2 and SMA1 graduation metrics also excluded transfer students.

Some form of graduation rate is present in most U.S. PBF programs, and the general availability of graduation rate data has made it a frequent point of comparison. Rutherford and Rabovsky (2014) examined 568 institutions across all 50 states from 1993 to 2010 and found that graduation rates slightly declined (0.16% per year) in states within performance funding programs. Dougherty and Natow (2019) have identified that higher education institutions subject to pressures to improve graduation rates may consider reducing academic rigour and inflating grades and reducing the number of difficult

courses required to graduate. There is evidence to suggest that graduation rate is not an output of a university that is predominantly affected by the student's experience at the university, rather it is predicted by student backgrounds and experiences that occur before a student even applies to university (Zhang, 2009).

Umbricht et al. (2017) have argued that when university administrators draw this conclusion it can lead to a shift in attention from improving curriculum, student supports and student-to-faculty ratios, to a focus on university admissions. Students with favourable pre-admission socioeconomic conditions have proven to possess an academic advantage that improves their likelihood of graduating, improving related PBF metric results. This realization creates an admissions selection incentive (Dougherty, 2016; Kelchen & Stedrak, 2016; Umbricht et al., 2017). This can not only lead to an admissions bias towards students that are more likely to graduate for nonacademic reasons it can lead to decreasing the number of students accepted, allowing an institution to only accept the "cream of the crop" and not the risk of weaker students (Dougherty et al., 2014; Umbricht et al., 2017). Both biases are counter to access goals that might be focused on underrepresented populations or universality or growth goals. A 2020 systemic analysis by Ortagus et al. synthesized 20 years of reports on PBF programs in the United States and concluded that PBF led to either no impact or a modest increase in retention and graduation rates, but also led to access and equity issues for disadvantaged students, and incentivized institutions to engage in these types of games.

Many PBF programs include metrics related to students receiving Pell Grants, or other underrepresented groups such as first-generation students or underrepresented racial groups, or other at-risk groups to improve access goals and mitigate this selectivity.

(Boelscher & Snyder, 2019; Hagood, 2019; Kelchen, 2018). Indiana, North Carolina, and New Mexico's PBF programs have included an At-Risk Degree Completion metric. which also includes transfer students.

This has led some states to move to graduation numbers because graduation rates are more easily gamed through strategies such as shrinking acceptance numbers (Dougherty & Natow, 2019). Related metrics such as retention rates or completion of milestone courses offer a more immediate assessment of student progression.

Implementation of the Graduation Rate

Across the five years of SMA3, the average weight given to the graduation rate metric is 14% in the first year, 9% in the subsequent years (see Figure 5). Western University has consistently weighted graduation rate the highest in the province, 30% in the first year and 25% in the subsequent years. By consistently weighting this metric as the maximum, Western is indicating that it is an area of stability or potential growth. Western's 2018–19 graduation rate was 84.28% and its 2020–21 allowable target is 83.55%. Brock University, Lakehead University, Nipissing University, OCAD University, Trent University, Ontario Tech University, Wilfred Laurier, and York University have consistently weighed the graduation rate metric at the lowest rating available. Université de Hearst also consistently weighted the graduation rate metric the lowest, and has the lowest graduation rate in the province, reporting an average of 46.59% in the three years provided in the historic data. The next lowest is Algoma University, at an average over the three years of 55.8%, and the highest is Queen's University at an average of 89.07%.

The Université de Hearst's graduation rate provides an interesting example of how targets are calculated and the impact of variances. The Université de Hearst's has the lowest historical graduate rate figures provided, and the most variance: 35.71% in 2016–17, 50.00% in 2017–18, and 54.05% in 2018–19, averaging 46.59%. The Université de Hearst's allowable performance target for graduation rate is 38.46%, much lower than its most recent year and three-year average. The absolute change between the years, 14.29% and 4.05% means that the average percentage of change is 24.06%, the highest average percentage of change of any university. This average percentage of change is subtracted from the three-year average plus smallest change target 50.64% (that is, 46.59% average plus 2017–18 to 2018–19's 4.05%) to bring the lowest target to an even lower allowable performance target of 38.46%. Almost as low as the Université de Hearst's 2016–17's 38.46% graduation rate and much lower than projections that could be extrapolated from those three data points. Carleton University, Lakehead University, Queen's University, University of Guelph, University of Ottawa, University of Toronto, University of Waterloo, Western University, and Wilfrid Laurier University all had such little variation they were assigned the minimum band of tolerance 1% (see Table 3).

In Table 3, the first four columns are included in each SMA3, and the columns noted as calculated indicate that they are an average of the provided historical data or the absolute differences between provided data. The target is calculated through SMA3's formula of the three most recent data points averaged, and the smallest of the absolute variations between Year 1 & Year 2, and Year 2 & Year 3, is added to the average. The band of tolerance is an average of the recent three years' percentage change. These are

the elements that calculate the allowable performance target included for each metric in each SMA3, calculated as target – (target * band of tolerance).

Graduate Employment Earnings

Graduate employment earnings is another metric that is not found in most of the established PBF programs but is found in Florida's PBF program in the form of median wages of bachelor's graduates employed full-time. Like Florida, Ontario's metric is described as the "median employment earnings of university graduates, two years after graduation" (MTCU, 2019b, p. 24). The MCU and the Council of Ontario Universities (COU) currently track graduate earnings through the OUGS (the same data source as graduate employment rate in a related field metric), but for SMA3 the graduate employment earnings metric's data source will be Statistics Canada's new Educational and Labour Market Longitudinal Platform (ELMLP). The ELMLP gathers graduate income through the tax system as a means of measurement. It should improve response rates and verifiability, and graduates can now be tracked for longer. The ability to exclude graduates who are enrolled in school for a second degree is no longer available (Statistics Canada, 2020c; Usher, 2019b), however, because the ELMLP keeps only "the record with the highest Postsecondary Student Information System program type, e.g., graduate program level is retained over undergraduate level" (Statistics Canada, 2020c, para. 30).

Table 3

Graduation Rate as Included in Each SMA3 With Each Element of Allowable Performance Target Calculation

University	2016–17 Hist. data	2017–18 Hist. data	2018–19 Hist. data	2020–21 Allowed target	Average (calculated)	ABS 2016-17 to 2017-18 (calculated)	ABS 2017-18 to 2018-19 (calculated)	2020–21 Target (calculated)	Band of Tolerance (calculated)
Algoma University	54.19%	57.79%	55.43%	55.04%	55.80%	3.60%	2.36%	58.16%	5.36%
Brock University	73.87%	74.78%	75.76%	74.75%	74.80%	0.91%	0.98%	75.71%	1.27%
Carleton University	67.64%	67.68%	68.51%	67.30%	67.94%	0.04%	0.83%	67.98%	1.00%
Lakehead University	81.00%	76.73%	74.43%	76.39%	77.39%	4.27%	2.30%	79.69%	4.13%
Laurentian University	72.00%	71.64%	68.34%	69.20%	70.66%	0.36%	3.30%	71.02%	2.55%
McMaster University	80.85%	78.83%	80.78%	80.06%	80.15%	2.02%	1.95%	82.10%	2.49%
Nipissing University	86.25%	83.80%	83.29%	82.99%	84.45%	2.45%	0.51%	84.96%	1.72%
OCADu	68.20%	64.69%	68.80%	66.67%	67.23%	3.51%	4.11%	70.74%	5.75%
Queen's University	89.52%	88.60%	89.08%	88.18%	89.07%	0.92%	0.48%	89.55%	1.00%
Ryerson University	72.78%	72.46%	74.44%	72.38%	73.23%	0.32%	1.98%	73.55%	1.59%

University	2016–17 Hist. data	2017–18 Hist. data	2018–19 Hist. data	2020–21 Allowed target	Average (calculated)	ABS 2016-17 to 2017-18 (calculated)	ABS 2017-18 to 2018-19 (calculated)	2020–21 Target (calculated)	Band of Tolerance (calculated)
Trent University	65.78%	64.67%	63.34%	64.48%	64.60%	1.11%	1.33%	65.71%	1.87%
Université de Hearst	35.71%	50.00%	54.05%	38.46%	46.59%	14.29%	4.05%	50.64%	24.06%
University of Guelph	79.34%	79.14%	79.21%	78.51%	79.23%	0.20%	0.07%	79.30%	1.00%
University of Ottawa	75.11%	75.56%	75.43%	74.75%	75.37%	0.45%	0.13%	75.50%	1.00%
University of Toronto	80.03%	81.11%	81.11%	79.94%	80.75%	1.08%	0.00%	80.75%	1.00%
University of Waterloo	80.84%	80.59%	81.13%	80.04%	80.85%	0.25%	0.54%	81.10%	1.00%
University of Windsor	75.68%	74.48%	73.23%	74.43%	74.46%	1.20%	1.25%	75.66%	1.63%
OTU (UOIT)	71.66%	67.83%	66.15%	67.49%	68.55%	3.83%	1.68%	70.23%	3.91%
Western University	84.64%	84.27%	84.28%	83.55%	84.40%	0.37%	0.01%	84.41%	1.00%
Wilfrid Laurier University	75.41%	75.16%	74.41%	74.49%	74.99%	0.25%	0.75%	75.24%	1.00%
York University	68.29%	69.67%	67.99%	68.48%	68.65%	1.38%	1.68%	70.03%	2.22%

In Florida's PBF program the data source is the National Wage Interchange. Florida is using the median wage, a switch from reports that the Florida Department of Education previously provided using the mean wage. In its FAQ document, the Florida Department of Education suggested that "mean wages are potentially skewed by outliers. As an example, the State University System's median wage (of US$33,044) for 2010-11 baccalaureates is lower than the mean wage (of US$35,820)" (State University System of Florida, 2019a, p. 8). Florida also measures at one year after graduation (State University System of Florida, 2019a) in comparison to the ELMLP's two-year sampling point (Statistics Canada, 2020c).

The difference in the application may lie in the median wages associated with different disciplines and the earning-based measure rather than the percentage-basis of a self-assessment by students. The lack of subjectivity in the tax-based information Statistics Canada makes available leaves no opportunity to make the essential skills argument for the humanities that Dr. Moro and others might make to students before they complete the OUGS (or any argument for the breadth of university education in relation to a field).

The inclusion of a graduate earnings metric could be interpreted as a pressure for institutions to remain relevant to the economy and to industry. The market-based approaches of NPM hold that if universities are measured by students' earnings in the job market then this will encourage institutions to ensure students are well prepared and curriculum is relevant to industry's needs. While there is not a lot of literature available for this specific metric, this is the third of the three metrics that promote a discriminatory admissions selection bias and can further promote a shift towards high-wage disciplines

to promote growth. Theoretically, a university that is worried that it will not meet its growth targets may engage in a form of favouritism towards professional disciplines or others associated with high-wage jobs, prejudicing against graduates in disciplines that typically lead to low-wage, nonprofit, or volunteer jobs. Universities may also consider increasing recruitment of alumni from disciplines associated with low-wage jobs into second degrees to remove them from the pool of graduates sampled by returning them to active student status. Student earnings are not a direct measure of curriculum relevance to industry. There are existing methods of curriculum review, such as regular internal/external departmental review, and professional accreditations. The Ontario Universities Council on Quality Assurance (2019) framework integrate these perspectives and are part of the curriculum review process.

Notably, the Quality Assurance process is on an 8-year cycle, which may be a less responsive timeframe for intervention than the graduate employment earnings metric, the broader eight-year cycle is intended to set a pattern for university and program-based practices which would be much more immediate. Further, if a change is needed, curriculum-based processes are a more direct intervention. SMA3 also includes an experiential learning metric (see Experiential Learning) which has a much clearer link between curriculum and industry relevance. If the assumption is that industry is more responsive to the economy than the PSE system, and targets are set based on three years of institutional historic data, this metric is more likely to measure changes in the salaries of university graduates relevant to industry's response to the status of the economy, not a university's response to it.

Implementation of the Graduate Employment Earnings Metric

The graduate employment earnings metric does not come into effect until year two, the average weighting across all four years of its activation in SMA3 is 6% (see Figure 5) with most institutions choosing to weigh it at 5%. The University of Waterloo weighs this metric the highest, at 15% in the 2021–22 and dropping to 10% in the subsequent years. The University of Waterloo's top three metrics overall are all three metrics that represent measures of ultimate positive student outcomes. Université de Hearst does not participate in this metric.

No historical data are provided in the SMA3 historical data table for this metric in all 21 SMA documents. Perhaps historical data are absent because this metric was not part of SMA2 or because this information was collected in the OUGS but SMA3 will use the new ELMLP, and the metric was not active in the first year. The University of Waterloo was able to include ELMLP data in its narrative. Some institutions included narrative information about graduate earnings from the OUGS or institutional sources, such as institutionally commissioned economic impact studies.

The concern that this metric will measure regional or macro-economic trends was expressed in some institutional metric narratives. Brock University noted that "due to the unpredictability of broader economic factors that can influence the labour market, we have decided to take a cautious approach to this metric and have weighted it at 5%" (Brock University & MCU, 2020, p. 11). Lakehead University simply noted its graduates' earnings are consistent with broader macroeconomic trends. York University's narrative states that "employment earnings are dependent on a variety of economic factors, as well as individual choices and definitions of career success" (MCU & York

University, 2020, para. 7). McMaster University and the University of Guelph's statements appear to offer the most dissent from this metric. McMaster's statement is more balanced: "Although we support strong outcomes in this metric, our weighting for this metric is cautiously low, given the reliance on matching multiple source files and variable economic market factors outside our control" (McMaster University & MCU, 2020, p. 13). The University of Guelph stated

> While we are proud of the employment earnings of our graduates and will continue to place positive outcomes as a priority, we recognize that economic conditions are outside of our control and are a key determinant of these earnings. The weighting chosen reflects this inherent risk in this metric, and as such, U of G will allocate 5 percent of our funding to this metric throughout SMA3. (MCU & University of Guelph, 2020, para. 50)

There is evidence to suggest that the metric is either redundant to other measures of positive student outcomes—or worse, does not measure anything about the institutions. Some institutions have gone so far as including the institutional narratives in their summary. The weighting system combined with institutional narratives are both an opportunity for institutions to dissent from metrics that they feel are flawed or do not favour, but it is also an opportunity for the government to contain objections within the system and prevent confrontation that may yield to change that the government is not prepared to consider.

Experiential Learning

Service learning or community-based learning practices were included as one of 11 high-impact practices in the Association of American Colleges & Universities' High-

Impact Educational Practices report. The association identified service learning or

community-based learning as one of the 11 high-impact practices, summarized together

as experiential learning, and further set apart from the related high-impact practice of

internships. Experiential learning is learning that gives

> students direct experience with issues they are studying in the curriculum and
>
> with ongoing efforts to analyze and solve problems in the community. . . .
>
> Students have to both *apply* what they are learning in real-world settings and
>
> *reflect* in a classroom setting on their service experiences. (Kuk, 2008, p. 11)

Research has linked high-impact practices to increased student engagement, personal

development, deep learning, and persistence as well as overall academic success (Zhao et

al., 2005; Kuh, 2008; Swaner & Brownell, 2013).

These high-impact practices have seen wide acceptance as markers of better

teaching and learning and have been taken-up across higher education. Experiential

learning has been an objective for Ontario PSE institutions for some time and has had

growing acceptance as a system-wide aspiration. COU's (2014) *Experiential Learning*

Report highlighted experiential learning success across Ontario universities in 2014 and

the council continues to highlight experiential education; both in its role in representing

universities and in coordinating groups such as the Ontario Universities Council on

Quality Assurance. The National Survey of Student Engagement has also collected

information about experiential learning at universities. There is evidence that all

universities should make experiential learning a bigger part of their curriculum (Coker &

Porter, 2017).

