

Research Paper

Global Examination of Post-Secondary Education Cost Recovery Models

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Preface

Much of the policy debate about the post-secondary education sector in the province of Ontario is framed within the current system design. Typically, suggestions from stakeholders regarding what provincial or institutional changes should be made to improve the system – particularly with regards to institutional budgets, tuition fees, and financial aid – are understandably crafted with a number of built-in assumptions. Those assumptions include: that the responsibility for the system's costs will be shared by the students who attend and by the government's tax system; that post-secondary institutions are autonomous institutions that are financially regulated to some degree by the government; that student fees will be paid during the course of study to the institution providing the education; and that government will provide financial assistance, primarily through grants and interest-bearing loans, for those deemed unable to pay.

The approach of developing practical and pragmatic solutions that largely fit within those assumptions has served the Ontario Undergraduate Student Alliance well since its inception. However, the organization has also prided itself on being a thought-leader that works to develop new and innovative ideas on how to improve the education of our students. It was with this spirit that the authors of this study felt it was important to step back and examine Ontario's post-secondary education system in a more global context. The primary objectives of the study were to assess if our assumptions regarding how current mechanisms to recover the cost of post-secondary education are working for Canada, and more specifically for Ontario, and additionally, to examine other models or elements of cost recovery that could be considered as policy suggestions in the future.

Canada has much to be proud of with respect to its post-secondary education system, but it is without question that the future success of our country will rely on decisions made about how to evolve and improve the system. Canada spends over \$34 billion annually to fund the post-secondary education system and, as a percentage of gross domestic product, spends amongst the top three countries in the world both publically and privately on the sector. With such significant investment, Canada has had the highest tertiary education attainment rate amongst OECD countries for each of the last four decades, with an almost even split between university and college education. The proportion of the population with tertiary education has risen 4.0% since 1998, while those with less than upper secondary education has fallen 3.6%. However, the system is under pressure to continue expanding to meet the demands of a changing economy, while governments from coast-to-coast are under budgetary pressure and institutional costs are rising faster than the revenue to support them. Tuition and debt loads are growing as the cost burden shifts to students, quality metrics are slipping, and statistics suggest that not enough progress has been made to improve access for under-represented groups.

This study seeks to first introduce the cost recovery model currently in place for both the university and college system in Canada and Ontario. Secondly, it provides a comparative summary of post-secondary cost recovery models utilized by a wide selection of other democratic countries with market economies. If the purpose of the study is to make sure Ontario is not missing the forest for the trees, so to speak, then the definitive conclusion of the report is that it is a big and complex forest out there. Through the in-depth examination of global systems, many very interesting patterns and models have emerged, and it is likely that the findings and implications outlined at the conclusion of this report are only the beginning of a longer discussion about how to continue to improve the post-secondary education system in Ontario for our students for years to come.

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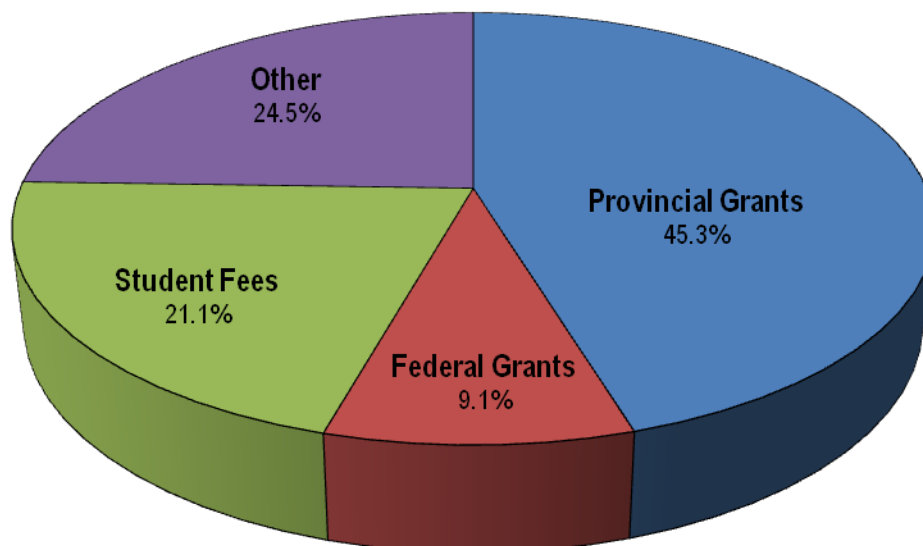
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1. Canadian Cost Recovery Model

1.1 Introduction

This section of the paper examines Canada's current model for cost recovery of post-secondary education (PSE). The definition of PSE in Canada includes both universities and colleges; therefore, this paper investigates the cost recovery of the system as a whole. However, the two types of institutions are separately examined to illustrate their similarities and differences. The current cost recovery model for both colleges and universities comprises of financial contributions from three primary sources: the provincial governments, the federal government, and students. A substantial proportion of funding is also derived from other sources, such as investments, private donations, and sales of goods and services. The role of each source in the operating costs of post-secondary education has changed considerably over time. In most provinces, tuition fees and private donations have supplemented the declining contribution of provincial governments. It has been proposed by some that the current model generates real or perceived barriers to access and participation in post-secondary education across the country, particularly amongst low- and middle-income groups.¹

Figure One: Canadian University and College Revenue by Source, 2007²



Note: Revenue, as opposed to operating costs, is examined in this report. The term 'revenue' incorporates general operating costs, special purpose and trust funds, sponsored research, ancillary enterprises, and plant operations, which more accurately reflects the recovery of costs associated with Canadian PSE.³

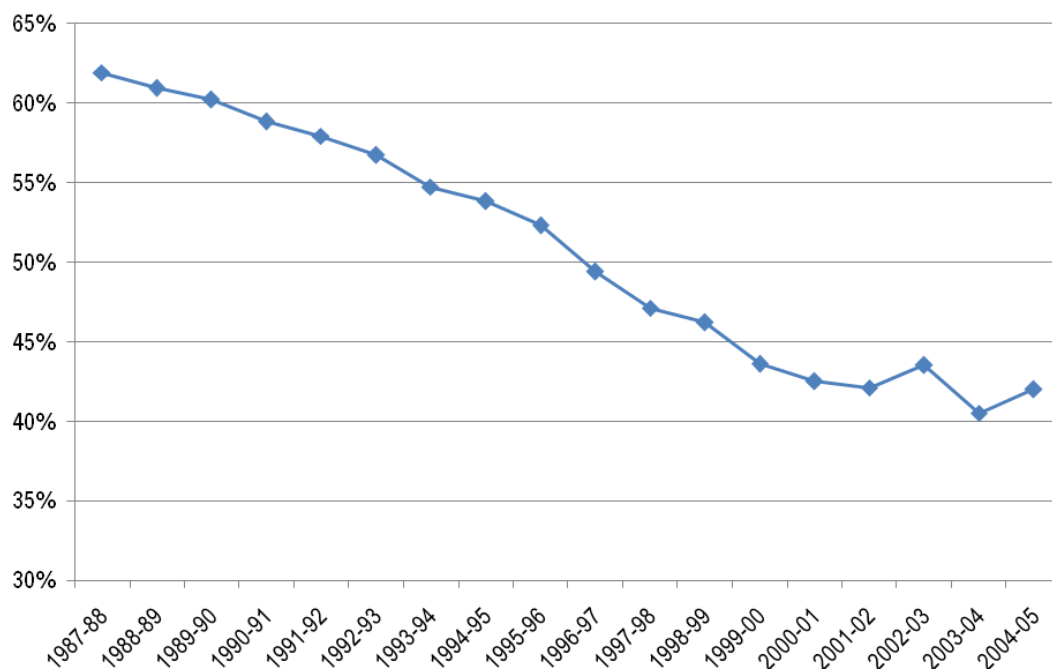
¹ Bob Rae, *Ontario: A Leader in Learning* (Toronto: Queen's Printer for Ontario, 2005), 61-62.

² Statistics Canada, Table 385-0007 "Universities and colleges revenue and expenditures, by province and territory," CANSIM, (Updated June 14, 2007) <http://www40.statcan.ca/101/cst01/govt41b.htm> (accessed February 29, 2008).

1.2 Provincial Government

In Canada, post-secondary education is the responsibility of the provinces, and provincial governments continue to be the primary source of income for universities and colleges. However, the contribution from provinces has declined as a percentage of university income since the late 1980s, which, coupled with significant increases in enrolment and costs, has placed strain on the system's ability to provide both an accessible and a quality education.

Figure Two: Provincial Government Grants as a Percentage of Total Canadian University Income, 1987-2005⁴



The contribution from provincial governments comes principally in the form of operating grants to individual institutions. These operating grants may be classified into four broad categories, discussed below.⁵ Not all funding mechanisms are utilized by all provincial governments, and the extent of their use varies considerably between provinces.

i) Incremental Funding

The basis for this mechanism is an equal grant to all institutions. Provinces allocate funds dependant on the monetary amount provided by the province in the previous year. This strategy is generally non-intrusive to

³ Council of Ontario Universities, *Ontario Universities – 2007 Resource Document* (Toronto: Council of Ontario Universities, 2007), 17-18.

⁴ Ibid.

⁵ Payam Pakravan, *The Future Is Not What It Used to Be; Re-Examining Provincial Postsecondary Funding Mechanisms in Canada* (Toronto: C. D. Howe Institute, 2006), 11.

post-secondary budgeting decisions. However, the guaranteed funds do not provide any incentives for improvement in overall performance of an institution, they do not commonly supplement costs from increased enrolment, and while smaller institutions may benefit from this model, larger schools do not often receive adequate funding.⁶ This funding mechanism is used in the single-university provinces of Newfoundland and Labrador and Prince Edward Island, and is used in part by four of the remaining eight provinces.⁷

ii) Formula Funding

This mechanism of funding is calculated using mathematical formulas that assign funds to institutions relative to quantities of resources. Formula funding is also referred to as corridor funding. This system was established in Canada in 1967 to provide adequate funding and promote growth in post-secondary institutions, but it is now used to promote fairness amongst institutions.⁸ In Canada, the most important component of the funding formula is units of full-time equivalent (FTE) enrolment. The determination of FTEs may be weighted by program and/or level of study, as well as by other considerations such as institution size, potential for expansion, location(s), and research. Formula funding is regarded as being objective and it promotes stability for institutions and government. These factors reduce lobbying and competition between institutions. However, as opposed to an annual revision of the funding an institution receives, the calculation of funds is based upon three-year moving averages which create, in most provinces, upper and lower corridors in the allocation of funds. Governments are usually unwilling to reduce funding (which would reduce stability) and increased student enrolment is not always acknowledged in monetary value. Both of these issues result in a reduction in incentives for high performance and quality of education, as an increase in quantity of FTEs may be the primary motivation for university-level policy decisions.⁹ In addition, this mechanism can potentially, and likely has, led to the introduction of low-cost programs that augment funding, due to an increased number of FTEs.¹⁰ Nevertheless, formula funding constitutes a major portion of provincial funding for many provinces, particularly Quebec, where it was estimated 98.5% of provincial funding to universities was determined using formulas in 2004.¹¹

iii) Strategic Funding

Strategic funding provides incentives for institutions to follow mandates and accomplish government goals, particularly in the area of research. In Canada, strategic funding is the primary source of federal research grants to universities. There are competitive and non-competitive approaches to this type of funding. In the non-competitive approach, funds are allocated to all institutions that conform to government mandates, regardless of the outcome of the activity. In competitive funding, institutions submit project proposals to the government, though not all of the proposals receive funding. Institutions must meet government objectives

⁶ Ibid., 12.

⁷ Ibid., 28-29.

⁸ Glen A. Jones, "Modest Modifications and Structural Stability: Higher Education in Ontario." *Higher Education* 21, no. 4 (June 1991): 575-576.

⁹ Pakravan, *Future*, 12-13.

¹⁰ Alexander L. Darling and others, "Autonomy and Control: A University Funding Formula as an Instrument of Public Policy." *Higher Education* 18, no. 5 (1989): 569.

¹¹ Pakravan, *Future*, 29.

independently.¹² This mechanism can therefore be an unpredictable source of financial support.¹³ Strategic funds have also been used to fund enrolment increases in specific sectors of public or economic need, but these funds are often temporary. For the past fifteen years, there has been a continuing focus on the creation and improvement of education in the healthcare sector in Central and Western Canada. Strategic funding has also been applied to construct and advance computer science and engineering programs, particularly in Ontario.¹⁴

iv) Performance-Based Funding

This mechanism of funding is based on performance, and is either financially, administratively, or academically oriented. Academic performance-based funding is often used to promote performance and quality improvement. Unfortunately, this method of fund allocation can also result in a lowering of academic standards in PSE institutions or high cut-off grades for post-secondary enrolment. Regardless of the reason for allocation of funds, research and data collection must be completed by the institutions themselves, which can require a substantial amount of time and cost that detracts from the funding that is received.¹⁵ Only three provinces –Alberta, Ontario, and Quebec– distribute funding in this manner, and this mechanism comprises less than five percent of total provincial funding in each of those provinces.¹⁶

Table One provides an outline of grant distribution by funding mechanism for each province.¹⁷ Note that the table was adapted from the original, found in Pakravan's *The Future Is Not What It Used to Be; Re-Examining Provincial Postsecondary Funding Mechanisms in Canada*, to reflect changes in the provinces up to 2007-08.

The provincial governments also provide tax assistance to students from tuition and textbook costs for the period of study in a year. Education tax credits, a subsection of an income tax statement, enable full-time students (or in some cases, part-time students) to claim credit if they are enrolled in a designated educational institution for a qualifying educational program.¹⁸

As provincial government support to post-secondary institutions continues to prove insufficient, increasing demand is placed on students and the private sector to supplement the cost of post-secondary education.

¹² Ibid., 14-15.

¹³ Jones, *Modifications*, 576-578.

¹⁴ Pakravan, *Future*, 28-30.

¹⁵ Ibid., 15-16, 30.

¹⁶ Ibid., 28-29.

¹⁷ Ibid.

¹⁸ "Income Tax Interpretation Bulletin: Education Tax Credit No. IT515R2," *Canada Revenue Agency*, (2002), <http://www.cra-arc.gc.ca/E/pub/tp/it515r2/it515r2-e.html> (accessed February 29, 2008).

Table One: Funding Mechanism Distribution to Canadian Universities by Province

Province	Incremental Funding	Formula Funding	Strategic Funding	Performance Funding
Alberta		<i>Base Funding (85-88%)</i>	<i>Access Fund (~10%)</i>	<i>Performance Envelope (2-5%)</i>
4 Universities		Calculated using FTEs adjusted for:	<ul style="list-style-type: none"> Designed to reward emphasis on high priority fields of study as defined by student and labour market demand Awarded to institutions following the submission of business plans outlining their intention to expand access to high-priority programs Focus since 2000 has been on creating more post-secondary spaces, as well as medical education programs and clinical enhancement initiatives for health education and training programs Combined into Base Funding over time 	<ul style="list-style-type: none"> The performance indicators (33% weight each) are: <ul style="list-style-type: none"> i) access ii) employment outcomes iii) student satisfaction Research performance is also considered
4 University Colleges		<ul style="list-style-type: none"> Cost and program type: all programs are assigned an index based on average delivery costs (relative to system-wide averages), which are weighted by the programs available at each institution Number of FTEs: for institutions with < 4,000 FTEs, adjustment factors are re-weighted by a sliding scale decreasing from 18% (< 850 FTEs) to 2% (3,500-4,000 FTEs) to account for higher average delivery costs for smaller institutions Multiple campuses: institutional indices adjusted by factors ranging from 2.5% (institutions with between 15-30% of enrolment more than 80 km from main campus) to 7.5% (institutions with more than 60% of enrolment) Population density: less populated areas have increased supply costs 		
British Columbia	<i>Base Funding (>90%)</i>		<ul style="list-style-type: none"> Small portion targeted towards specific high priority program areas 	
5 Universities	<ul style="list-style-type: none"> Government allocates a number of FTE spaces to each institution to promote growth Institutions choose program distribution 			
6 University Colleges				
Manitoba	<i>Base Operational Grants (~94%)</i>		<i>Strategic Programs Envelope (~0.3%)</i>	
4 Universities			<ul style="list-style-type: none"> Awarded competitively to meet needs of provincial labour market; eventually incorporated into base funding 	