In 2015, Ontario's then premier Kathleen Wynne appointed the Highly Skilled Workforce Expert Panel "to develop a strategy to help the province's current and future workforce adapt to the demands of a technology-driven knowledge economy" (Conway et al., 2016, para. 1). The *Building the Workforce of Tomorrow: A Shared Responsibility* report included a recommendation that "Ontario should commit to strengthening and expanding experiential learning opportunities across secondary, postsecondary, and adult learning environments" (Conway et al., 2016, p. 3). In 2017 the Ministry of Advanced Education and Skills Development (MAESD, now MCU) circulated an experiential learning guide. The guide cited the Highly Skilled Workforce Expert Panel's report and acknowledged the many types of experiential learning. The ministry outlined four principles of experiential learning and offered a six-point checklist for what counts as experiential learning:

1. The student is in a workplace or a simulated workplace.

2. The student is exposed to authentic demands that improve their employability, interpersonal skills, and transition to the workforce.

3. The experience is structured with purposeful and meaningful activities.

4. The student applies university or college program knowledge and/or essential employability skills.

5. The experience includes student self-assessment and evaluation of the student's performance and learning outcomes by the employer and/or the university/college.

6. The experience counts towards course credit or credential completion OR is formally recognized by the college or university as meeting the five criteria above. (MAESD, 2017, p. 7)

SMA2 did not have a system-wide experiential learning metric for universities, but nine institutions included metrics related to experiential learning and four used metrics that imply their possible inclusion by measuring students that were exposed to two or more high-impact practices (Clare, 2019). In SMA2, Ontario colleges were asked to report on the "number of students enrolled in an experiential learning program" (Algonquin College & Ontario Ministry of Advanced Education and Skills Development, 2018, p. 12). Indeed, the number, as opposed to the percentage measure, continues in SMA3 for Ontario colleges.

SMA3's metric is defined as "number and proportion of graduates in undergraduate programs, who participated in at least one course with required Experiential Learning (EL) component(s)" (MTCU, 2019b, p. 24) and is not initiated until the second year. Though some university-specific SMA2 metrics included experiential learning, high-impact practices and NSSE results, the established U.S. PBF programs have not used this metric. The only previous system-wide application of an experiential learning metric in a PBF program appears to be the system-wide metrics included in SMA2 for colleges—and SMA2 was only 4% PBF-based. This metric represents the only measure of a form of teaching and learning in SMA3.

Implementation of the Experiential Learning Metric

Across the four years of SMA3 from 2021–22, where the experiential learning metric is active, the average weight given is consistently 13% (see Figure 5). The most

common weight is 10% across all four years. The Université de Hearst and Ontario Tech University have both assigned the maximum weight across all four active years, 35% followed by 25%. Lakehead University has consistently weighted experiential learning at 20%. Brock University, Queen's University, the University of Toronto, and the University of Windsor have all consistently assigned the minimum percentage. Brock University's minimum weighting is notable in the context that one of the university's recruitment taglines is "EXPERIENCE IS EVERYTHING. COME TO BROCK" (Brock University, n.d.-b, para. 1). Experiential learning is also ranked as number three in the university's *5 Reasons to Choose Brock* (Brock University, n.d.-a)*.* As discussed in the Implementation of the Institutional Strength/Focus Metric section*,* the statistical requirements of SMA3's target setting may encourage institutions to pursue tactics that do not reflect other priorities or characteristics. This may be evident in some universities' SMAs.

In the accompanying narrative responses, a quarter of Ontario universities discussed high-impact practices generally, not simply experiential learning. Many universities described efforts to centralize coordination, communication, and technology around experiential learning. York University explained that "by taking a university-wide approach to expanding our support infrastructure, we are confident that we can maintain a strong growth trajectory in the number of experiential opportunities available to our students" (MCU & York University, 2020, para. 54). Trent University and the University of Toronto also described centralized hubs and approaches. Many also described taskforces and directorships tasked with growing experiential learning. This approach could reflect the importance of experiential learning, growing it, tracking it, and reporting

it, which the metrics' inclusion in SMA3, and previous policy positions by COU and MCU, may have influenced. It should also be noted that outside of these policy priorities, the practical concerns of coordinating experiences with the community through one location would also promote centralization.

Community influences were highlighted by the University of Windsor, which like its graduate employment earnings metric narrative, noted that the local economy influences this metric. The University of Windsor's narrative explains that "regional capacity to absorb new work-integrated placements is not unlimited, and there is growing competition for these placements from other post-secondary institutions" (University of Windsor & MCU, 2020, p. 13) and goes on to describe a diversified growth strategy.

The University of Waterloo opened its narrative by highlighting that they are a world leader in work-integrated learning and supported this claim with initiatives and success indicators (including OSAP default rates). Western University offered the briefest statement, at only 244 words, but weight the metric at 15%, above the mode of 10%. Laurentian's 634 words are two-and-a-half times more than Western's, but they weight the metric at 10%. Outside of Western's narrative, all Ontario universities have a lot of interest and activity associated with experiential learning, but Brock University and a few universities do not assign a high weighting to this metric. This incongruity may be explained by the pressures of growth and target setting found in SMA3.

Institutional Strength/Focus

In the PBF program categorization that Adam (2020) provided, a distinction is made between three primary types of PBF programs:

1. Results: Output or outcome-based funding formula or performance formula;

2. Performance set-asides or reservation; and

3. Performance contracts or agreements (also compacts).

Ontario's SMA3 program uniquely blends all three, and the institutional strength/focus metric is the biggest departure from the mostly results-based, output or outcome-based funding metrics (with some elements of a set-aside model for underperformance), and a return to the contract-basis of the performance component of SMA2. Only 4% of funding was performance-based in SMA2, despite there being 23 system-wide metrics and 244 institutional targets and metrics created system-wide, of which 228 were unique to a single institution (Clare, 2019). Where SMA2 asked institutions to nominate metrics and measures, SMA3 asks institutions to nominate a subject area based on institutional strength and focus but requires a system-wide measure, the "proportion of enrolment (FTEs, domestic and international) in an institution's program area(s) of strength [as reported in the University Statistical Enrolment Report (USER)]" (MTCU, 2019b, p. 24).

Weingarten and Deller's (2010) roadmap's principles of differentiation were reflected in the proliferation of institutionally specific metrics in SMA2, but not in their linking to funding decisions or any other form of impactful PSE system-level actions. Many metrics contained within the 21 university SMA2s could not be measured by any party other than the institution itself (measures lacked the actual values of the baselines that the targets were relative to or were wholly internal measures) or have outcomes compared to peer institutions. As a result of these limitations, the accountability and utility SMA2 metrics provided were comparably low. In contrast, SMA3's single institutional strength/focus metric offers a clear, teaching-related differentiation that in

the final years of SMA3 can represent as much as 25% of the 60% of performance-based funds an institution receives (as much as 15% overall). This metric begins to answer the question *how differentiated is each Ontario university, according to each university?* Because each institution nominates its own area of strength, while the USER data source and proportion of enrolment measure are consistent, this metric begins to provide a common differentiation measure in SMA3, where SMA2 mostly provided different measures.

There are two potential flaws in this metric. The first is the target setting methodology's assumption of growth could turn a genuine strength into a liability. With all positive and negative variations being averaged with their absolute value to set a growth target, all metrics have the potential to have targets grow during a period of decline, potentially creating a distorting negative feedback loop. The second arises from the ability for institutions to game the metric by not nominating a program or an area of enrolment that represents an academic, regional, proportional, or otherwise intrinsic institutional strength, but instead a statistical strength in an area where targets can easily be met.

SMA2 may have included a list of institutional metrics that were challenging to review, but there were no accusations of dishonest practices in the literature or media. Institutional behaviour will be the most objective evidence of whether a university is choosing a genuine area of strength and focus or engaging in game playing; however, the consultation process left a lot of time for negation and familiarity between MCU and the institutions. MCU engaged institutions in September 2019 in a dialogue intended to develop and publish new SMAs by March 2020. This period was prolonged to over a

year because of the COVID-19 pandemic. Summaries of the process submitted by Ryerson University's Office of the Provost & Vice President, Academic to the Ryerson University Senate and community (2019) and Brock University's president's March 11, 2020, letter to the Brock University Senate indicated that there was an ongoing bilateral discussion process via email and teleconference as needed (The University of Windsor, 2020) and exchange of drafts between MCU and each institution. This dialogue, and the legacy of SMA1 and SMA2, would have been an opportunity for MCU to identify less genuine, or gamed strengths during the negotiation process.

Implementation of the Institutional Strength/Focus Metric

Across the five years of SMA3, the average weight given to the institutional strength/focus metric is 21% in the first year, 16% in the second, and 15% in the subsequent years (see Figure 5). The most often allocated weight in the first year was 20%, 15% in the second year, and again 20% in the subsequent years. Nipissing University weights this metric higher than other universities, at the maximum 35% and 30% in the first year two years but drops to 10% as all metrics become available in the third year. McMaster University and the University of Waterloo consistently weight this metric at the lowest value available, the Université de Hearst starts at year two.

Within the top 10 universities by the percentage of students enrolled in the area strength as calculated as a 2020-21 allowable performance target, the most often described element of institutional strength is "health," including Brock University, Ryerson University, McMaster University, and York University. Of that top 10 in target percentages, only York included "engineering." When all institutions' strengths are reviewed thematically, engineering jumps to number one, with six institutions including

it. The top 10 institutions all set a target above 40% (see Table 4). Considering the commitment to differentiation, regardless of theme, those top 10 intuitions have demonstrated operationalization of differentiation. However, themes of health, arts (University of Toronto and Wilfred Laurier University), and design (OCAD University and Ryerson University) are broad themes that many programs can fit within (see Appendix B

Distribution of Institutional Themes).

Trent University has the second lowest 2020–21 target, at 19.68%, but its selection reflects a new path for Trent, which includes incorporating programs offered at the campus it is building with Durham College in Oshawa. The University of Ottawa identified its metric is targeted at only 9.21%, the lowest 2020–21 target, but it is also in the particularly narrow focused area of "Analytics and Artificial Intelligence" (MCU & University of Ottawa, 2020, para. 30).

Table 4

University Strengths and Focuses, Ranked by 2020–21 Target

University	Strength	Historical Data (3-Year Average)	2020–21 Allowable performance target
OCADu	Design and digital	54.60%	51.79%
Laurentian University	Diverse portfolio of programs in mining, environmental stewardship, architecture and other interdisciplinary programs representing areas of enrolment stability or growth	48.61%	50.68%
Wilfrid Laurier University	Strength and Focus in Arts and Sciences Programs	53.00%	50.45%
McMaster University	Leveraging our strengths to advance human and societal health and well-being through interdisciplinary learning	51.57%	50.42%
Ryerson University	Innovation and Entrepreneurship; Design and Technology; Management and Competitiveness; Creative Economy and Culture; and Health and Technology	51.38%	49.92%
York University	Program areas of strength and growth in computer and information sciences and support services; Engineering and computer engineering; Digital media; Business, management, marketing and related support services; Health and health care	49.25%	49.22%
Brock University	Health and Well-being through the Lifespan and Scientific and Technological Applications	48.74%	49.18%
Carleton University	Interdisciplinary Programs	44.92%	45.21%
Western University	Professional, Quasi-Professional, and Second-Entry Programs	45.87%	44.66%
University of Toronto	Full-Time Enrolment in Broad Arts & Science Disciplines, including Emerging Data Science Fields	41.44%	41.00%

University	Strength	Historical Data (3-Year Average)	2020–21 Allowable performance target
Queen's University	Enrolment in Engineering, Computer Science, Business, Arts and Sciences, including Health Sciences	43.49%	40.62%
University of Guelph	Science, Technology, Engineering and Math (STEM) and Veterinary Sciences	40.34%	40.56%
University of Waterloo	Engineering, Mathematics and Computer Science	41.55%	40.12%
OTU (UOIT)	Enrolment in Engineering, Computer Science, and Information Technology Disciplines	34.10%	34.07%
Université de Hearst	Ratio of students enrolled in the business administration program (BAA)	31.75%	33.78%
Algoma University	Biology, Computer Science, Law and Justice, Psychology	36.90%	33.04%
University of Windsor	Institutional Strength and Focus: Business, Communication, Media and Film, Electrical Engineering, Health Sciences, Law, and Psychology	33.71%	32.65%
Lakehead University	Sustainability, social justice and Indigenous education	25.68%	26.09%
Nipissing University	Proportion of students enrolled in Education programs (i.e., FORPOS 139, 142, 190, 273 and 439)	17.56%	19.83%
Trent University	Humanities, Sciences, Social Sciences and Professional Programs	17.80%	19.68%
University of Ottawa	Analytics and Artificial Intelligence	9.26%	9.21%

Note. The Institutional strength and focus metric is measured as the proportion of enrolment (FFTEs), domestic and international, all terms for undergraduate students and Summer and Fall terms for graduate students) in an institution's program area(s) of strength. The data provided by institutions will be validated by the University Statistical Enrolment Report (USER).

The University of Ottawa's narrative gives a rationale that perhaps fits the metrics and tactics associated with SMA3 more than it reflects its student population. After identifying the university as "a leader in Analytics (AN), which connects data to effective decision-making and is essential for all organizations, and Artificial Intelligence (AI), which replicates human intelligence, such as learning, reasoning and self-correction through machines and computer systems" (MCU & University of Ottawa, 2020, para. 31) the narrative defines the six disciplines which AN and AI apply to at the university. The narrative described the statistical utility: "We have observed rising demand in the above disciplines at uOttawa. The number of students in these six disciplines compared to the total population of students increased from 8.3% to 9.5% over the last five years" (MCU & University of Ottawa, 2020, para. 32). Though AN and AI may not reflect a significant portion of the University of Ottawa's current enrolment, it does represent the type of growth SMA3's target settings formula favours.

The application of this metric demonstrates differentiation in the combination of variations of weights, various themes, and large and small portions of full-time student enrolments, but as a single point of data, it can feel unconvincing. For example, the University of Toronto target of 41.00% "full-time enrolment in broad arts & science disciplines, including emerging data science fields" (University of Toronto & MCU, 2020, p. 9) could likely be met by any other comprehensive university in addition to its selected target area, which demonstrates that differentiation is not one dimensional.

Skills and Competencies

As initially introduced in the SMA3 template, each institution SMA3 includes a paragraph in the skills and job outcomes section that gives some preliminary information about the skills and competencies metric:

> For the skills and competencies metric being initiated for performance-based funding in 2022–23, the Ministry of Colleges and Universities will apply a 'participation weighting' of five % of annual performance-based funding notional allocations for all institutions. Institutional targets will not be set for this metric in SMA3. Participation will be validated and included as part of the SMA3 Annual Evaluation process for performance-based funding. (MCTU, 2020, as cited in Ryerson University, 2020, p .7)

> The metric is to be a random sample of all undergraduate students and the metric for all institutions will be weighted at 5% starting in the year 2022–23 for participation and public posting of results. The ministry is exploring the administration of the Education and Skills Online assessment tool and will provide more details on the process once they are available. (MCTU, 2020, as cited in Ryerson University, 2020, p .9)

The SMA3 documents' description of the metric identifies that the source will be the "Education and Skills Online Assessment, Organisation for Economic Co-operation and Development (OECD)" (Algoma University & MCU, 2021, p. 12).

The Skills and competencies metric is uniformly 5% of the funding awarded for institutions' participation by a random sample of all undergraduate students, in the OECD's Education & Skills Online (ESO) assessment. This online version of the

OECD's Survey of Adult Skills is an assessment that is part of the Program for the

International Assessment of Adult Competencies (PIAAC) which is delivered in over 40

countries. The ESO consists of two components. The first is the Core Assessment

Package which includes the Literacy and Numeracy sections as well as a Problem

Solving in Technology-Rich Environments section. The Non-cognitive Assessment

Package consists of the Skill Use, Career Interest and Intentionality, and Subjective Well-

Being and Health sections. There is also a small remedial section (the Reading

Components subtest) for test-takers who score low on the initial sections of the Core

Assessment Package. The ESO is an adaptive assessment tool, becoming progressively

easier or more difficult depending on the test-taker's performance. The ESO is expected

to take 120 minutes to complete, but it does not need to be completed in one sitting and

does not require proctors. Test-takers are given their score immediately upon completion.

(Organisation for Economic Co-operation and Development, 2018)

The OECD's Programme for the International Assessment of Adult Competencies

(PIAAC) and the preceding Programme for the International Assessment of Student

Assessment (PI) have been seen by some social scientists as an attempt to turn education

into "calculable" and measurable problems. Drawing on critical education research

literature, Tsatsaroni and Evans (2014) argued that these types of assessments stratify

forms of knowledge (practical and "relevant" vs. academic and disciplinary), create

negative connotations of national poor performance, and contribute to the social

reproduction of existing divisions and inequalities.

No other established PBF program uses this metric, but the ESO has been

administered across Canada and by many OECD member countries. There is only one

instance of the ESO being associated with PSE in Canada as of 2018, as described by

Weingarten et al. (2018). There is no indication about how this assessment will be

administered as part of SMA3 beyond the random sample, but the procedural information

on the OCED website gives insight into the mechanics, as does Weingarten et al's

HEQO's 2018 paper and Essential Adult Skills Initiative (EASI).

The OECD methodology indicates that test-takers are to be given assessment

codes that an institution or organization purchases in advance and distributes to them.

The two assessment components of the ESO, are sold by OECD as the Core Assessment

Package, the Noncognitive Assessment Package, and a Bundled Core and Noncognitive

Assessment Package. When purchasing fewer than 5,000, the Core Assessment Package

costs €9.00, the Noncognitive Assessment Package costs €2.00, and the bundled version

is €11.00. For 5,000 to 10,000 assessments bundled, the price is €10.25; up to 25,000 it is

€9.75; and the ultimate tier is 150,000 or more bundled assessments for €7.00. At the

time of writing, it takes CAD $1.55 to purchase one Euro. Ontario graduated 241,112

students from college and universities in 2018 (Statistics Canada, 2020a). Delivering this

assessment to all Ontario graduates would cost around $250,000 for the bundled

assessment.

It seems unlikely that a random sample would be all graduating PSE students.

Likely a representative, or simply motivated, subset of graduates will complete the

assessment. There is no indication of how assessment codes will be distributed, how

many and by whom, or if MCU or the institutions themselves will cover the costs of the

assessments. As the institutions themselves have the strongest ongoing relationship with

students the most likely method of delivery would be institutions contacting graduates

and delivering them their code to take the assessment. Under this model, MCU could use the 5% funding as an incentive to complete this task for a target percentage of students, but this is speculation.

Another approach to the administration of this metric might be matching the methodology used by HEQCO, as Weingarten et al. (2018) described in *Measuring Essential Skills of Postsecondary Students: Final Report of the Essential Adult Skills Initiative*. Weingarten et al. (2019) also responded to the 2019 Ontario budget announcement of PBF for PSE with another paper, *Postsecondary Education Metrics for the 21st Century.* Chatoor (2019) is also a common author between the two. Weingarten et al.'s 2018 paper described the EASI project, which was a large-scale research project undertaken by HEQCO and 20 Ontario PSE partners (roughly a quarter of Ontario's PSE system by participating institutions' share of provincial enrolments). The EASI project was designed to measure the literacy, numeracy, and problem-solving skills of incoming and graduating college and university students, with the intent to discover the degree to which students' skills changed over their studies. EASI was deliberately run as an evaluation of the feasibility of administering ESO-style assessments on a large scale. Colleges and universities choose which undergraduate programs students were invited to participate and incentives were offered for completing in the form of gift cards.

The EASI project had acceptable participation and results were proximal to PIAAC 2012 comparators and the findings that too many graduating students demonstrated below-average skills deserves further investigation. The logistical implications were also discussed in the paper: "the EASI model succeeded in simplifying the logistics of administering large-scale assessments, we must note that institutions still

contributed a considerable amount of resources, primarily in the form of staff time spent

on the project" (Weingarten et al., 2019, p. 70). The paper concluded that further testing

will require either more streamlining of logistics or funds to recognize the burden placed

on institutions that administer the ESO. The paper made no mention of the cost of the

EASI project, but the 2,483 ESO assessments delivered to college students and 2,147

university students would have cost no less than $48,000. There is also the cost of

incentives and coordination. These are not large costs in the context of the $6.5 billion

provincial budget allocation to PSE (Government of Ontario, 2020), but the information

collected should justify its cost and it should be clear where the cost will be borne.

These two scenarios suggest that completion of the task would be sufficient for

funding, which matches the signals sent in the default weighting of 5% and the lack of

implementation details. There is still a third possible speculative implementation: The

gap between entry and graduate results in the EASI project's implementation of the

PIAAC could be turned into a performance measure that could have targets set like other

metrics. This would be a huge shift in how student success is valued and how a

bachelor's degree is valued. The OECD's PIAAC is not a measure of a university or

university education itself, but a relatively well-validated measure of skills related to an

individual's ability to operate in modern society. Defining the PIAAC as a measure of

PSE, tied to funding, would be a repurposing of the PIAAC that would invalidate the

carefully constructed justification and literature it currently operates with.

Implementation of the Skill and Competencies Metric

Across the three years of SMA3 from 2022-23 that the *Skill and Competencies*

metric is active the weight given is mandated at 5% (see Figure 5). Institutional narratives

on this metric are the shortest of all 10 metrics and simply confirm that the institutional

will participate. This fixed amount has had a curious impact on Carleton University's

SMA3 metric weighting. Carleton's strategy is equal weightings across all metrics,

starting with 17% in the first year for all metrics and 11% in the subsequent years. The

mandated 5% of the skill and competencies metric and Carleton's other metrics 11%

weights from 2022–23 to 2024–25 means that after the skills and competencies metric is

initiated Carlton's weights add up to 104% (see Figure 6).

Community/Local Impact

The published SMA3 documents and the technical manual have defined the

community/local impact metric as "institutional enrolment share in the population of the

city (cities)/town(s) in which the institution is located" (MCTU, 2019b, p. 24).

Mathematically this metric consists of institutional enrolment divided by community

population and it functions like any other measure as far as target setting. In a paper

commissioned by the C. D. Howe Institute, industry analyst Alex Usher decried,

> The indicator for "community/local impact" is not a performance measure by any
>
> possible definition; rather, it is simply a reward for being located in a small
>
> community. As well, bizarre measurement difficulties seem certain to ensue for
>
> institutions with campuses in multiple communities. (2019a, p. 11)

Figure 6

All University SMA3 Metric Weights in 2022–23
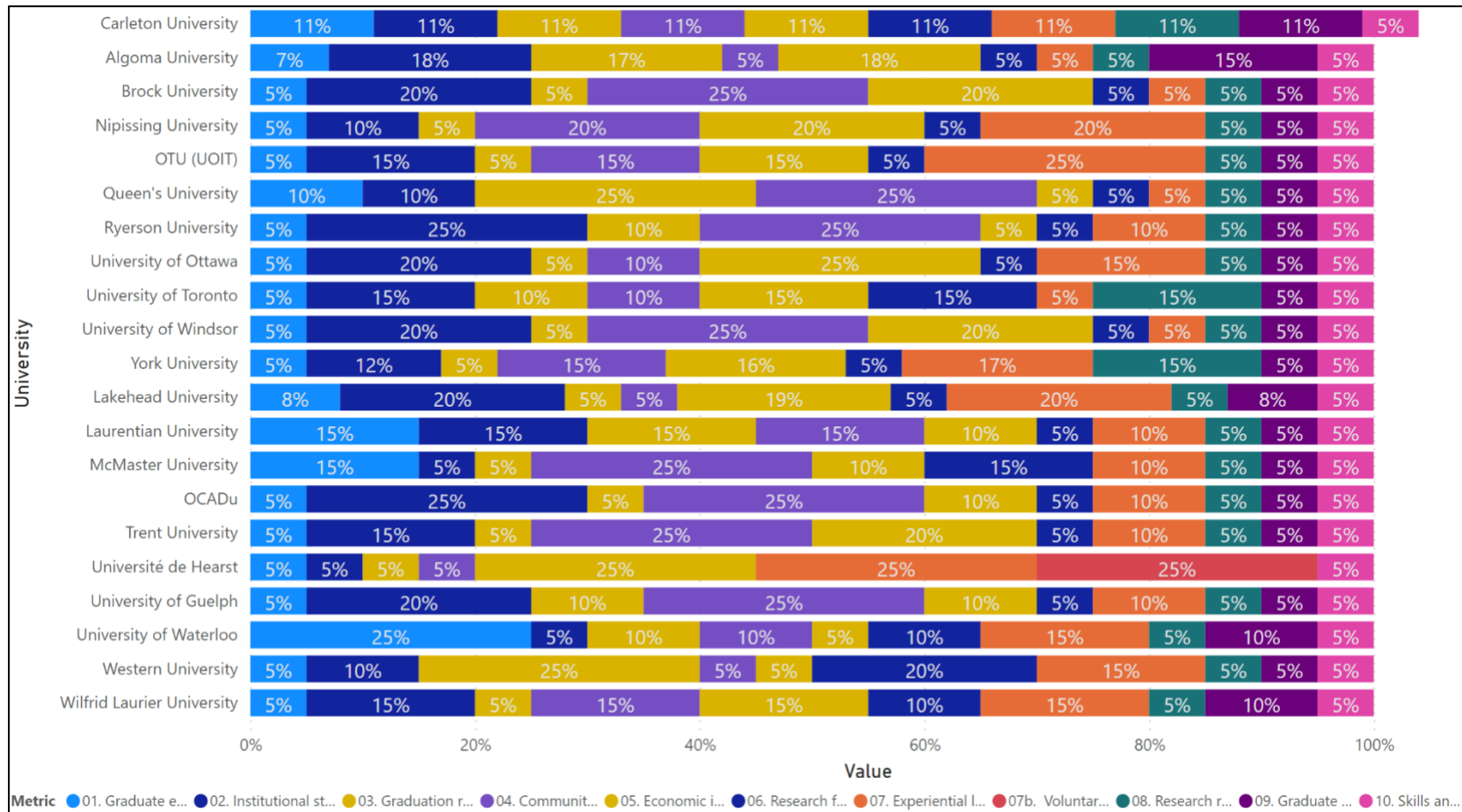
Note. Carleton University's 104% total allocation. All weightings across all five years are available in Appendix A, Table A1.

The data source for the numerator in this ratio, university enrolment, is COU's Common University Data Ontario (CUDO) enrolment data, there is no indication in the technical manual (MCTU, 2019b) or SMAs about where the local population data are drawn from. The denominator, local population data, is potentially drawn from the Canadian census program's data, last collected in 2016. As the CUDO enrolment data indicate that all university enrolments have grown since 2016 this would insulate institutions for target growth pressure from the denominator in this ratio; however, another census is to be conducted in 2021.

The metric is described as the university's location, interpreted as the university's primary campus or address. There appears to be no distinction made among enrolments that are associated with other locations or communities, or growth associated with these other locations and communities. In theory, Lakehead University could see enrolments stagnate at its primary Thunder Bay campus, but report growth against its community/local impact metric from enrolments at Lakehead University's Georgian campus in Barrie, a drive of 1,281 kilometres.

There is no other PBF program that uses this metric. This metric appears to be a measure of community growth or shrinkage, more than anything that the institution influences, and would appear to give an advantage to institutions in small or shrinking communities. Institutions in larger or fast-growing communities will have to keep pace with these communities and will have less ability to influence this metric. Outside of the tolerance margin, this metric can be interpreted as relative additional funding for rural/small community institutions presented as a performance metric. While rural/small community institutions may justifiably deserve additional funding because of the related

costs associated with operating outside of large urban centres, the comparative burden placed on urban institutions should not be overlooked.

Implementation of the Community/Local Impact Metric

Across the five years of SMA3 that the community/local impact metric the average weighting begins at 22% in the first year, 17% in the second year and 16% in all subsequent years (see Figure 5). In the first year, the most often assigned weight is 15%, 30% in the second year (30% is the maximum value, four institutions), 25% in the subsequent years (the maximum value, seven institutions). Both Brock University and the University of Windsor assigned the maximum value to this metric each year, Queen's University is only 5% less than the 35% in the first year but maximizes weighting in subsequent years.

The calculation of this metric puts institutions in large cities at a disadvantage because of the proportional imbalance between the numerator and the denominator. OCAD University has the lowest percentage of the population as the smallest of the four universities located in Toronto, the largest city in Canada. OCAD University's 2018–19 historical data indicated that its enrolment represented 0.24% of Toronto's population, and OCAD University has 2020–21 performance target of 0.23%. The University of Waterloo has the largest proportion of students to its local population in Waterloo, with an average proportion of 50.07% and a 2020–21 allowable performance target of 49.770%. All targets and elements of target setting calculations are presented in **Table 5** *Each Institution's Community/Local Impact Metric's Historical Data and Elements of Target Calculation*.

Table 5

Each Institution's Community/Local Impact Metric's Historical Data and Elements of Target Calculation

University	Total enrol in 2018	2016–17 hist. data	2017–18 hist. data	2018–19 hist. data	2020–21 Allowable perf. target	Average [a]	ABS 2016–17 to 2017–18 [a]	ABS 2017–18 to 2018-19 [a]	BT [a]	Target floor % [a]
Algoma University, Sault Ste. Marie	954	2.30%	2.09%	1.76%	1.98%	2.05%	0.21%	0.33%	12.46%	1.978%
Brock University, St. Catharines	16357	20.24%	20.40%	20.66%	20.38%	20.433%	0.16%	0.26%	1.033%	20.381%
Carleton University, Ottawa	25242	4.73%	4.87%	4.93%	4.80%	4.843%	0.14%	0.06%	2.096%	4.801%
Lakehead University, Thunder Bay	7140	8.43%	8.28%	8.43%	8.38%	8.38%	0.15%	0.15%	1.795%	8.377%
Laurentian University, Sudbury	6727	8.64%	8.41%	8.26%	8.39%	8.437%	0.23%	0.15%	2.223%	8.396%
McMaster University, Hamilton	31901	8.21%	8.41%	8.76%	8.38%	8.46%	0.20%	0.35%	3.299%	8.374%
Nipissing University, North Bay	3565	13.30%	13.85%	14.44%	13.80%	13.863%	0.55%	0.59%	4.198%	13.808%
OCADu, Toronto	3402	0.24%	0.24%	0.24%	0.23%	0.24%	0.000%	0.000%	1.00%	0.240%
OTU (UOIT), Oshawa	9417	9.53%	9.64%	9.71%	9.60%	9.627%	0.11%	0.07%	1.00%	9.60%
Queen's University, Kingston	25535	33.24%	34.61%	36.25%	34.48%	34.70%	1.37%	1.64%	4.43%	34.472%
Ryerson University, Toronto	31236	2.26%	2.31%	2.33%	2.28%	2.30%	0.05%	0.02%	1.539%	2.284%
Trent University, Peterborough	8711	13.79%	14.42%	15.16%	14.36%	14.457%	0.63%	0.74%	4.85%	14.355%

University	Total enrol in 2018	2016–17 hist. data	2017–18 hist. data	2018–19 hist. data	2020–21 Allowable perf. target	Average [a]	ABS 2016–17 to 2017–18 [a]	ABS 2017–18 to 2018-19 [a]	BT [a]	Target floor % [a]
Université de Hearst, Timmins	147	5.02%	5.13%	5.96%	4.97%	5.37%	0.11%	0.83%	9.185%	5.02%
University of Guelph, Guelph	26804	21.87%	22.16%	22.39%	22.11%	22.14%	0.29%	0.23%	1.182%	22.106%
University of Ottawa, Ottawa	37318	6.70%	6.62%	6.75%	6.66%	6.69%	0.08%	0.13%	1.579%	6.663%
University of Toronto, Toronto	83554	3.72%	3.77%	3.82%	3.76%	3.77%	0.05%	0.05%	1.335%	3.769%
University of Waterloo, Waterloo	37088	48.58%	50.13%	51.31%	49.77%	50.007%	1.55%	1.18%	2.772%	49.768%
University of Windsor, Windsor	14506	10.86%	11.07%	11.38%	11.04%	11.103%	0.21%	0.31%	2.367%	11.046%
Western University, London	36375	14.75%	14.93%	15.15%	14.92%	14.943%	0.18%	0.22%	1.347%	14.92%
Wilfrid Laurier University, Waterloo	16459	18.64%	19.77%	20.29%	19.22%	19.567%	1.13%	0.52%	4.346%	19.214%
York University, Toronto	47397	2.73%	2.79%	2.91%	2.78%	2.81%	0.06%	0.12%	3.249%	2.777%

Note. BT = band of tolerance. This table identifies each Ontario university's location, the university's 2018 CUDO total enrolment numbers and historic SMA3 data, SMA3 performance target, and elements of target setting formula.