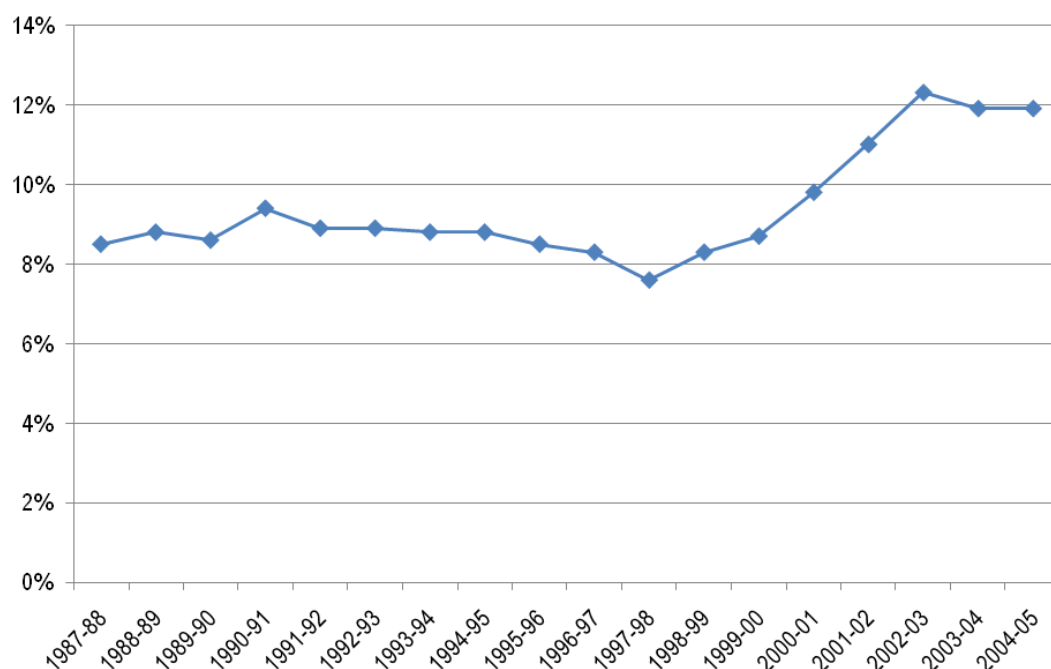
Province	Incremental Funding	Formula Funding	Strategic Funding	Performance Funding
New Brunswick 4 Universities	<i>Unrestricted Flat Grant (~75%)</i> • Ensures stability but undergoes supplementary adjustments	<i>Enrolment Grant (~25%)</i> • Three-year average weighted FTE allocated by program and level of study		
Newfoundland and Labrador 1 University	<i>Operating Grants (~95%)</i> <i>Physical Plant and Equipment Grants (~5%)</i>			
Nova Scotia 11 Universities		<i>Weighted Enrolment Grant (~84%)</i> • FTEs weighted for course distribution to ensure that revenues equal costs • Funding corridors constructed for every university using a three year average of weighted enrolments; expansions above upper limit of corridor are unfunded <i>Research Grant</i> • Covers indirect costs of research not covered by federal grants • Recommended to be 34-40% of federal research grants received <i>Extra Formula Grant (<5%)</i> • Isolation grant: based predominantly on distance from Halifax to account for higher costs of living • Size grant: accounts for higher average delivery costs for smaller institutions • Part-time students: if enrolment is greater or equal to 25% • French Language Grant: Université Sainte-Anne	<i>Dedicated Payments (~3.5%)</i> <i>Targeted Funding (< 2%)</i> • Involved in promotion of innovation, excellence, and accessibility for underrepresented populations • Applications are submitted under targeted funding categories and decisions for allocation are made on a case-by-case basis	

Province	Incremental Funding	Formula Funding	Strategic Funding	Performance Funding
Ontario		<i>Basic Operating Grant Envelope (~75%)</i>	<i>Access to Opportunities Program (~3%)</i>	<i>Performance Fund (~1.1%)</i>
19 Universities		<ul style="list-style-type: none"> FTEs weighted according to program type and delivery cost; funding is subject to a 3% corridor using five-year averages <i>Mission-related Envelope (~2.4%)</i>	<ul style="list-style-type: none"> Targets computer science and various engineering programs 	<ul style="list-style-type: none"> Indicators (33.3% each): <ul style="list-style-type: none"> i) undergrad graduation rates ii) 6 month employment rates iii) 2 year employment rates Quality Assurance is also received, funding of which is dependent on multiple performance levels.
Prince Edward Island	<i>Operating Grants (100%)</i>			
1 University				
Quebec		<i>(~98.5%)</i>		<i>(~1.5%)</i>
18 Universities		<ul style="list-style-type: none"> Weighted by program, distribution of programs, and level of study, as well as building space (ancillary costs, etc.) 		<ul style="list-style-type: none"> Indicator: number of graduates; amount increases with type of degree
Saskatchewan		<i>Operating Grant Envelope (~97%)</i>	<i>Mandated Enrolment Increases (~2%)</i>	
2 Universities		<ul style="list-style-type: none"> Instruction (67%) <ul style="list-style-type: none"> i) Program-weighted FTEs: 60% ii) Research activity: 30% iii) Community service: 10% Administration (12%) Physical plant (11%) Library (6%) Student services (4%) 	<ul style="list-style-type: none"> Initiated to overcome provincial shortages in nursing staff and doctors 	

1.3 Federal Government

While the role of the federal government is less direct in the funding of PSE compared to the provincial governments, its financial support fulfills a number of critical functions. Predominately, the federal government contributes to PSE through funding of the research granting councils, the Canada Social Transfer (CST), Canada Student Loans and Grants, and tax assistance. While its proportional contribution to university income has remained relatively stable, between 8 and 12% of total revenue, the federal government has begun to focus on direct contributions to research and student aid, rather than the transfer of necessary funds to the provincial governments.

Figure Three: Federal Government Grants as a Percentage of Total Canadian University Income, 1987-2005¹⁹



Much of the public funding for research is distributed by the federal government through established granting councils. The primary councils are the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC), and the Canadian Institutes of Health Research (CIHR). Sponsored research funding to universities through these councils amounted to \$1.42 billion in 2004-05.²⁰ However, the demand for research investment continues to grow at an astounding rate. From 1999-00 to 2004-05, the real (inflation-adjusted) value in all sponsored research expenses nearly doubled, while university operating expenses were only augmented by 32%.²¹ Both the federal and provincial government have increased their financial support of research as demand has grown, but non-government grants and contracts have grown in demand.

¹⁹ Council, *Resource*, 17-18.

²⁰ *Ibid.*, 37.

²¹ *Ibid.*, 33.