[a] Numbers in these columns are calculated.

Institutional narratives typically lauded connections to localities and celebrated contributions and collaborations. Many explained the physical footprint that the university has beyond its primary campus/address. Nipissing University and the University of Windsor noted that they are significant employers in the region, in the case of Windsor the largest employer. OCAD University sought to redefine community impact: "OCAD University defines Community and Local impact in broad terms: As a city-builder working closely with its culture and design sector neighbours, OCAD University provides the larger community cultural and economic resources through its galleries and public facilities" (OCAD & MCU, 2020, p. 15). Brock University, Laurentian University, and Western University noted the percentage of students that were drawn from the local region as well as those from outside of it, drawing attention to the economic impact of attracting students from other regions.

Institution-Specific (Economic Impact)

The institution-specific economic impact metric by itself is more like the differentiated contracts associated with SMA2 than all but the institutional strength/focus. As with institutional strength/focus this metric is another example of how SMA3 blends all three of Adam's (2020) PBF program types, with this metric being the second contractual performance metric amongst the other performance set-asides or reservation-type metrics. The institution-specific economic impact metric demonstrates similar ideas about differentiation as the institutional strength/focus metric.

However, where the institution-specific metric was internal to the institution but still included a standard measure, it focuses on the institution's economic impact and permits the institution to also nominate a measure. The institution-specific economic

impact metric is the only metric where institutions both name the metric and the measure in SMA3, in contrast there were a total of 228 unique institutional metrics in SMA2 (Clare, 2019). This type of metric is not in use in any established PBF program except for Florida. Florida's PBF program has both a board of governors choice metric, currently "percent of bachelor's degrees without excess hours" (State University System of Florida, 2019a) and a board of trustees choice, which is selected by each university's governors or trustees.

Implementation of the Institution-Specific (Economic Impact) Metric

Each institution nominated its own unique economic impact subject and measure, but some themes emerge from the subjects of each measure. What follows is the five themes that emerge from the 21 institutional impact measures, subthemes on students' economic impact.

Theme: Co-op, Internships, and Experience Related

Brock University, Laurentian University, Ontario Tech University, and Université de Hearst selected a subject that reflects students' contributions to the local economy in the form of the talent they provided to key industries in the form of co-op and experiential education placements. The University of Waterloo has chosen "total earnings by co op students on work terms includes all reported earnings from employment in Canada and the United States, for the full 16 weeks of a co-op work term (stipends, travel allowances and other gratuities are excluded)" (University of Waterloo & MCU, 2020, p. 14). The first four highlight the contribution that students make to key industries in the local region, as well as the institutions' past successes. Université de Hearst has placed the highest possible weighting on this metric across all five years, and their narrative

speaks to their commitment to it. Placements would be affected by economic

circumstances, but perhaps the relationship between the supply of students and the

demand for placements is more manageable than the University of Waterloo's selection

of salary.

The University of Waterloo included a caveat in its narrative, which is perhaps the

clearest admission that a target cannot be met across all SMA3 documents.

> Subject to wider economic conditions, Waterloo expects this strong performance
>
> to continue. As acknowledged by MCU on the cover page to this agreement, the
>
> COVID-19 outbreak has had a significant impact on the Ontario economy, which
>
> is projected to continue over the coming years. As a measure of overall economic
>
> impact, total earnings by Waterloo co-op students are expected to reflect the
>
> general state of the Ontario labour market and economy. As such, co-op earnings
>
> are expected to contract before recovering to pre-COVID-19 levels. Together with
>
> the Ontario government, Waterloo is committed to ensuring its students are
>
> equipped with the skills and competencies required to make significant economic
>
> impacts while helping to rebuild and strengthen the Ontario economy. (University
>
> of Waterloo & MCU, 2020, p. 14)

The University of Guelph made a similar statement to conclude its narrative.

Figure 7 depicts the placement-based metrics for Brock University, Laurentian,

Ontario Tech University, and Université de Hearst. Brock University (2020) noted this

metric's alignment with the institution's strategic plans' priority to "enhance the life and

vitality of our local community and beyond" (p. 14) resulting in the relatively high 20%

weighting. Laurentian has also related its metric to several items in its institutional

strategic plan. All four universities have tied the metric to activity in local regions.

Each university has used differing definitions. Brock University's (2020)

definition is "annual count of Co-op student and practicum placements in the Niagara

Region" (p. 14). Laurentian University's definition is "number of student course

registrations in co-ops, internships, placements, and practicums (local, national, and

international)" (MCU & Laurentian University, 2020, para. 83). Ontario Tech

University's definition is "the number of assessment-based student work-related

placements placed in Durham/Northumberland Region" (MCU & Ontario Tech

University, 2020, para. 75). Université de Hearst's definition is "number of registrants

(FTE) in internships" (MCU & Université de Hearst, 2020, para. 79).

Figure 8 depicts the student total earnings metrics for the University of

Waterloo's (2020) related student "total earnings by students on co-op work terms" (p.

14). The University of Waterloo's narrative describes the University of Waterloo's most

recent economic impact study, which was completed by Deloitte, and indicates the total

benefit to employers that have hired a co-op student was approximately $525 million in

2018–19, with a total contribution of $567 million to Canada's GDP.

Figure 7

Co-op, Internship, and Experience-Related Metrics Measured in Seats
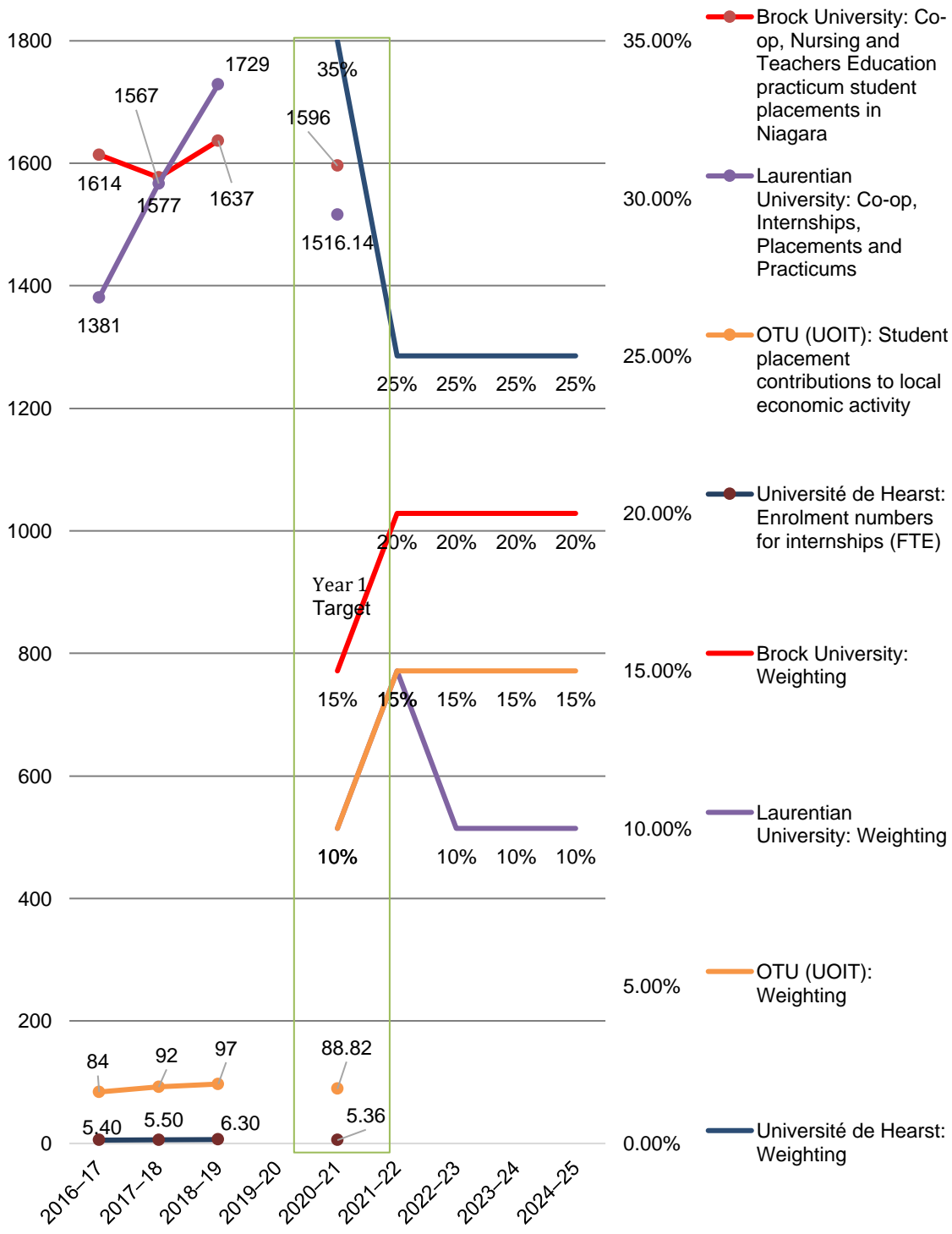
Figure 8

Co-op, Internship, and Experience-Related Metrics Measured in Student Income
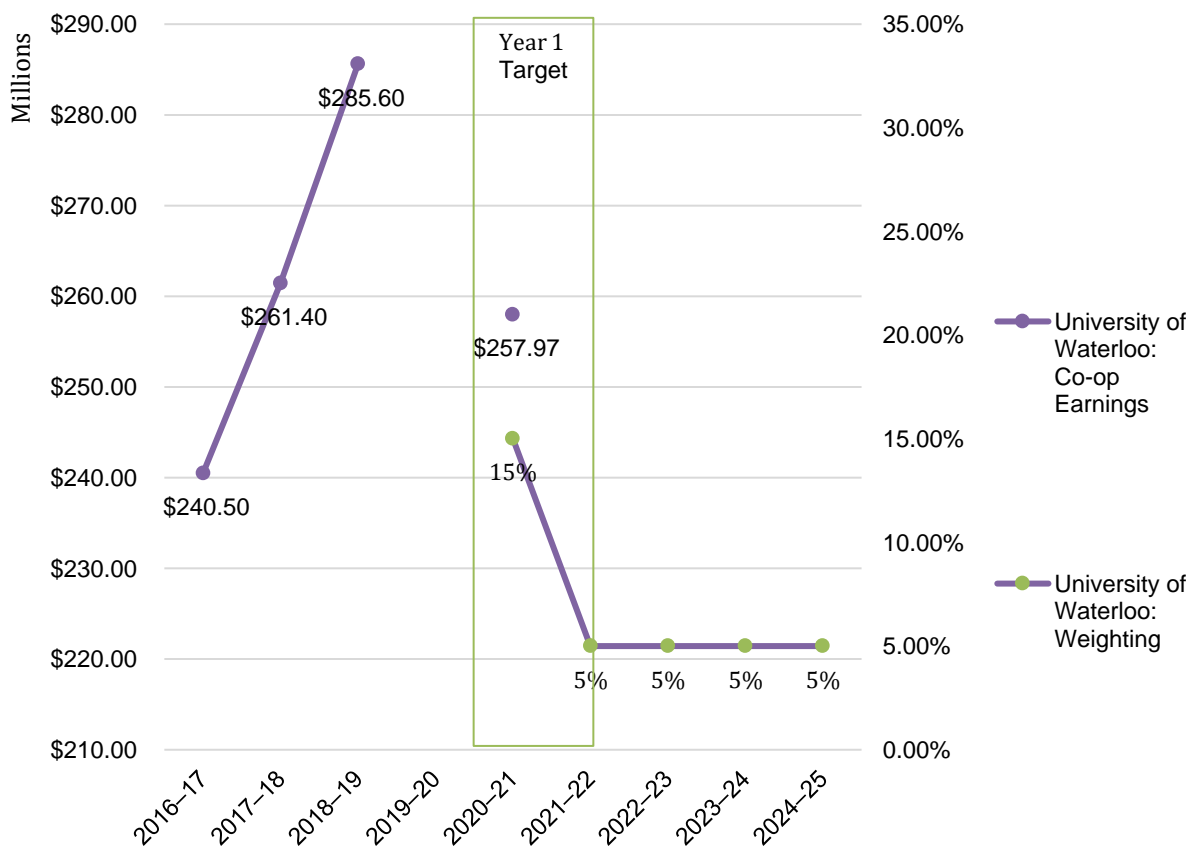
Theme: Economic Impact on Ontario or Region(s)

Lakehead University, Nipissing University, the University of Guelph, the University of Ottawa, Trent University, the University of Windsor, and Wilfrid Laurier University all selected subjects that measured the economic impact of a mix of the institutions' current students, alumni, and staff on local economies or Ontario's GDP. As depicted in Figure 9, some institutions have distinguished between local students and those from outside the region who represent a financial flow into the region. This is ironically a distinction that likely has grown on paper during the COVID-19 related shift to remote learning. Students have greater opportunity to study at institutions outside of their home region without the need to relocate to the institution's region, but this does not grow in terms of the real impact of student spending in the region. Lakehead selected both its current students and the impact of alumni on Ontario's GDP, tying the logic of selecting this expansive measure to the impact of COVID-19.

Figure 9 depicts Lakehead University's (MCU & Lakehead University 2020) metric, "economic impact of Lakehead's students, staff, faculty, research activity, operations, and alumni on the provincial economy, reflecting the importance of Lakehead's local and regional role in Northwestern Ontario and Simcoe County" (para. 120). It measures the impact of Lakehead University on value-added GDP and was calculated using the Statistics Canada input–output model, but Lakehead University is the only institution to include all students and alumni. The University of Guelph's "The direct economic impact of nonlocal student spending on Ontario's GDP" (MCU & University of Guelph, para. 74). demonstrated the flow of funds into the Guelph region by noting that nonlocal students total more than 85% of the University of Guelph's

enrolment. Nipissing University's metric is the "economic impact of students enrolled at Nipissing from outside North Bay based on the following Ontario average household expenditures: food, rent and public transportation" (MCU & Nipissing University, para, 73).

To calculate its current students' economic impact, the University of Ottawa combined official registration data with Statistics Canada figures on expenditures for rent, food, and transportation to demonstrate that students from outside of Ontario spend more than $40M per year in the region (MCU & University of Ottawa, 2020, para. 82). The University of Ottawa's definition states that "this metric quantifies annual spending by full-time out-of-province students who are living in Ontario" (MCU & University of Ottawa, 2020, para. 79). Trent University used a similar approach to represent spending by full-time students who come to Trent's Peterborough and Durham campuses from outside the City of Peterborough and the Regional Municipality of Durham (MCU & Trent University, 2020, para. 93). This measure uses the Statistic Canada independent Survey of Household Spending to indicate Trent University's direct connection to the local economy.