Before 1996, the federal government transferred money to the provinces through Established Programs Financing (EPF) which supported healthcare and PSE, with 14.5% of total funding allocated to PSE. In 1996, EPF was replaced by the Canada Health and Social Transfer (CHST) that did not specify funding amounts, but was intended to help provincial governments pay for welfare, healthcare and PSE. However, the value of the transfer to the provinces in support of PSE declined significantly at that time, as Ontario's portion fell from \$2.96 billion to \$2.61 billion. In 2004, the health and social funding were split and the Canada Social Transfer (CST) remained to fund post-secondary, social assistance, and social services.²² The federal cash transfer for PSE declined 45% from 1992-93 to 2002-03 (from \$1.21 billion to 669 million in 2002-03 dollars) based on the estimates of the 1995-96 share of national EPF and Canada Assistance Plan allocated to PSE and Ontario.²³

The federal government has also significantly invested in student aid, through scholarships, bursaries, and the Canada Student Loan Program. The Canada Millennium Scholarship Foundation, formed by Parliament in 1998, distributed \$325 million in the form of bursaries and scholarships each year.²⁴ Tax credits on tuition, education and student loan interest, in addition to RESPs and Canada Learning Bonds, comprised a \$500 million federal contribution in 2002.²⁵ Regardless, there are continued calls for the federal government to contribute more to provincial governments for PSE considering the budgetary pressures of many provinces.²⁶

1.4 Student Fees

No source of university income has increased as dramatically in the last two decades as student fees. As contributions from provincial and federal grants decreased in the 1990s, tuition and ancillary fees were raised to offset the loss of income. The average undergraduate tuition fee in 2005-06 was \$4,214, which is almost triple the average of \$1,464 in 1990-91.²⁷ The rate of increase in tuition fees per year has been considerably higher than the Consumer Price Index (CPI) every year since 1990, and from 1990 to 1992 the difference between the rate of increase and CPI was an average of 10%. Tuition in Newfoundland and Labrador is either frozen or declining. However, the rest of the country continues to experience the substantial rise of student fees.²⁸

²² Ibid., viii, 5-6.

²³ Rae, *Ontario*, 96.

²⁴ Canadian Millennium Scholarship Foundation, "About the Millennium Scholarships," 2008, <http://www.millenniumscholarships.ca/en/aboutus/index.asp> (accessed February 29, 2008).

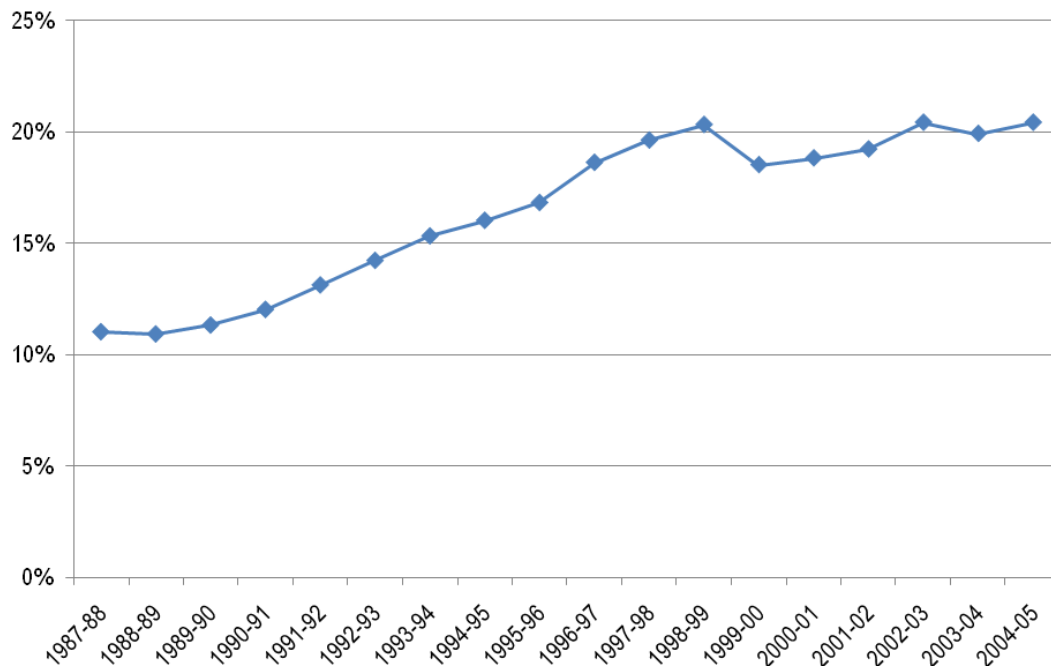
²⁵ Rae, *Ontario*, 18.

²⁶ Rae, *Ontario*, 19.

²⁷ Statistics Canada, "University tuition fees," *The Daily*, September 1, 2005, Thursday, <http://www.statcan.ca/Daily/English/050901/d050901a.htm> (accessed February 29, 2008).

²⁸ Statistics Canada, "University tuition fees," *The Daily*, August 12, 2003, Tuesday, <http://www.statcan.ca/Daily/English/030812/d030812a.htm> (accessed February 29, 2008).

Figure Four: Student Fees as a Percentage of Total Canadian University Income, 1987-2005²⁹



Tuition fees in Canada are commonly paid up-front prior to the period of instruction. Tuition fees are set by the institution, although increases are generally regulated by provincial governments. Tuition is usually dependent on the enrolment status of a student as part- or full-time, with part-time tuition normally being dependent on the number of courses a student is enrolled in.

Regardless of the institution, tuition fees vary according to the program of enrolment, and professional programs typically charge much higher fees. In Ontario, tuition fees for professional and post-diploma programs were deregulated in 1998, meaning that control over tuition fee increases was eliminated. After accounting for inflation, “tuition fees rose by 132% in medicine, 168% in dentistry, and 61% in law, compared to only 34% in all undergraduate programs in Canada”, from 1995-96 to 2001-02.³⁰ First year law school tuition at the University of Toronto was over \$18,000 in 2007, with tuition in upper years even higher.³¹ The average tuition fee in 2005-06 for a Bachelor of Arts program in Ontario was \$4,161, compared to an average of \$5,239 for a Bachelor of Engineering program.³²

Average tuition fees for international students, who do not receive funding from provincial grants and experience unregulated tuition, were three times the national average in 2004-05.³³ International students accounted for 7.4% of

²⁹ Council, *Resource*, 17-18.

³⁰ Statistics Canada, “Tuition fee deregulation: Who pays?” *Education Matters*, April 27, 2006, <http://www.statcan.ca/english/freepub/81-004-XIE/2006001/tcosts.htm> (accessed February 29, 2008).

³¹ University of Toronto Faculty of Law, “Financial Aid: Fees,” 2008, http://www.law.utoronto.ca/prosp_stdn_content.asp?itemPath=3/6/15/6/0&contentId=828 (accessed February 29, 2008).

³² Council, *Resource*, 42.

³³ Statistics, “University tuition fees” (2005).

all registrations in that year and represented one quarter of the growth in total enrolment.³⁴ Income from international student tuition continues to play an increasing role in the revenue of universities and colleges.

In addition, compulsory ancillary fees, which are fees that cover costs not normally paid out of operating costs, continue to rise. Undergraduate students in Canada paid an average of \$605 in additional compulsory fees in 2004-05, a 39% increase since 2000-01, ranging from fees collected for student associations, newspapers, and student centres, to athletics and recreation, universal bus passes, and extended health care plans.³⁵ Additionally, fees collected for enrolment in a co-operative work program continue to steadily rise, with fees per work term as high as \$1,000 at some institutions.³⁶

The increased financial burden on students and their families has necessitated increased investment in provincial student assistance programs and student aid. Provincial spending in the Ontario Student Assistance Program (OSAP), in 2006-07 dollars, rose from \$287 million in 1987-88 to over \$1 billion in 1999-00, while investment in 2006-07 was merely \$439 million.³⁷ Total financial aid provided to students through scholarships and bursaries has increased dramatically, with significant contributions to these from the provincial government, the federal government, institutions, and the public. The real value of scholarships and bursaries in Ontario rose from \$44 million to \$459 million, while their ratio of university expenditures increased from 1.6% to 5.2%, from 1987-88 to 2004-05.³⁸ However, 35% of Ontario students have OSAP 'need' which exceeds the loan limits, and a significant proportion of students rely on institutional support and private loans to meet their costs.³⁹

Students have become primary contributors to their education as the proportion of income from student fees has doubled. Tuition continues to rise in most provinces and its increase requires adequate financial aid programs to be in place to incorporate all the costs associated with attending PSE to ensure equal accessibility to the system.

1.5 Other Sources

Contributions from sources outside the traditional contributors – provincial government, federal government and students – continue to affect expenses of PSE. These contributions include municipal and other government grants and contracts, bequests, donations, non-government grants and contracts, sales of services and products, and investment income.

³⁴ Statistics Canada, "University enrolment," *The Daily*, November 7, 2006, Tuesday, <http://www.statcan.ca/Daily/English/061107/d061107a.htm> (accessed February 29, 2008).

³⁵ Statistics, "University tuition fees" (2005).

³⁶ Co-Operative Education & Career Services, University of Waterloo, "Increased Co-op Fee Q & A," *Inside Co-op*, spring 2006, <http://www.cecs.uwaterloo.ca/students/scoop/spring06/features/index.php?page=fee> (accessed February 29, 2008).

³⁷ Council, *Resource*, 48.

³⁸ *Ibid.*, 51.

³⁹ Rae, *Ontario*, 78.

Figure Five: Other Sources as a Percentage of Total Canadian University Income, 1987-2005⁴⁰

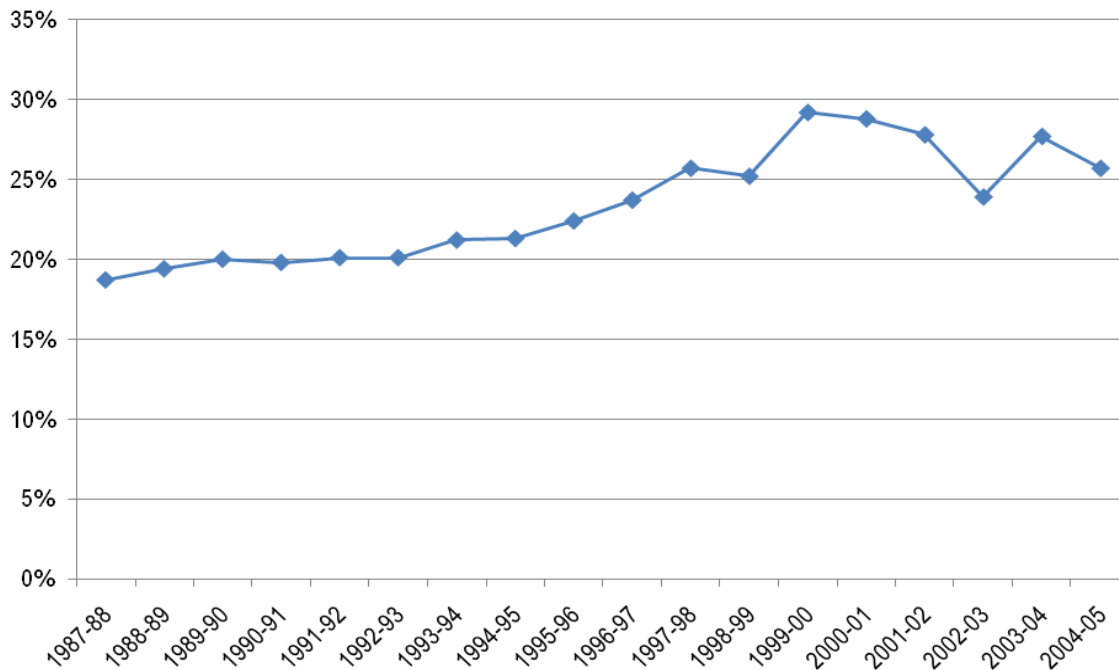
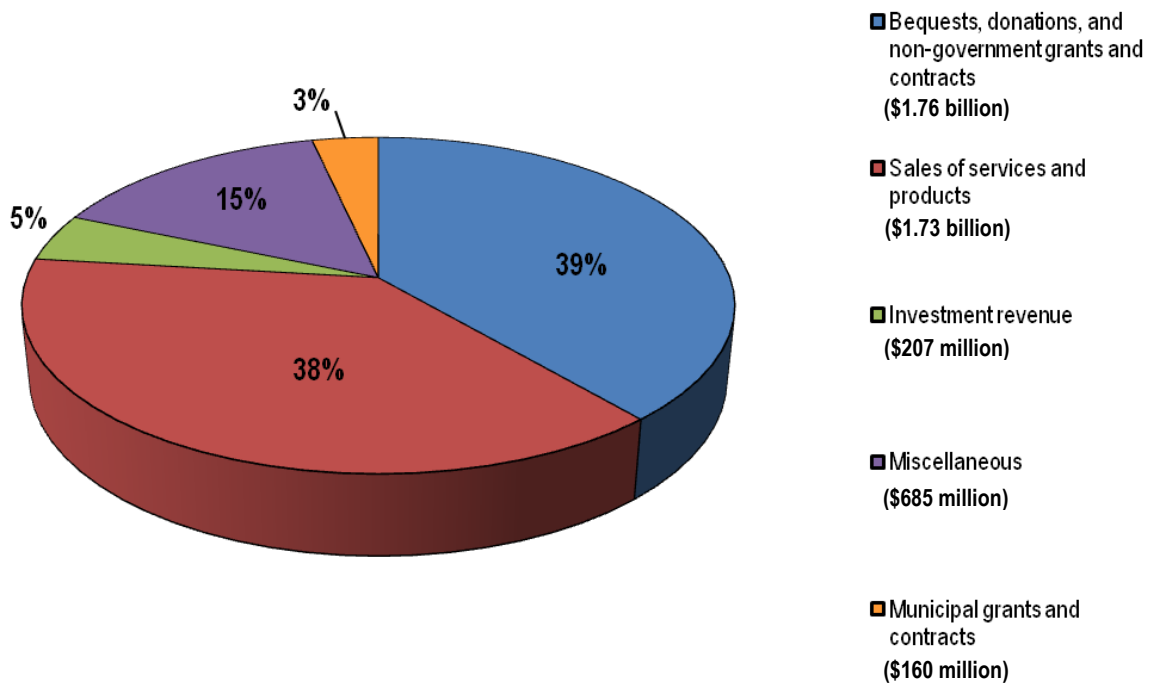


Figure Six: Percentage Contribution of Other Sources, 2002-03⁴¹



⁴⁰ Council, *Resource*, 17-18.

⁴¹ Statistics Canada, "University finances," *The Daily*, August 19, 2004, Thursday, <http://www.statcan.ca/Daily/English/040819/d040819a.htm> (accessed February 29, 2008).

Profit from the sale of services and products, such as residence, parking, and food, has increased significantly as its real value in 2002-03 dollars has risen from \$1.05 billion to \$1.73 billion, or 165.4%, since 1990. Even more striking is the increasing role of private contributions in the cost recovery of PSE, particularly for capital expenditures and research. The inflation-adjusted total from bequests, donations and non-government grants rose from \$811 million to \$1.76 billion in just twelve years, representing a 216% increase.⁴² In the province of Ontario, the real value of non-government grants and contracts rose by 432.9% from 1987 to 2005, while the real value of donations increased 228% in the same time period.⁴³ However, revenue from investments has actually declined by 51.6%, from \$427 million to \$207 million from 1990 to 2003.⁴⁴

Construction of buildings and purchase of land has been a leading priority for Canadian universities, particularly since 2000-01, and it has consequently required significant investment. \$1.3 billion was spent by universities on buildings, land, renovations and alterations in 2002-03, which was triple the amount spent in 1997-98. This increase is in part due to large increases in enrolment in undergraduate and graduate studies, the need for accommodation of the Ontario double cohort, and aging infrastructure.⁴⁵ In 2004-05, there was an \$838 million expenditure in Ontario alone. The Ontario Ministry of Training, Colleges, and Universities Capital Funding contributed just 30% of that total expenditure.⁴⁶ Funds obtained from alternative sources, particularly donations, were utilized.

As a result of the inadequacies of provincial and federal government grants and provincial regulation of student fee increases, universities have been forced to turn to other sources of funding to continue their growth and development. The effects of funding insufficiencies are increased prices and fees for products and services, as well as fundraising campaigns that aim to address shortfalls, the outcome of which often materialize as capital investments and financial aid.

⁴² Ibid.