In 2019 the University of Windsor (2020) contracted KPMG to conduct an economic impact study. The study assessed nonlocal students' total expenditure in the local economy, which, in 2018–19, amounted to approximately $133 million (University of Windsor, 2020, p. 18). The University of Windsor used the study's findings to calculate the economic impact of nonlocal students. Wilfred Laurier University uses its annual graduate outcomes survey to identify the number of students who graduate from

Laurier who are staying to work in Ontario and multiply that by the average salary

identified in the survey (MCU & Wilfred Laurier University, 2020, para. 91).

Figure 9

Economic Impact on Ontario or Region(s)

Legend:

- Lakehead University (All current, all alumni) Lakehead University's Economic Impact on Ontario's GDP
- Nipissing University (Current Students) Economic impact of students enrolled at Nipissing from outside North Bay
- University of Guelph (Current Students) Direct Economic Impact of University of Guelph Student Spending
- University of Ottawa (Current Students) Student Economic Impact
- Trent University (Current Students, Non-local) Economic Impact of Non-Local Students
- University of Windsor (Current Students, Non-local) Non-Local Student Spending in the Windsor-Essex Region
- Wilfrid Laurier University (Ontario resident alumni salary) Laurier Graduating Students' Impact on the Ontario Economy
- Lakehead University: Weighting
- Nipissing University: Weighting
- University of Guelph: Weighting
- University of Ottawa: Weighting
- Trent University: Weighting
- University of Windsor: Weighting
- Wilfrid Laurier University: Weighting

Theme: Institutional Partners

OCAD University was alone in selecting the numbers of formalized partners with agreements that detail the exchange of mutually beneficial benefits between each party. Some of these partnerships include the city of Toronto and the University of Toronto. OCAD University's gallery system is also part of these partnerships. OCAD University (2020) has further defines a partnership as a

> contractual relationship with an organization outlined by a fully executed agreement with the university and which details the exchange of mutually advantageous benefits (e.g., cash, value in-kind of services or products, sponsorship, experience, access to talent, mentoring, research) with the exclusion of charitable gifts and business agreements. (p. 16)

Figure 10 shows that OCAD University's trajectory is above the institution's target.

Theme: International Student Enrolment

International student enrolment can have a significant economic benefit to institutions and localities. International student tuition is unregulated in Ontario, where domestic tuition is subject to restrictions on the annual growth or even reductions, such as the January 17, 2019, 10% cut in regulated tuition announced by minister Fullerton. International tuition averages around twice as much as domestic tuition at Ontario institutions and represents an opportunity to recover revenue lost to inflation and tuition cuts. International students also represent a clear flow of finances from outside of a region into it. Algoma University embraced this assumption by noting in its narrative that it has been tasked by the government to look for operational efficiencies, but adds a caveat:

it is unlikely that AU can add significant capacity to support data gathering. We
have, therefore, concluded that the effective metric for AU here is international
student FFTEs, in recognition of the economic value they bring to the
communities in which we operate. We will track and report on the number of
enrolled international student FFTEs by campus/city location. (MCU & Algoma
University, 2020, para. 80)

Figure 10

Institutional Partners
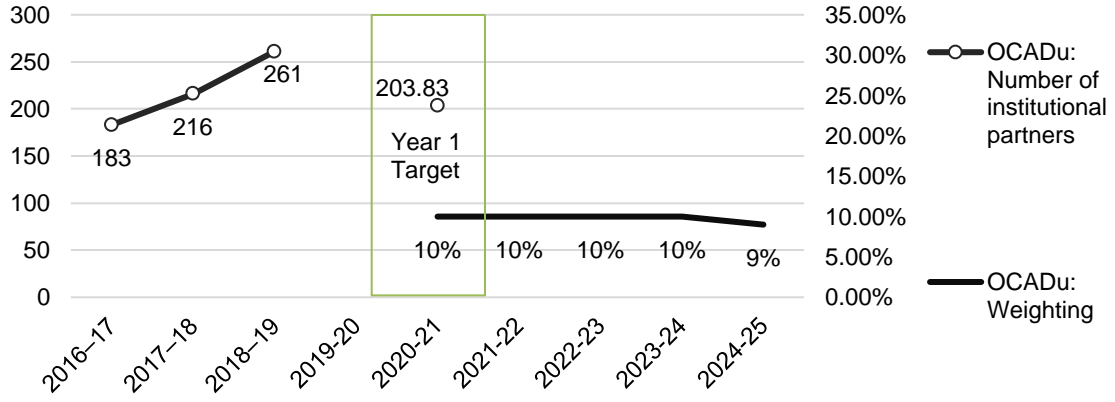
Algoma University is confident in making its targets, leading its narrative by stating it "will use international student enrolment by FFTE for this metric, recognizing that there will be no prospect of any reallocation of funds even if, as expected, we perform well. We have placed a relatively high weight on this category" (Algoma University & MCU, 2021, p. 14). Algoma University's SMA3 summarizes its measuring instrument as "Algoma University Enrolment Data Collection; Statistics Canada/Global Affairs Economic Impact Multiplied" (Algoma University & MCU, 2021, p. 14). Figure 11 shows that Algoma University's target is below the most recent historical result, but historical results have experienced a lot of variance.

Theme: Invention Disclosures per Association of University Technology Licensing Survey

Both McMaster University and Western University have chosen a measure of institutional science-based research activity, specifically new inventions created at these institutions by faculty and other researchers and the related licensing activity of technology transfer offices. The Association of University Technology (AUTM) licensing survey comprises 70 Canadian institutions, including universities and colleges, hospitals and research institutions, national laboratories, and third-party technology investment firms. AUTM is a Washington-based nonprofit organization supporting the development of academic research that works with more than 800 similar institutions (Oliva et al., 2018).

Figure 11

International Student Enrolment
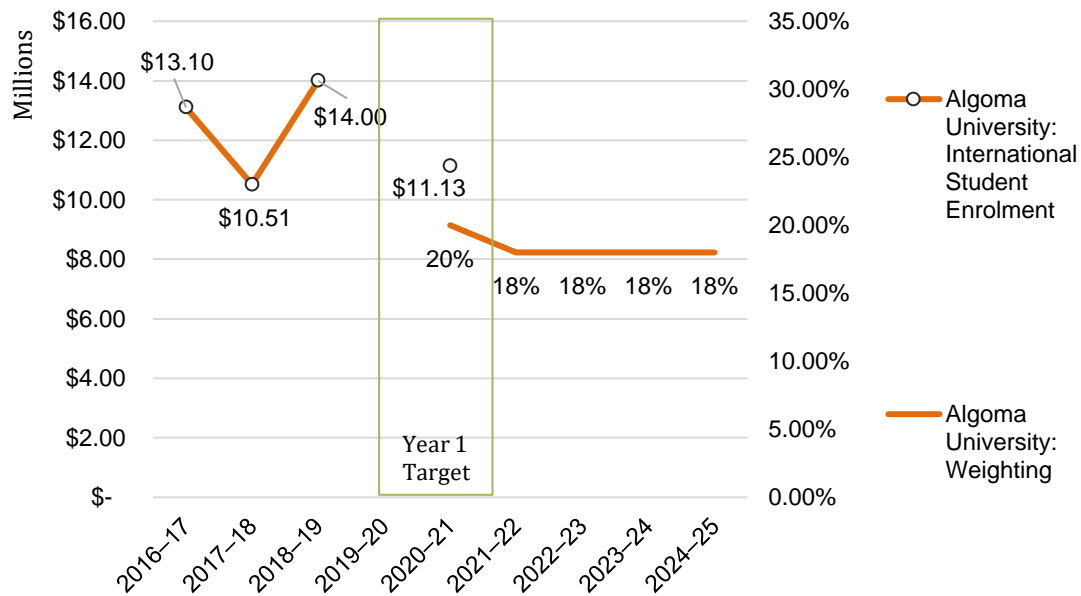
It is interesting that both McMaster University and Western University have chosen the same measure, and that they chose one that requires the successful negotiation of a license/option agreement, not just patents or other entries in public catalogues of discoveries. These technology transfers represent revenue for the institution; however, the knowledge benefits are not necessarily transferred to Ontario-based entities. The University of Toronto nominated "new invention disclosures" (University of Toronto & MTCU, 2017, p. 18) as a metric in SMA2. Figure 12 suggests an upward trajectory for both institutions, but both institutions have assigned a low weighting.

The source for both university's metrics is the AUTM Canadian Licensing Activity Survey. AUTM only provides nonnational-aggregate, institution-level, data to AUTM members for a fee of USD $50, or nonmembers for a fee of USD $375. McMaster University's definition: The number of annual invention disclosures as reported in the AUTM Licensing Survey. Running total of licences and/or option agreements (where the dollar value is $1,000 or more) and where the agreement is still in full force and effect (i.e., where the term has not expired nor has the agreement been prematurely terminated).

Figure 12

Invention Disclosures Per AUTM Licensing Survey
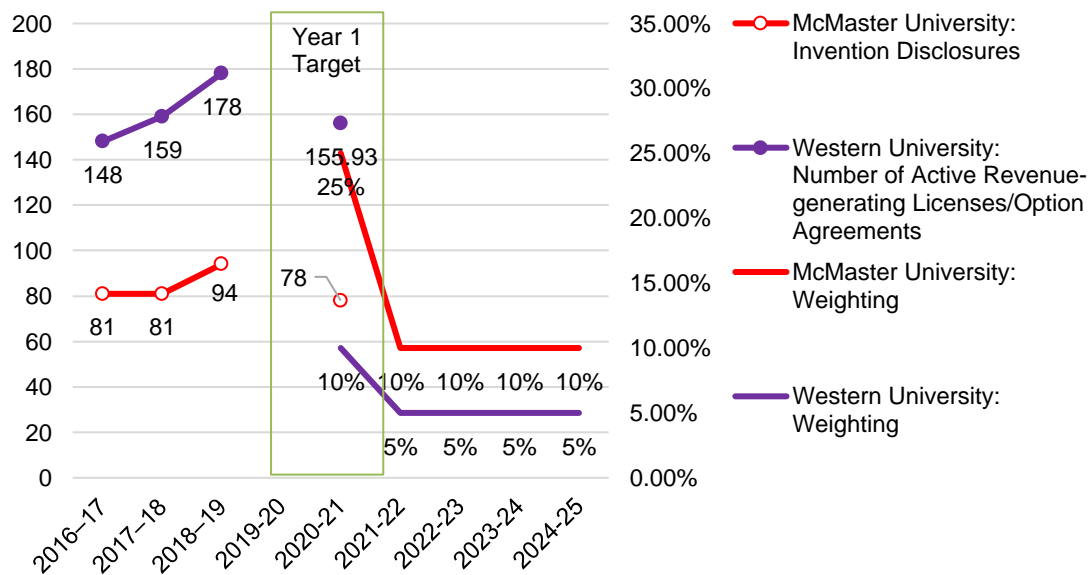
Theme: Start-Ups

Each institution uses its own method for tracking start-ups and most of them start with the institution's own incubator, support programs, or similar catalyst systems. Carleton University, Queen's University, Ryerson University, the University of Toronto, and York University selected variations on the number of start-up firms created by students and graduates. Each university has its own definition of *start-ups*, as follows:

- Carleton University: "Number of companies founded with Principals directly connected to Carleton University . . . [which] will produce a detailed, comprehensive Carleton University Company Formation Impacts Database to track firms created by Carleton alumni, faculty, staff, and students" (MCU & Carleton University, 2020, para. 115).

- Queen's University: "Number of startups incubated or supported by a program/service offered by Queen's each fiscal year" (MCU & Queen's University, 2020, para. 87).

- Ryerson University: "Number of startups present as reported to Canada Accelerator and Incubator Program (CAIP)/Campus Linked Accelerators (CLA) programs, and equivalent reporting after conclusion of these funding programs" (MCU & Ryerson University, para. 94).

- University of Toronto: "The number of start-ups being actively supported by incubators and campus-led accelerators across the University's three campuses" (University of Toronto & MCU, 2020, p. 15).

- York University: "A start-up venture is a for-profit, non-profit, or social enterprise created by a student, faculty member, alumni, or community

member that obtains mentorship, education, or space from York University for a period of three months or equivalent" (MCU & York University, 2020, para. 85).

Ryerson University and York University had the same metric in SMA2, demonstrating consistency in self-determined metrics. Trent University did not continue its SMA2 start-up metric in SMA3 (Clare, 2020). These institutionally determined metrics appear to be the only instances of start-ups as a metric in PBF programs, but many institutions with these types of catalyst systems report the number of start-ups created as a key performance indicator. All institutions assign a high weighting in the first year but decrease the weighting as others become active (see Figure 13).

Research Funding and Capacity: Federal Tri-Agency Funding Secured

This metric is active from the first year of SMA3 and measures an aggregate of the institution's funding received from the three federal research granting agencies: Social Sciences and Humanities Research Council, Natural Sciences and Engineering Research Council, and the Canadian Institutes of Health Research—the Tri-Agencies. The data are provided by the Tri-Agency Institutional Programs Secretariat. Funding received through this metric is to be part of the institution's base funding or infrastructure funding, but it is tied to the competitive project-based funding from these national agencies.

Figure 13

Start-Ups

Year 1 Target

Legend:
- Carleton University: Number of New Companies with Carleton Origin
- Queen's University: Innovation and start-up ecosystem
- Ryerson University: Number of startups
- University of Toronto: University of Toronto Supported Start-Ups
- York University: Start-Up Ventures
- Carleton University: Weighting
- Queen's University: Weighting
- Ryerson University: Weighting
- University of Toronto: Weighting
- York University: Weighting

The metric is measured as the percent of funds awarded in Ontario, as some of the similar institutionally nominated metrics were measured in SMA2. Federal Tri-Agency funding secured was a standard metric in SMA2; however, the method of measuring was not standardized and varied between targets set in dollars awarded and targets set as percentages of Ontario's total (leading to targets that collectively represented an impossible 104.63% share of the Ontario total for Canadian Institutes of Health Research and 103.72% of the Ontario total for Tri-Council funding, as compiled by Clare, 2019).

The two research metrics have a different target settings process than other metrics. The targets are simply a rolling average of the previous three years, minus the band of tolerance. SMA3's Research funding & capacity: Federal Tri-Agency funding secured metric is a more sustainable target settings method for the zero-sum research revenue attracted from private sector sources metric measure because it is not structuring each university to consume the others portions as a mandate (though Tri-Agency funding itself remains competitive). SMA3 documents also provide the real dollar amounts separately from the historical data. Institutional research offices regularly provided this information publicly, including in reports to the Canadian Association of University Business Officers (CAUBO).

Only a few American PBF programs have a similar metric, for example, Tennessee has a research, service, and sponsored programs metric, which is defined as the "expenditures on activities for research, service, or instruction. Financial aid, capital funding, state appropriations, donations from foundations, and practice income are excluded from this outcome" (Wilson et al., 2020, p. 9). Tennessee's measure is more of a measure of nonteaching expenditure, not a measure of success in the institution's

research mission. The literature on PBF programs in America examines the general impact of declining funds and the distorting impact of PBF metrics on teaching-related areas such as admissions but does not identify any effects on research beyond general impacts on budgets and activity.

Europe has had different forms of performance-based research funding for some time, both for universities and for dedicated research institutions. The European Union's 2011 policy document, *Supporting Growth and Jobs—An agenda for the Modernisation of Europe's Higher Education Systems* (Directorate-General for Education and Culture, European Commission, 2011), has encouraged "a better identification of the real costs of higher education and research and the careful targeting of spending, including through funding mechanisms linked to performance which introduce an element of competition" (p. 13). EU member states have implemented different forms of PBF for research in parallel and directly as part of PSE funding. These research PBF programs, in particular, the United Kingdom's Research Excellence Framework have de-emphasized teaching and led to unintended negative consequences (Bishop, 2020). Performance metrics and targets that measure and reward paper publications or citations have in some cases reduced the impact of the associated papers. This practice also can incentivize so-called "salami" style research publication; that is, slicing up the results of research in an attempt to increase the publications yielded from the same research (Jonkers & Zacharewicz, 2016).