⁴³ Council, *Resource*, 13.

⁴⁴ Statistics, "Finances."

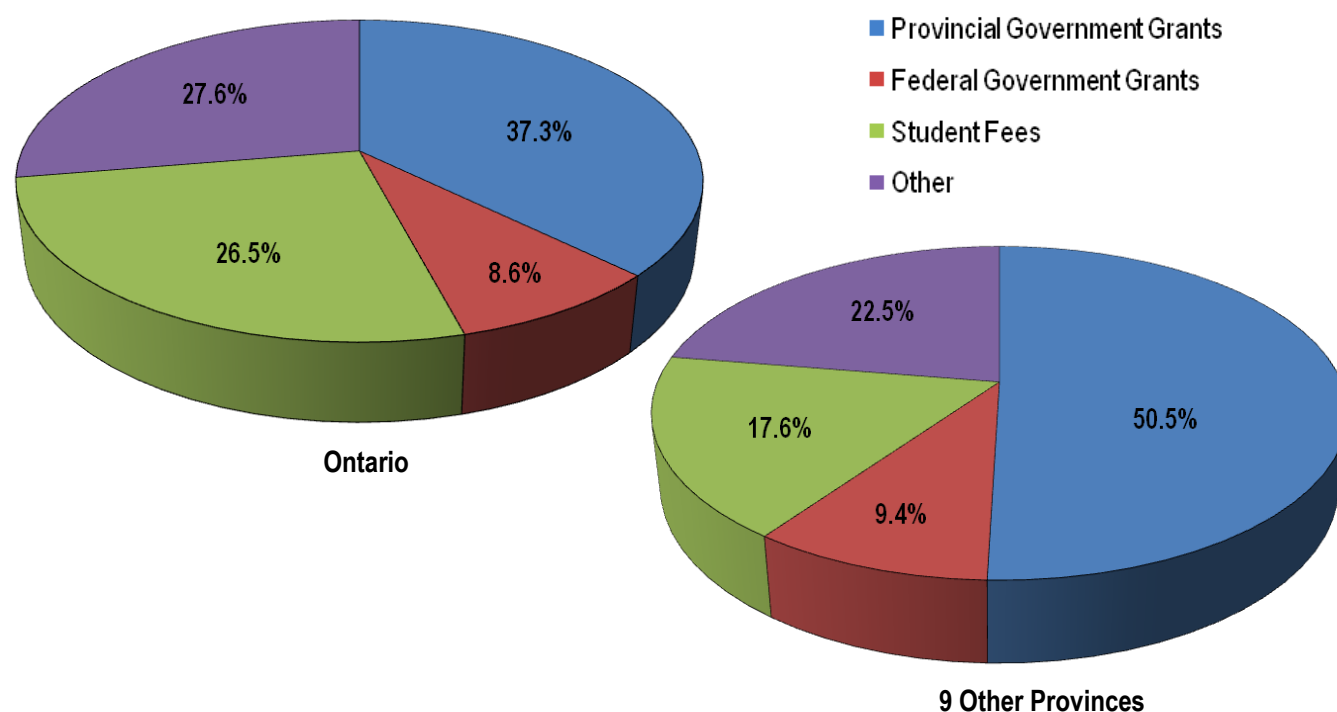
⁴⁵ Ibid.

⁴⁶ Council, *Resource*, 57.

1.6 Examination of Ontario's Cost Recovery Model

Ontario has 19 universities and 28 colleges which collectively spent over \$13 billion in 2007⁴⁷, emphasizing that a sustainable and effective cost recovery model is of extreme importance for the province. There is considerable variance in the contribution from provincial governments amongst the ten Canadian provinces. In 2003-04, Nova Scotia contributed only 35% of university revenue, while the Quebec provincial government provided 61%.⁴⁸ Ontario contributed just 37.3% of total university and college income, while the nine remaining provinces contributed an average of 50.5%. That difference was primarily compensated by contributions from student fees, which constitute 26.5% of PSE revenue in Ontario but an average of only 17.6% in the nine other provinces.⁴⁹ The average tuition in Ontario for 2009-10 was \$5,951, which ranked as the highest in Canada. In fact, Ontario ranked as the third most expensive jurisdiction to attend PSE in a 2004 global comparison of 68 jurisdictions as a result of the high levels of student fees and lower levels of student loan availability.⁵⁰ Increased strain on the system has additionally been experienced due to rapid enrolment growth in Ontario, compared to the rest of Canada. PSE full and part-time enrolment in Ontario increased by 128% from 2000-01 to 2005-06, while enrolment in Canada increased by only 118%.⁵¹

Figure Seven: Total University and College Revenue by Source in Ontario and the Nine Other Canadian Provinces, 2007⁵²



⁴⁷ Statistics, "Revenue."

⁴⁸ Pakravan, *Future*, 3.

⁴⁹ Council, *Resource*, 17-18.

⁵⁰ Rae, *Ontario*, 78.

⁵¹ Statistics Canada, Table 477-0013 "University enrolments by registration status and sex, by province," CANSIM, (Updated February 7, 2007) <http://www40.statcan.ca/101/cst01/educ53a.htm> (accessed February 29, 2008).

⁵² Statistics, "Revenue."

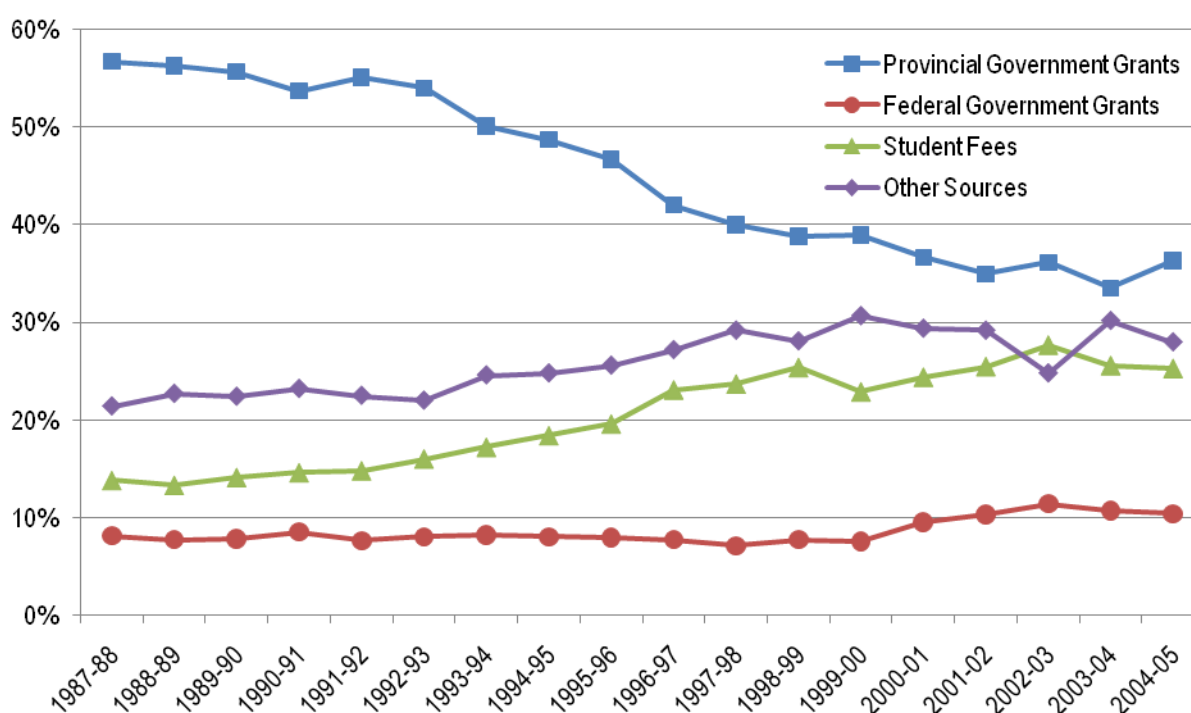
Table Two: Revenue and Expenditures of Universities and Colleges, Canada and Ontario, 2007⁵³