By aggregating the Tri-Agency funding, there is less incentive for institutions to game the metric (research funding and capacity: Federal Tri-Agency funding secured) or alter institutional research strategies beyond factors that would otherwise be relevant to

institutions with two notable exceptions: First, high-activity but low-cost research would be less recognized under this metric, although alternative metrics have different issues, as discussed in some of the European examples. Second, institutions that regularly participate in research that is externally funded would have an incentive to put greater emphasis on Tri-Agency funded research, if it was not for the research revenue attracted from private sector sources metric in SMA3.

Implementations of the Research Funding & Capacity: Federal Tri-Agency Funding Secured Metric

The average weighting for this metric is 13% in the first year and 8% in the subsequent years. The most often used weighting is 10% in the first year and 5% in the subsequent years. Université de Hearst does not participate in either research metric. The total of all historical data adds up to 99.10% of all Tri-Agency funding allocated to Ontario in 2016–17, 98.94% in 2017–18, and 98.78% in 2019–20 (MCU & Algoma University, 2020; MCU & Brock University, 2020; MCU & Carleton University, 2020; MCU & Lakehead University, 2020; MCU & Laurentian University, 2020; MCU & McMaster University, 2020; MCU & Nipissing University, 2020; MCU & OCAD University, 2020; MCU & Ontario Tech University, 2020; MCU & Queen's University, 2020; MCU & Ryerson University, 2020; MCU & Trent University, 2020; MCU & Université de Hearst, 2020; MCU & University of Guelph, 2020; MCU & University of Ottawa, 2020; MCU & University of Toronto, 2020; MCU & University of Waterloo, 2020; MCU & University of Windsor, 2020; MCU & Western University, 2020; MCU & Wilfred Laurier University, 2020; MCU & York University, 2020).

Presumably, the remainder for each year is awarded to other Ontario-based institutions such as colleges, hospitals, and private firms. The allowable target for 2020–21 adds up to 95.43%. The University of Toronto consistently represents over a third of Tri-Agency funding awarded in Ontario (see Figure 14), reflecting the 16% that the University of Toronto is awarded nationally (University of Toronto & MCU, 2020, p. 16). This is an example of why an average-only target setting model is more appropriate to this metric, as the University of Toronto's or Queen's University's variances would set targets that would consume Algoma's share within two years.

Institutional narratives described the research activity at each institution, alignment to strategic plans, and institutional success in rankings in publications that ranged from *Maclean's*, to *The Times Higher Education*, to Research Infosource rankings, to Nobel prizes.

McMaster University, the University of Toronto, the University of Waterloo, and Western University all weighed this metric highly, with Western University weighting consistently at the maximum available. These institutions cited constancy as the primary reason for the weighting allocation. Carleton University weights all dynamic metrics at 11%. All other universities weighted the metric at the lowest possible weight, with Laurentian University providing insight into its weight that "Laurentian has been able to attract Tri-Agency funding; however, we are concerned about the volatility of this metric given our connections to resource-based industries, including mining" (MCU & Laurentian University, 2020, para. 97).

Figure 14

Historical Tri-Agency Percentage of Ontario Funding and Research Funding and

Capacity: Federal Tri-Agency Funding Allowable Target
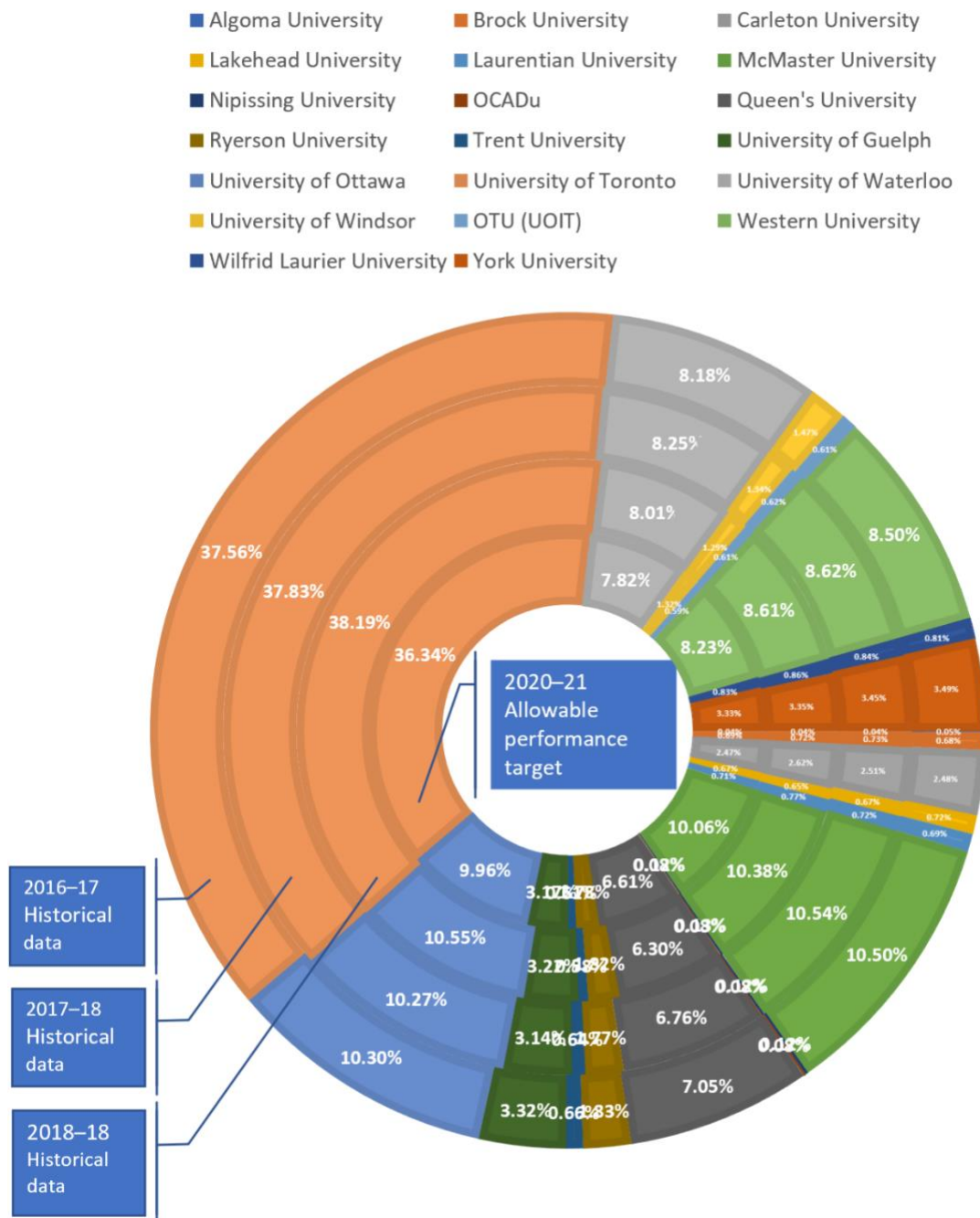
Innovation: Research Revenue Attracted From Private Sector Sources

The research revenue attracted from private sector sources metric sets targets in dollars for research revenue attracted from the private sector. The source will be the CAUBO annual report. As with the other research metric, the target settings process is simply a rolling average of the previous three years, minus the band of tolerance. The metric is not initiated until the second year of SMA3.

No historical data were provided in the SMA3 agreements; however, the creation of this metric was done in the context of CAUBO's existing reports. CAUBO's data summarized in Figure 15 suggest that most institutions have stable or growth trajectories for this metric, with the exceptions of the University of Windsor and Wilfred Laurier University which have 2019 revenue from the private sector falling to a four-year low, and to a lesser extent, Western University.

No other established U.S. PBF program uses this metric. Within the complexities of the programs within the European research PBF programs, funding metrics are typically tied to public funds, but many metrics measure non-funding metrics from all research activity.

Figure 15

Revenue From Private and Nonprofit Organizations
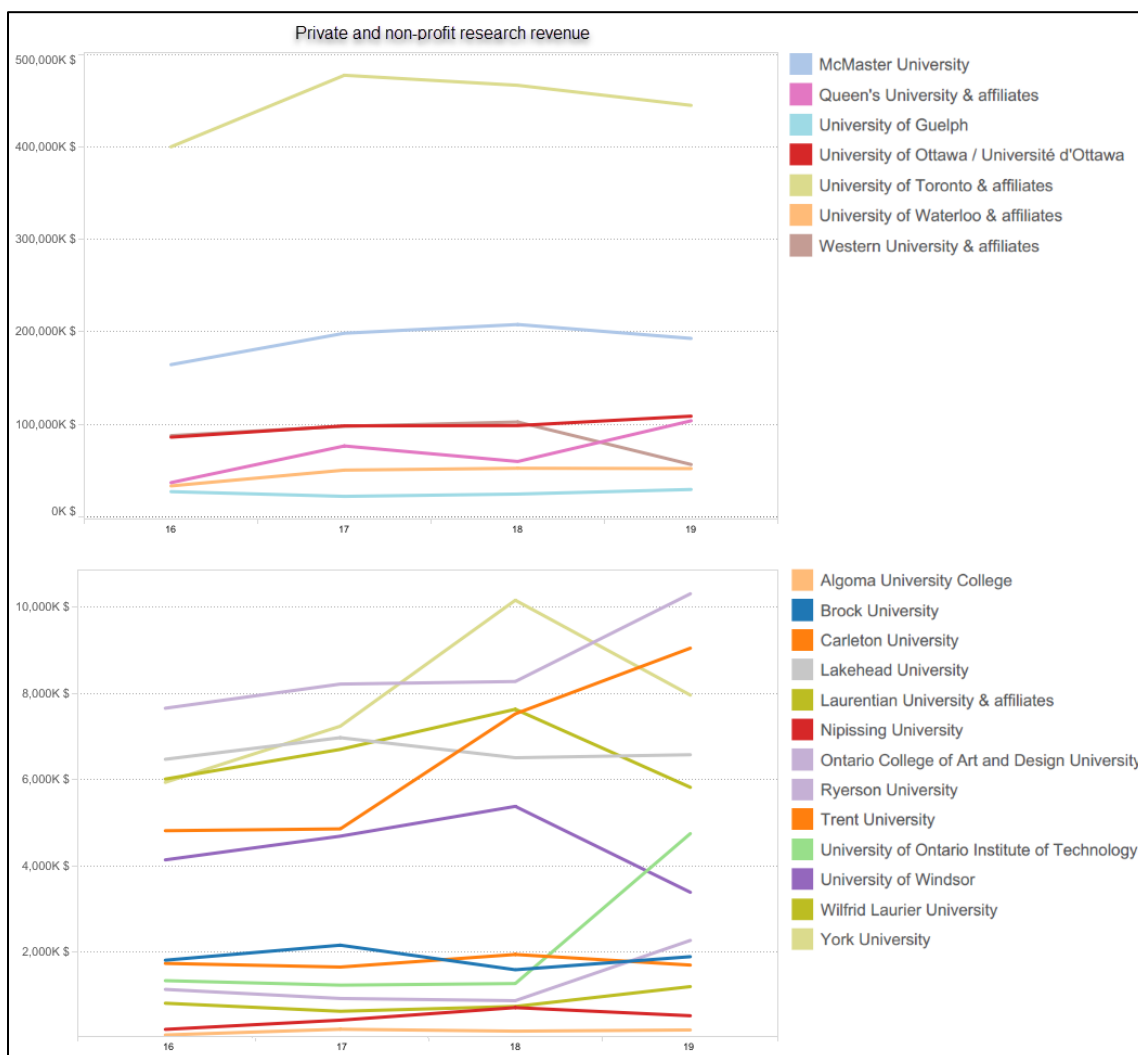
Note. Adapted from *Financial Information of Universities and Colleges (FIUC)—*

CAUBO (For the fiscal year ending in 2019), by Canadian Association of University

Business Officers, 2020, p. 89-90 (https://www.caubo.ca/knowledge-

centre/surveysreports/fiuc-reports/). Copyright 2020 by Canadian Association of

University Business Officers.

The existence of this metric may be singularly justified in the interest of not exclusively measuring funding from Tri-Agency sources. Other metrics used in European research PBF programs have their own distorting effects that the Tri-Agency aggregation may not be as susceptible to. It is difficult to tell if placing research revenue attracted from private sector sources as a potential peer to research funding and capacity: federal Tri-Agency funding secured is appropriate without a similar context to draw from. The potential equivalence of the two research metrics cannot be justified by any existing evidence; however, SMA3's weighting scheme places this determination with institutions. There is some evidence in the implementation of these two metrics by Ontario institutions.

Implementation of Placing Research Revenue Attracted From Private Sector Sources Metric

Figure 16 shows the institutional weightings of the metric for research revenue attracted from private sector sources (MCU & Algoma University, 2020; MCU & Brock University, 2020; MCU & Carleton University, 2020; MCU & Lakehead University, 2020; MCU & Laurentian University, 2020; MCU & McMaster University, 2020; MCU & Nipissing University, 2020; MCU & OCAD University, 2020; MCU & Ontario Tech University, 2020; MCU & Queen's University, 2020; MCU & Ryerson University, 2020; MCU & Trent University, 2020; MCU & Université de Hearst, 2020; MCU & University of Guelph, 2020; MCU & University of Ottawa, 2020; MCU & University of Toronto, 2020; MCU & University of Waterloo, 2020; MCU & University of Windsor, 2020; MCU & Western University, 2020; MCU & Wilfred Laurier University, 2020; MCU & York University, 2020).

Figure 16

Institutional Weightings of Each Research Metric
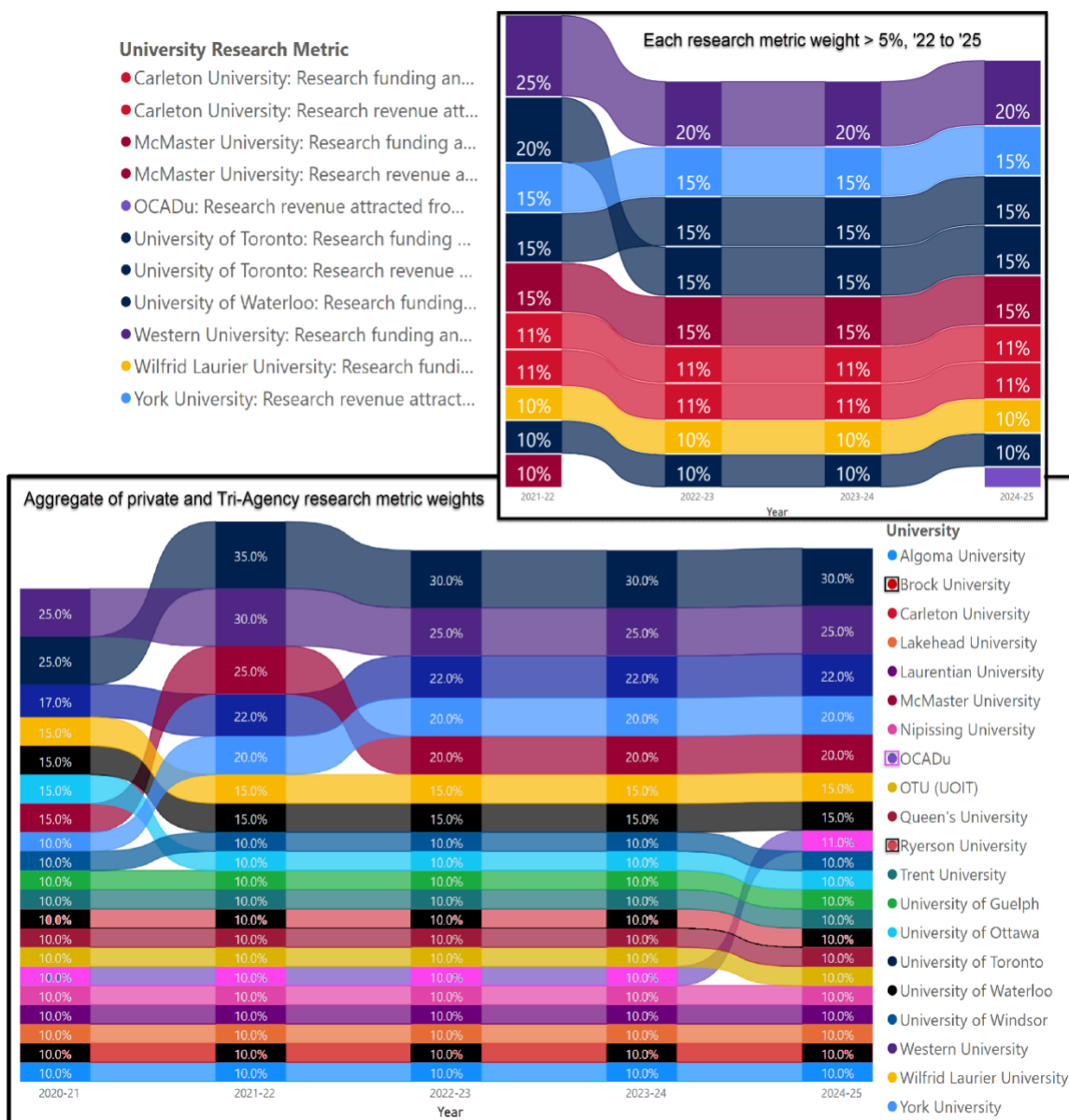
Note. Each research metric (Research funding and capacity: Federal Tri-Agency funding secured and research revenue attracted from private sector sources) is aggregated in the lower chart. Each metric independently weighted over 5% is shown in the upper insert.