	Canada (\$ thousands)	Percentage of Total	Ontario (\$ thousands)	Percentage of Total
Total revenue	33,847,597		13,409,509	
Own source revenue	15,413,521	45.54%	7,236,968	53.97%
Tuition fees	7,147,470	21.12%	3,550,215	26.48%
Sales of goods and services	5,021,096	14.83%	2,177,856	16.24%
Investments income	747,924	2.21%	343,401	2.56%
Other own source revenue	2,497,031	7.38%	1,165,497	8.69%
Transfers from levels of government	18,434,076	54.46%	6,172,541	46.03%
Federal government	3,073,356	9.08%	1,151,800	8.59%
Provincial government	15,330,445	45.29%	5,001,662	37.30%
Local governments	30,274	0.09%	19,079	0.14%
Total expenditures	34,107,650		13,178,902	
Education	33,363,020	97.82%	12,984,252	98.52%
Post-secondary education	33,044,907	96.88%	12,801,979	97.14%
Administration	6,257,850	18.35%	2,444,410	18.55%
Education	16,351,516	47.94%	6,017,805	45.66%
Support to students	1,197,408	3.51%	612,447	4.65%
Other expenses	9,238,132	27.09%	3,727,315	28.28%
Debt charges	716,182	2.10%	194,649	1.48%
Surplus or deficit	- 260,053		230,607	

⁵³ Ibid.

In the last two decades, university income has become less funded by Ontario government grants and more by student tuition. In 1992-93, provincial operating grants amounted to 0.705% of the Gross Domestic Product of Ontario. According to this percentage, provided that the Gross Domestic Product in 2006-07 was estimated to be \$554.5 trillion, the total operating grants of universities should have \$3.91 billion. This value would have allowed for the funding proportion to remain at the 1992-93 level. Instead, the total amount in university operating grants in 2006-07 was \$2.80 billion, more than \$1 billion short.⁵⁴ This funding shortfall has also been coupled with a large increase in enrolment. Full-time undergraduate enrolment has risen by 159%, from 219,574 students in 1987-88 to 349,963 in 2004-05.⁵⁵

Figure Eight: Percentage of Total Ontario University Income by Source of Income, 1987-2005⁵⁶



⁵⁴ Council, *Resource*, 9.

⁵⁵ *Ibid.*, 64.

⁵⁶ *Ibid.*, 17-18.

Table Three: Selected Details of Ontario's University Operating Grants (\$ thousands), 1998-2006⁵⁷

Envelope	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Basic Operating Grant	\$1,411,490	\$1,461,466	\$1,465,247	\$1,514,353	\$1,546,246	\$1,668,553	\$1,838,258	\$2,009,961
Pay Equity	\$18,961							
Accessibility Fund			\$16,500	\$25,800	\$122,107	\$215,691	\$129,934	\$88,296
Performance Fund			\$16,500	\$23,160	\$23,160	\$23,160	\$23,160	\$23,160
Quality Assurance Fund						\$74,884	\$74,598	\$74,598
Quality Improvement Fund								\$148,425
Research Overhead/Infrastructure	\$27,477	\$27,752	\$27,752	\$27,752	\$27,752	\$27,752	\$27,752	\$27,752
Enhanced Access for Disabled	\$5,752	\$5,752	\$5,752	\$5,752	\$5,752	\$7,257	\$7,197	\$11,148
Mission Related (Bilingualism, Differentiation, Northern Ontario)	\$39,388	\$39,782	\$39,782	\$40,740	\$46,009	\$46,009	\$46,249	\$46,129
Fair Funding for Universities	\$10,000	\$20,000	\$29,000					
Institution Specific Grants	\$34,260	\$15,501	\$15,850	\$13,518	\$11,092	\$11,016	\$12,734	\$12,320
Special Purpose Grants	\$11,809	\$12,211	\$14,307	\$13,048	\$12,054	\$18,334	\$141,740	\$26,618
Teacher Education Expansion	\$0	\$3,750	\$3,750	\$3,863	\$510			
Medical and Nursing Expansion	\$0	\$0	\$976	\$12,847	\$17,658	\$42,568	\$44,247	\$58,991
Ministry Initiatives & Contingency	\$235	\$2,786	\$0	\$0	\$0	\$0	\$0	\$13,953
UOIT					\$11,755	\$14,856	\$18,946	\$22,184
Ontario Graduate Scholarships in Science and Technology	\$2,840	\$6,080	\$6,080	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Access to Opportunities Program	\$34,300	\$45,500	\$85,400	\$46,551	\$56,738	\$60,600	\$53,000	\$0
Tuition Freeze Compensation							\$41,700	\$99,500
Total	\$1,596,512	\$1,640,580	\$1,726,896	\$1,732,384	\$1,885,833	\$2,215,680	\$2,464,515	\$2,668,235

In Ontario, incremental funding is not implemented as a funding mechanism, although formula funding, strategic funding, and performance funding are employed.⁵⁸ The distribution of funds provided by the provincial government was allocated into seventeen envelopes as of 2006, all of which may be divided into the discussed funding mechanisms.⁵⁹ Several primary envelopes are discussed below.

⁵⁷ Council, *Resource*, 92.

⁵⁸ Pakravan, *Future*, 29.

⁵⁹ Council, *Resource*, 92.

The formula funding mechanism is used in the basic operating grant envelope, which represents approximately 75% of all funding.⁶⁰ This envelope consists of a fund, which, as the name implies, is meant to cover all operating activities of an institution, including instruction, research, academic and student support and services, technology access and maintenance, and other activities such as ancillary projects. The allocation of the fund is determined by the institution. The allocated amount is based upon enrolment calculated by weighting FTE enrolments as Basic Income Units (BIUs) which are then distributed as Basic Operating Income (BOI). A 3% corridor of moving five-year averages is used in assigning funds. If the BIUs decline below the corridor, the institution still receives funding representative of that corridor. If the institution's BIUs increase above the corridor, no additional funding is provided to supplement enrolment costs, though top-up money to cover 'unexpected' enrolment growth has been provided by the province at year end in most recent years.⁶¹ In 2005-2006, \$2 billion was allocated by the province of Ontario for the basic operating envelope.⁶²

Mission-related envelope grants are formula funded and they offset additional costs that an institution may possess. The qualification for this type of funding is commonly determined by a third-party panel, and the amount of funding is calculated with a formula. These grants include Bilingualism Grants (cost of additional materials, instruction and support in both official languages), Northern Ontario Grants (result of higher living costs), and Differentiation Grants. Formula funding also incorporates research/infrastructure grants (such as Ontario Research Funds) whose purpose is to supplement indirect or infrastructural costs associated with sponsored university research, namely from the CIHR, NSERC, and SSHRC. The awarded fund is calculated based upon the research grant that was originally allocated by the organization.⁶³

Accessibility funding for support of disabled students and Access to Opportunities Program funding are provided in a strategic manner. In addition, program-adjustment grants are given for direct program expansion and/or program creation. In Ontario, strategic funding over the past twenty years has mainly focussed on increasing enrolment in computer science and engineering programs to expand the workforce in these sectors and improve Ontario's economy.⁶⁴ Another trend has been of supplemental funding for health care and increasing the availability of French language programs, as was recommended by the Rae report.⁶⁵ The strategic funding of all of these areas is eventually meant to be incorporated into the basic operating grant envelope.

Performance-based funding, introduced in 2000-01, comprises the smallest portion of mechanism-classified funds provided by the provincial government in Ontario. The amount is based upon three performance indicators, the results of which are determined by institutions. The performance indicators are the undergraduate student graduation rate and employment rates after periods of six months and two years after graduation.⁶⁶ As part of the Reaching

⁶⁰ Pakravan, *Future*, 29.

⁶¹ Task Force on Resource Allocation, "Background Paper: Ontario University Funding System," *Ontario Council on University Affairs*, (2004), 4, 7-13, 25, http://www.oise.utoronto.ca/depts/tps/TPS1017/Form_Fund/OntUnivFundSys.pdf (accessed February 29, 2008).