McMaster University weights this metric at 10% at initiation in the second year but lowers its weighting to 5% in the subsequent years. Queen's University ticks above 5% to 6% in the final year. Only the University of Toronto weights this metric highly, at a consistent 15%. When combined, the University of Toronto has more of its SMA3 weighted towards the two research metrics than any other institution (see Figure 16), perhaps reflecting the University of Toronto's share of Tri-Agency funding amongst many other factors.

All other institutions have selected the minimum weighting for this metric, suggesting a general rejection of the metric. The University of Guelph's narrative highlighted that it is "the top comprehensive university in Canada with respect to corporate research income as a percentage of total research income" (MCU & University of Guelph, 2020, para. 88; see also Research Infosource, 2019). Ryerson was ranked second in the same measure, but both have assigned this metric the minimum value. The University of Guelph went on to explain that given "the metric's dependence on economic conditions, U of G took a risk-based approach to determine the weight of this institutional metric. U of G will allocate 5 percent of our funding to this metric throughout the SMA3 period" (MCU & The University of Guelph, 2020, para. 94). The interpretation of most institutions would suggest that this is seen as more of a measure of the economy than institutional performance and thus not a metric the institution can safely assign more than the minimum weight to.

Productivity, Accountability and Transparency Reporting Metrics: Faculty Compensation and Faculty Workload

Version 1 of the technical manual (MCTU, 2019b) does not offer an operational definition of the two nonfunding metrics; however, the publishing of the SMA3 documents signals a shift from the title "Faculty workload" to "Faculty activity." The November 26, 2020, release that accompanied the publication of the SMA3 documents announced a postponement of the linkage of the performance metrics to funding but did not describe any delay in and reporting metrics. Presumably, the definition has been communicated to institutions for the purpose of the first SMA3 accountability reports, but there have been no details shared publicly by MCU.

Globally, many higher education institutions and PSE systems practice or require a form of public disclosure-based accountability through reporting similar faculty teaching workload, wage, and research productivity and impact (Salmi, 2008). SMA3 will introduce some form of faculty activity reporting to the SMA-based PSE funding and accountability process, but the Government of Ontario has published the names, positions, salaries and total taxable benefits of employees paid $100,000 or more since the Public Sector Salary Disclosure Act was passed in 1996 (Government of Ontario, 2021). This list is known colloquially as the Sunshine List and has become a regular source of media attention and frequently results in high-paid public sector employees resigning as a result of public pressure (Bart et al., 2011). While campaigning to form the government in 2018, the current Ontario Premier Doug Ford called for the firing of Jeffrey Lyash, the president, and CEO of Ontario Power Generation. The CEO of Ontario

Power Generation (OPG) regularly tops the Sunshine List and is subject to scrutiny (Ferguson & Benzie, 2018).

The salary of the CEO of OPG is determined by the board of OPG, not a member of the provincial cabinet, and is outside of politicians' direct influence. The examples above illustrate how politicians can exert indirect influence on public sector wages. Similarly, the salary of university administrators and faculty members are determined by the institutions themselves and the collective bargaining and individual negotiations in which they engage . The Sunshine List serves as a form of scrutiny and public pressure on public salaries. For the most part, university faculty and administrators will already be included on the Sunshine List, and from a reporting perspective, this reporting metric is largely redundant to the 1996 Public Sector Salary Disclosure Act (Government of Ontario, 2021). NPM's goals of accountability performance measurement, monitoring and management systems are present in both this metric and the Public Sector Salary Disclosure Act and both initiatives represent public policies introduced to Canada by the Conservative Party of Ontario. These reporting metrics are likely to enable similar indirect pressure as the Sunshine List.

CHAPTER FIVE: DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

This chapter examines the decisions evident in the adoption of PBF and the

metrics that have been included in the third iteration of Ontario's Strategic Mandate

Agreements 2020–25 (SMA3s) based on the evidence presented in previous chapters.

The Social Construction of Target Populations

The decisions evident in the adoption of PBF and the metrics that have been

included in SMA3 can be analyzed through Schneider and Ingram's Social Construction

of a Target Populations framework. SMA3 forms the public funding framework for

Ontario's PSE sector from 2020[3] to 2025 as well as a large portion of its governance,

particularly for the universities in Ontario. Ontario universities have demonstrated greater

autonomy than the college institutions due to several factors including individual legacies

(in some cases pre-dating the government of Ontario) and independent founding charters

and acts of parliament. In comparison, the college sector's institutions were founded

more recently, and are governed by a single act of parliament. SMA3 has long-term

stakeholders in the form of direct recipients of the funding it governs, the communities in

which these institutions are located, and the elements of the Ontario economy that benefit

from innovation and skilled workers. There are also important multi-year relationships

for the thousands of students enrolled in Ontario PSE institutions and those that pay

tuition for students. Finally, the appropriations made by MCU are the fifth largest

component of the 2019-2020 Ontario budget and should be the concern of all Ontario

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[3] As a practical matter, the SMA2 framework governed funding during the initial period
of 2020 due to the COVID-19 pandemic interrupting SMA3 negotiations, as noted in the
Background of the Study.

taxpayers and individuals governed by the Government of Ontario. This incomplete and subjective list of major stakeholders represents an important part of this policy, but they do not necessarily represent the target populations of the policy. The stakeholders affected by SMA3 do not exercise power equally and they have not had the benefits of this policy apportioned equally.

Much of the political rhetoric used by the leadership of the MCU, the current minister Romano, and the previous minister Fullerton signified a departure from the previous Liberal Party's policies and an increase in PSE accountability and efficiency that would reward Ontario students and those paying student tuition. Statements that corresponded with the April 11, 2019, budget; the January 17, 2019, 10% tuition cut; and the November 26, 2020, publication of the agreements suggested that the target population of these policies are students and those that pay students' tuition, typically parents. Stakeholders that are important, but were only invoked by implication, include university faculty, university staff and members of institutional governance structures and institutional and professional associations. Ontario policymakers subscribing to the neoliberal ideology of NPM and its emphasis on accountability will likely anticipate that those paying for university tuition, such as parents, would approve of the promise of greater accountability for public spending and encouragement for PSE institutions to graduate students that find employment in a related field. Society typically views students and parents positively. Parents, particularly middle-class parents that can afford PSE tuition, as a group possess substantial political power as a large voting demographic with influential access to public discourse and would be considered an advantaged group.

Students themselves, with fewer resources and access to power, but valued with a positively, are constructed as dependents.

Many of the SMA3 metrics create a linkage between institutional funding and positive student outcomes. Linking the student outcomes of graduation rate, employment in a related field, and graduate earnings with higher education funding are in line with neoliberal goals of positioning public institutions as being in service to capitalism and market-based outcomes. Employment is an indirect measure of PSE, unlike the conferred degrees themselves, and is subject to influences, primarily economic conditions, beyond the funded institutions' control. Policymakers are likely to conclude that students and parents consider employment to be the ultimate outcome of a young persons' PSE experience and that this metric gives the appearance of accountability for that specific personal outcome and sends a signal of its importance in government policy to advantaged target populations.

SMA3 includes three metrics that are measures of ultimate positive student outcomes: graduate employment, graduation rate, and graduate employment earnings. The analysis of these three metrics through Schneider and Ingram's (1993) social construction of a target population framework is similar, but each has its nuances. Although the graduation rate metric can support goals of PSE accountability and efficiency that would reward Ontario students and those paying student tuition, and it is the most commonly measured PSE outcome, it is (only) one step removed from the direct economic influence of the other two. As an outcome indirectly related to employment, the graduation rate metric serves NPM ideals, and the goals stated by Ontario's Conservative politicians. The graduation rate metric was included as a reporting metric in

SMA1 and SMA2 and is a well-established measure of university output. The employment metrics are not established PSE funding metrics and are only found in Florida's current PBF program. As such, the work that these metrics' inclusion in SMA3 was intended to achieve was less likely to be effective funding, as there is little evidence supporting this, while research has suggested negative, anti-access effects. The more likely justification for the inclusion of these metrics is the political incentives of being perceived to be rewarding these advantaged target populations.

Metrics such as the community/local impact metric reward institutions in smaller communities. Due to slow or declining growth rates, rural populations can have more representation in the provincial legislature than more densely populated, high-growth areas. Society also values small towns positively because of connections to a legacy, familiarity, and simplicity as well as other virtues that were simply communicated to comic book readers when Superman landed in the fictional town of *Smallville*. This construction places smaller towns and cities within the dependent quadrant of Schneider and Ingram's Social constructions and political power types, and they can be favoured by policymakers without worrying about negative perceptions. The University of Windsor noted that they are the Windsor area's largest employer. There are also real costs associated with operating any substantial organization that is dissimilar from reginal organizations and located outside of large urban centres that may objectively represent a need for these intuitions to have access to consistent funding. The continuing special purpose grants such as the Northern Grant; Small, Northern and Rural Grant; French Language/Bilingual grants (MCTU, 2019b, p. 5) already acknowledge this need in SMA3 (see Figure 4 for the previous system-wide proportion of these grants). Policies that add

or ignore burdens for dependent groups are unlikely to be well received. The community/local impact metric addresses this need but in the guise of a performance metric.

Using the institution's enrolled student population as the numerator over the local community population as the denominator as a form of a performance metric makes little sense as a metric to set enrolment growth targets—enrolment itself would be a better, more familiar metric. Enrolment from targeted communities that are historically underserved or enrolment in strategic subject areas is a common PBF metric not used in SMA3. Considering the idea that to meet community/local impact targets an institution might want to affect the denominator, by driving down the local population makes the metric look simply absurd. From the Ontario Conservative Party's policymakers' perspective, voters that voted for this government's neoliberal agenda are an advantaged target population. By labelling a funding tool to sustain institutions in small towns as a performance metric, rather than reducing the total percentage of PBF funding by placing the same funds in special purpose or base grants, policymakers can anticipate a positive reception from this advantaged group that expect accountability and market-oriented policies. This appearance is likely perceived as more desirable by these advantaged populations than simply directly acknowledging the special needs of funding institutions in smaller communities.

The specific non-funding-related reporting metrics are new to SMA reporting in SMA3 and the decision to include them can be similarly analyzed through this framework. The non-funding-related reporting metrics of Faculty compensation and Faculty activity have the potential to construct faculty and university administrators as

overpaid and underworked deviants. Whether this is the case or not, the experience with

the Sunshine list suggests there is an opportunity to construct faculty and university

administrators as deviants receiving too many benefits. This narrative of constructing

university faculty as deviants, undeserving of excessive benefits, positioned against the

burden of voter taxation or those paying tuition, especially voters attracted to the Ontario

Conservative Party's neoliberal policies, creates a justification for austerity measures.

PBF measures are generally perceived to be more justifiable when governments are

seeking targets for reductions in expenditures (Dougherty & Natow, 2020; Rutherford &

Rabovsky, 2014).

Metrics not used in SMA3, but common in other established second-wave PBF

programs, such as at-risk degree completion (Indiana, New Mexico), accumulating credit

hours at milestones (Indiana, New Mexico, Ohio, Tennessee) or the various strategic or

targeted enrolment or graduation metrics would not justify austerity metrics or funding

reductions as easily as the selected funding and nonfunding reporting metrics in SMA3.

These common metrics that were not selected measure students and their success along

with opportunities. Students are typically constructed as dependents, thus if an institution

was to perform well or perform poorly on these metrics it would be easy to reward

institutions but difficult to punish the institution because the punishment could be shown

to be primarily affecting the students, not institutional decision-makers. As dependents,

students are easily portrayed are deserving of benefits and this imperative is likely to be

more important than how institutions or government is portrayed. As was described in

some of the research, institutions within PBF programs consistently find that capacity

constraints are among the most substantial barriers to responding to goals outlined by

PBF (Dougherty 2014; Hagood, 2019; Hillman et al., 2018). If institutions were to descent against a funding model they perceived as too austere, or unfair in its design or the outcomes, having the subject of the narrative constructed to justify the descent as a dependent with evidence to advance the case that the PBF program itself is to blame would strengthen the public perception of the institutions' descent. The avoidance of established metrics that relate to serving dependent populations may indicate a decision to avoid any potentially charged discussions of dependent populations during the implementation or consequences of this new policy.

Discussion

The political context in which SMA3 was introduced to stakeholders and the public, the specific PBF metrics within the funding and reporting framework, its policies that operationalize the metrics, and the research presented in this paper make the analysis of this central policy for Ontario PSE funding possible. The Ontario Government's SMA3 PBF funding program adapts recent practices in predominately U.S. PBF programs to Ontario's PSE funding while adding metrics that are justified in their adherence to NPM goals of accountability and market-style competition but are not based on evidence from other jurisdictions. These additional metrics do not reflect good measures of PSE outcomes and were not embraced by Ontario universities. Specifically, the research described in this paper presented five findings of note.

First, SMA3 includes three metrics that are measures of positive ultimate student outcomes: graduate employment, graduation rate and graduate employment earnings, but there are no metrics that are intended to address proaccess/antiselection bias, such as those found in comparable second-wave PBF programs. In addition to Ontario's PSE

system's operation with the least public funding of student tuition of any province in Canada, the January 17, 2019, announcement of new criteria for OSAP and 10% tuition cut (a regressive tax) creates a structure in which low-income families have less access to PSE. Previous Ontario PSE funding programs have included special grants for low-income students, indigenous students, first-generation learners and other under-represented groups. These same groups may experience new barriers to PSE in Ontario, where other jurisdictions' PBF programs included metrics to encourage increased access for under-represented groups.

Second, graduate employment rate in a related field and employment earnings are, in effect, measures of the economy, not PSE. With the exception of Florida's PBF program, no other established PBF programs adopt these metrics. Experiential learning and research from private funding are similarly subject to economic influences. As noted in the narrative provided by institutions and the lower weighting given to these metrics, especially research revenue attracted from private sources, these metrics will reflect economic conditions more than the actions of the institution. The conclusions are supported by institutions' relatively low weighting of these metrics, and concern raised in institutional narratives. The only action that institutions might be able to take regarding employment is to educate students about the broad application of their education and seek to expand students' perception of related fields, influencing the surveyed students' responses more than changing employment outcomes. While these metrics are key performance indicators over the long term and in economic context, the SMA3 measurement formula forces an interpretation outside of economic context and will likely

remove funding from institutions when the metric itself indicates a greater need because of worsening economic conditions.

Third, graduation rate and any postgraduation metric are too slow to be effective indicators in the information age. In contrast, a metric that is already tracked in Ontario and other jurisdictions is the student retention rate (question K3 in CUDO). The student retention rate represents information related directly to the previous reporting year and results can be acted upon with relative expediency. Graduation rate and employment indicators describe the results of conditions and actions taken years in advance and trail behind a typical student's university experience. If the intent of PBF is to encourage institutional better practices based on outcomes, then the feedback loop from actions to outcomes must be shorter than the full length of a student's academic career.

Fourth, a jurisdiction-wide institutional weighting option for system-wide metrics is a relatively new development in PBF programs (Ontario, Tennessee). Institutional weighting may fit a narrative of institutional differentiation, but it also serves to remove the system-wide strategic leadership effects of PBF programs and shifts the blame for funding declines, or bad funding policy, to institutions by suggesting institutional agency over flawed metrics. This research found that the top three weighted metrics were those that were familiar to institutions from SMA2, in the metrics' self-definition and regional nature, and the fourth weighted was the established Ontario PSE priority of experiential learning. The remaining metrics were ranked roughly in order of their appearance in other PBF programs; starting with the established PSE metric of graduation rate and ending with skills and competencies (see Figure 5).

Fifth, the Sunshine List effect, the Ontario government's increasing reliance on surveillance capitalism. Many of the metrics used in the initial years of SMA3, including most of the institution-specific measures, are already being reported to MCU through the OUGS, or reported publicly to industry associations such as AUTM, or CAUBO or CUDO (or both). Unlike other jurisdictions, the initial SMA3 metrics require no new data collection efforts, which is a common concern during PBF introduction (the year three skills and competencies metric being a notable exception). The year three nonfunding-related reporting metrics of faculty activity and faculty compensation are mostly available in Ontario's formative 1996 Public Sector Salary Disclosure Act and the Sunshine List and through extrapolation of public collective agreements. The Sunshine List has not only normalized this form of public reporting, but it has also reliably politicized it and created a tool of indirect influence on wages. The inclusion of these metrics in SMA3 is to fully politicize this information and introduce government and public influence on salary negotiations.

Finally, the subject of most PBF research is exclusively, or at least inclusive of, the state of Tennessee PSE funding model. Manitoba's premier was reported to have suggested that Manitoba adopt a PBF program and suggested Tennessee's model to explain it. Naturally, Tennessee was the first state to adopt PBF funding in 1979 and the only jurisdiction to have sustained the approach to PSE funding. This has moved Tennessee from the only jurisdiction in which to study the topic into the only jurisdiction with such a large amount of longitudinal data. Introduction and renewals of Tennessee's PBF program happened under Republican governors, which Dougherty and colleagues and Hagood found are typically the executive proponents of PBF programs (Dougherty et

al., 2014; Hagood, 2019). But there is little evidence that the expansion of PBF programs in the United States, Canada, and Europe represents the replication of Tennessee's model on its merits or other familiar patterns of policy diffusion. Recently published papers by key authors such as Dougherty and Natow (2020) and a systemic synthesis of PBF research conducted by Otagus et al (2020) describe PBF as a tool for the strategic allocation of funding in the service of neoliberal NPM conceptions of accountability for both public funds spent and the actions of public institutions in the service of political leaders. The NPM movement found Tennessee as an existing application of NPM ideals and PBF continues to be adopted based on ideology, not Tennessee's innovation and experience.

Limitations of the Research and Implications for Practice

This research is limited by not having access to the individuals that designed and implemented Ontario's SMA3 policy, nor the individuals who responded to SMA3 at each institution. Similar policy documents, background information and related communications about relevant policies, such as the calculations of Weighted Grant Units (WGUs), the implementation of yet-to-be-activated metrics such as skills and competences, and the response to the COVID-19 pandemic were also not available publicly and undoubtedly influenced the implementation of SMA3. This research did not address Ontario PSE's college sector, which represents the majority of SMA3 agreements (24 of 45). According to all 45 SMA3 documents, colleges represent $324 million in PBF funds in 2020-21 in comparison to the universities' $850 million. For SMA3 colleges exchange the university metric "Research funding and capacity: federal tri-agency funding secured" for an additional institution-specific, apprenticeship-related, metric that

may demonstrate further differentiation (MTCU, 2019b).

The implications for practice from this research are drawn primarily from the research's comparative analyses of Ontario's SMA3 documents, specifically how institutions' weightings may differ or converge, and how institutions such of Carlton have bent the weighting rules (by allocating 104%, see Figure 6). Once metrics are linked to funding in 2022–2023, comparative weighting will be important in the event of redistribution being triggered. Version 1 of the *Performance/Outcomes-Based Funding— Technical Manual* (MTCU, 2019b) offered institutions a single adjustment to weightings. These adjustments might be best made based on institutional strategy and in the context of where redistribution funds are likely available, as indicated by other institutions' initial published weightings and presumably available results. The ambiguous 2022–2023 activation of the skills and competences metric were analyzed by this research and should be the subject of further research.

Conclusions

Each generation of Ontario's SMAs have changed institutions' relationship to public funding all while the percentage of public funding per student continued to decline. SMA2 and SMA3 both introduced novel measures of university performance, but the two primary distinctions in SMA3 are that novel, unproven metrics, were proposed by government and most consequentially, metrics are tied directly to 60% of public funding. The ambition of funding 60% of Ontario PSE through PBF metrics by the end of SMA3 is only justified on an ideological basis, not evidence from experience in Ontario or other jurisdictions and as such represents a risk to all 45 Ontario PSE institutions. A PBF program that reflects the differentiation of Ontario's PSE system's

goals and current state may indeed be appropriate, but such a program needs to be

derived from evidence. Too many metrics in SMA3 lack a basis in existing PSE funding

research, or even system-wide applications, and too many second-wave, access-related

lessons from other PBF programs were not reflected in Ontario's PBF program.

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Appendix A

All University Metric Weights

Table A1 is provided as an accessible alternative to Figure 5 and other figures.

Table A1

All SMA3 University Metrics as Weighted by Institutions Over All Three Years

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
Algoma University	01. Graduate employment rate in a related field	20%	12%	7%	7%	7%
	02. Institutional strength and focus	20%	18%	18%	18%	18%
	03. Graduation rate	15%	17%	17%	17%	17%
	04. Community and local impact of student enrolment	15%	5%	5%	5%	5%
	05. Economic impact (institution-specific)	20%	18%	18%	18%	18%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	5%	5%	5%	5%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	15.0%	15.0%	15.0%	15.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Brock University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	20%	20%	20%	20%	20%

152

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	35%	30%	25%	25%	25%
	05. Economic impact (institution-specific)	15%	20%	20%	20%	20%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	5%	5%	5%	5%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Carleton University	01. Graduate employment rate in a related field	17%	11%	11%	11%	11%
	02. Institutional strength and focus	17%	11%	11%	11%	11%
	03. Graduation rate	17%	11%	11%	11%	11%
	04. Community and local impact of student enrolment	17%	11%	11%	11%	11%
	05. Economic impact (institution-specific)	17%	11%	11%	11%	11%
	06. Research funding and capacity: federal tri-agency funding secured	17%	11%	11%	11%	11%
	07. Experiential learning	0%	11%	11%	11%	11%
	08. Research revenue attracted from private sector sources	0%	11%	11%	11%	11%
	09. Graduate employment earnings	0.0%	11.0%	11.0%	11.0%	11.0%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	10. Skills and competencies	0%	0%	5%	5%	5%
Lakehead University	01. Graduate employment rate in a related field	15%	8%	8%	8%	8%
	02. Institutional strength and focus	20%	20%	20%	20%	20%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	10%	5%	5%	5%	5%
	05. Economic impact (institution-specific)	35%	24%	19%	19%	19%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	20%	20%	20%	20%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	8.0%	8.0%	5.0%	8.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Laurentian University	01. Graduate employment rate in a related field	10%	15%	15%	15%	15%
	02. Institutional strength and focus	24%	15%	15%	15%	15%
	03. Graduation rate	23%	15%	15%	15%	15%
	04. Community and local impact of student enrolment	23%	15%	15%	15%	15%
	05. Economic impact (institution-specific)	10%	15%	10%	10%	10%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	07. Experiential learning	0%	10%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
McMaster University	01. Graduate employment rate in a related field	15%	15%	15%	15%	15%
	02. Institutional strength and focus	10%	5%	5%	5%	5%
	03. Graduation rate	20%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	15%	25%	25%	25%	25%
	05. Economic impact (institution-specific)	25%	10%	10%	10%	10%
	06. Research funding and capacity: federal tri-agency funding secured	15%	15%	15%	15%	15%
	07. Experiential learning	0%	10%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	10%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Nipissing University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	35%	30%	10%	10%	10%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	25%	25%	20%	20%	20%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	05. Economic impact (institution-specific)	10%	10%	20%	20%	20%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	10%	20%	20%	20%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
OCADu	01. Graduate employment rate in a related field	10%	10%	5%	5%	5%
	02. Institutional strength and focus	30%	25%	25%	25%	25%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	30%	25%	25%	25%	25%
	05. Economic impact (institution-specific)	10%	10%	10%	10%	9%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	10%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	6%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Queen's University	01. Graduate employment rate in a related field	15%	15%	10%	10%	10%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	02. Institutional strength and focus	15%	10%	10%	10%	10%
	03. Graduation rate	20%	20%	25%	25%	25%
	04. Community and local impact of student enrolment	30%	30%	25%	25%	25%
	05. Economic impact (institution-specific)	10%	5%	5%	5%	5%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	5%	5%	5%	5%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Ryerson University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	30%	30%	25%	25%	25%
	03. Graduation rate	20%	10%	10%	10%	10%
	04. Community and local impact of student enrolment	20%	20%	25%	25%	25%
	05. Economic impact (institution-specific)	10%	10%	5%	5%	5%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	10%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Trent University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	15%	15%	15%	15%	15%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	35%	30%	25%	25%	25%
	05. Economic impact (institution-specific)	20%	25%	20%	20%	20%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	5%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Université de Hearst	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	20%	5%	5%	5%	5%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	25%	5%	5%	5%	5%
	05. Economic impact (institution-specific)	35%	25%	25%	25%	25%
	06. Research funding and capacity:	0%	0%	0%	0%	0%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	federal tri-agency funding secured					
	07. Experiential learning	0%	30%	25%	25%	25%
	07b. Voluntary enrolment in Volet professionnel	0%	25%	25%	25%	25%
	08. Research revenue attracted from private sector sources	0%	0%	0%	0%	0%
	09. Graduate employment earnings	0.0%	0.0%	0.0%	0.0%	0.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
University of Guelph	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	30%	25%	20%	20%	20%
	03. Graduation rate	10%	10%	10%	10%	10%
	04. Community and local impact of student enrolment	30%	25%	25%	25%	25%
	05. Economic impact (institution-specific)	10%	10%	10%	10%	10%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	10%	10%	10%	10%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
University of Ottawa	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	20%	20%	20%	20%	20%

University	Metric	2020-21	2021-22	2022-23	2023-24	2024-25
	03. Graduation rate	15%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	15%	10%	10%	10%	10%
	05. Economic impact (institution-specific)	25%	25%	25%	25%	25%
	06. Research funding and capacity: federal tri-agency funding secured	15%	5%	5%	5%	5%
	07. Experiential learning	0%	20%	15%	15%	15%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
University of Toronto	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	15%	15%	15%	15%	15%
	03. Graduation rate	15%	10%	10%	10%	10%
	04. Community and local impact of student enrolment	15%	10%	10%	10%	10%
	05. Economic impact (institution-specific)	20%	15%	15%	15%	15%
	06. Research funding and capacity: federal tri-agency funding secured	25%	20%	15%	15%	15%
	07. Experiential learning	0%	5%	5%	5%	5%
	08. Research revenue attracted from private sector sources	0%	15%	15%	15%	15%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	10. Skills and competencies	0%	0%	5%	5%	5%
University of Waterloo	01. Graduate employment rate in a related field	30%	25%	25%	25%	25%
	02. Institutional strength and focus	10%	5%	5%	5%	5%
	03. Graduation rate	15%	10%	10%	10%	10%
	04. Community and local impact of student enrolment	15%	10%	10%	10%	10%
	05. Economic impact (institution-specific)	15%	5%	5%	5%	5%
	06. Research funding and capacity: federal tri-agency funding secured	15%	10%	10%	10%	10%
	07. Experiential learning	0%	15%	15%	15%	15%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	15.0 %	10.0 %	10.0 %	10.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
University of Windsor	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	25%	20%	20%	20%	20%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	35%	30%	25%	25%	25%
	05. Economic impact (institution-specific)	10%	20%	20%	20%	20%
	06. Research funding and capacity:	10%	5%	5%	5%	5%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	federal tri-agency funding secured					
	07. Experiential learning	0%	5%	5%	5%	5%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
OTU (UoIT)	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	30%	15%	15%	15%	15%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	30%	15%	15%	15%	15%
	05. Economic impact (institution-specific)	10%	15%	15%	15%	15%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	30%	25%	25%	25%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Western University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	15%	10%	10%	10%	10%
	03. Graduation rate	30%	25%	25%	25%	25%
	04. Community and local impact of	10%	5%	5%	5%	5%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
	student enrolment					
	05. Economic impact (institution-specific)	10%	5%	5%	5%	5%
	06. Research funding and capacity: federal tri-agency funding secured	25%	25%	20%	20%	20%
	07. Experiential learning	0%	15%	15%	15%	15%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%
Wilfrid Laurier University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	20%	15%	15%	15%	15%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	30%	20%	15%	15%	15%
	05. Economic impact (institution-specific)	15%	15%	15%	15%	15%
	06. Research funding and capacity: federal tri-agency funding secured	15%	10%	10%	10%	10%
	07. Experiential learning	0%	15%	15%	15%	15%
	08. Research revenue attracted from private sector sources	0%	5%	5%	5%	5%
	09. Graduate employment earnings	0.0%	10.0%	10.0%	10.0%	10.0%
	10. Skills and competencies	0%	0%	5%	5%	5%

University	Metric	2020 -21	2021 -22	2022 -23	2023 -24	2024 -25
York University	01. Graduate employment rate in a related field	10%	5%	5%	5%	5%
	02. Institutional strength and focus	20%	15%	12%	12%	12%
	03. Graduation rate	10%	5%	5%	5%	5%
	04. Community and local impact of student enrolment	20%	15%	15%	15%	15%
	05. Economic impact (institution-specific)	30%	17%	16%	16%	16%
	06. Research funding and capacity: federal tri-agency funding secured	10%	5%	5%	5%	5%
	07. Experiential learning	0%	18%	17%	17%	17%
	08. Research revenue attracted from private sector sources	0%	15%	15%	15%	15%
	09. Graduate employment earnings	0.0%	5.0%	5.0%	5.0%	5.0%
	10. Skills and competencies	0%	0%	5%	5%	5%

Appendix B

Distribution of Institutional Themes

Figure B1

Institutional Strength and Focus Themes

Note. Defined as the proportion of enrolment (Fall, full-time equivalents [FFTEs], domestic and international, all terms for undergraduate students and Summer and Fall terms for graduate students) in an institution's program area(s) of strength. Provided by institutions, validated by University Statistical Enrolment Report (USER)/Ministry of Colleges and Universities.