⁶² Council, *Resource*, 92.

⁶³ Task Force, *Funding*, 20-26, 30-31.

⁶⁴ Pakravan, *Future*, 29.

⁶⁵ Rae, *Ontario*, 11.

Ministry of Training, Colleges, and Universities, "McGuinty Government Expanding Support for French-Language Post-Secondary Education," *CNW*, July 16, 2007, http://ogov.newswire.ca/ontario/GPOE/2007/07/16/c6691.html?lmatch=&lang=_e.html (accessed February 29, 2008).

⁶⁶ Pakravan, *Future*, 15-16, 30-31.

Higher Plan, Quality Assurance funding is also provided for assessment of Ontario university policies and procedures, through institutional assessment and assessment by a third-party such as the Post-secondary Education Quality Assessment Board. The purpose of the assessment is to determine the quality of undergraduate and graduate programs through regular audit, the results of which dictate Quality Improvement funding.⁶⁷

The federal government also continues to under-finance PSE in Ontario. As a result of the reduction in federal cash transfers and the increase in enrolment, per-student federal funding in Ontario declined by a remarkable 59% in ten years. From 1992-93 to 2002-03, per-student contribution from federal transfers declined from \$3,476 to \$1,409.⁶⁸

Tuition was frozen in Ontario for 2004-05 and 2005-06, and when the freeze was lifted, student fees were allowed to increase by 4.5% in the first year and by 4% each subsequent year in regulated non-professional programs, and by no more than 5% overall for all programs without a corresponding reduction in operating funding from the province.⁶⁹ The provincial government provided \$41.7 million in 2004-2005, and \$99.5 million in both 2005-2006 and 2006-2007 to supplement funding during the freeze. Since 1996, Ontario universities were required to set aside 30% of tuition fee increases for student aid, which substantially increased the pool of money available.⁷⁰ However, as of 2008, the funds allocated for student financial aid are to be determined by the annual percentage increase or decrease of FTE enrolment, through audited enrolment reports produced by post-secondary institutions.⁷¹

The provincial government also provides funding to PSE through the Ontario Research Fund (ORF), which was created in 2006 to provide strategic funding of \$527 million over a period of five years. The purpose of the ORF is to support operational and capital costs involved in research, in the hope of improving Ontario's economy through the development of new and innovative goods and services. In particular, the Ontario government is currently interested in projects that focus on improving the environment through clean technology, digital media, and in the health and bioscience industries.⁷²

⁶⁷ Ministry of Training, Colleges, and Universities, "McGuinty Government Improving Quality at Ottawa's Colleges and Universities," *CNW*, January 26, 2006, http://ogov.newswire.ca/ontario/GPOE/2006/01/26/c1099.html?lmatch=&lang=_e.html (accessed February 29, 2008).

⁶⁸ Rae, *Ontario*, 96.

⁶⁹ Caroline Alphonso, "Ontario Hikes Fees at Colleges, Universities," *Globe and Mail*, March 9, 2006, http://www.ousa.ca/sef/in_the_news/id/94.html (accessed February 29, 2008).

⁷⁰ Chris Redmond, Communications and Public Affairs, "Tuition fees can rise 10%," *University of Waterloo Daily Bulletin*, February 6, 1997, <http://www.bulletin.uwaterloo.ca/1997/feb/06th.html> (accessed February 29, 2008).

⁷¹ Chris Redmond, Communications and Public Affairs, "Fees increases, other board actions," *University of Waterloo Daily Bulletin*, February 11, 2008, <http://www.bulletin.uwaterloo.ca/2008/feb/11mo.html> (accessed February 29, 2008).

⁷² "Backgrounder: Ontario Research Fund," *Ministry of Research and Innovation*, January 9, 2007, http://www.mri.gov.on.ca/english/news/orfri_010907_bd1.asp (accessed February 29, 2008).

"Research Excellence Program FAQs: 'How do you define the Round 3 focus areas?'" *Ministry of Research and Innovation*, <http://www.mri.gov.on.ca/english/programs/ResearchFAQ.asp#6> (accessed February 29, 2008).

1.7 College Cost Recovery

Canadian colleges are funded through government grants, both federal and provincial, student tuition fees, and other sources such as the municipal government, ancillary operations, and contracted services. Revenues on a per-student basis from operating grants and tuition fees are \$9,000 on a national average, whereas per student revenue is only \$7,500 in Ontario. Both secondary schools and universities have more per-student funding in Ontario than its colleges. Enrolment has risen by 166% between 1989 and 2005, and a full-time enrolment increase of 30,000 students, or a 125% increase from 2006-07 enrolment, is required by 2011 in Ontario to prevent shortages in the workforce. Similar situations are present across Canada. Consequently, colleges are expected to increase their expenditures to maintain and develop quality programs and facilities for the increasing numbers of students, but as a result of insufficient funding, they are forced to delay, or even terminate, their proposals and plans.⁷³

The provincial governments provide the same combinations of incremental funding, formula funding, strategic funding, and performance funding mechanisms for colleges that are employed in distributing funds for universities. In Ontario, a general operating grant is provided to colleges that comprises 75-80% of total revenue. The grant is based on a three-year moving average and weighted by formulas that depend upon the type of programs offered by colleges, population density, and the number of campuses a college possesses. The Access to Opportunities program provides funding for the formation and development of computer science and engineering programs.⁷⁴ Colleges in Ontario also use Key Performance Indicators (KPIs), to distribute funds on a performance-based system of surveys that are submitted annually by students, graduates, and employers. A formula incorporating college size and KPI score determines fund distribution. In 2004-06, the KPIs appeared to have the desired effect of increasing performance quality. Graduation rates and satisfaction ratings (student, graduate and employer) increased during this period of time. Table Four shows the distribution of Canadian college funding by the provincial governments using the mechanisms that were discussed for Table One.⁷⁵

⁷³ "A Highly Skilled Workforce: Strengthening Ontario's Economic Advantage," *Colleges Ontario*, (January, 2008): 6-8.

⁷⁴ Pakravan, *Future*, 3-5, 28-29.

⁷⁵ Pakravan, *Future*, 28-29.

ACAATO Document, "Key Performance Indicators' Trends," *Colleges Ontario*, (2006), 3-5.

Table Four: Funding Mechanism Distribution to Canadian Colleges by Province

Province	Incremental Funding	Formula Funding	Strategic Funding	Performance Funding
Alberta				
18 Colleges		<i>Same distribution as universities; see Table One</i>		
British Columbia	<i>Base Funding (>90%)</i>			
17 Colleges	<ul style="list-style-type: none"> • Government allocates a number of FTE spaces to each institution to promote growth • Institutions choose program distribution 		<ul style="list-style-type: none"> • Strategic grants designed to create spaces and increase the number of graduates for high priority areas with skill/labor shortages (computer science, electrical and computer engineering, nursing and health programs) • Establishing permanent British Columbia Leadership Chairs (in the fields of environmental, social, medical and technological research) and British Columbia Regional Innovation Chairs 	
Manitoba	<i>Base Operational Grants (~80%)</i>			
4 Colleges			<i>College Expansion Initiative(7%)</i> <ul style="list-style-type: none"> • Set up in 2000-1 to double career and technical programs and meet labour market needs in key economic sectors such as health (25% of total funding) and agriculture and natural resources; • Around 70% of funding to date has gone to Red River College • Incorporated into future base operating grants <i>System Restructuring Envelope (0.3%)</i> <ul style="list-style-type: none"> • Awarded on case-by-case basis; no pre-determined funding level; not incorporated into base funding • Aimed at adopting learning technologies, improving aboriginal participation, etc. 	
New Brunswick	<i>Operating Grants (100%)</i>			
1 College				

Province	Incremental Funding	Formula Funding	Strategic Funding	Performance Funding
Newfoundland and Labrador	<i>Operating Grants (~95%)</i>			
1 College	<i>Physical Plant and Equipment Grants (~5%)</i>			
Nova Scotia		<i>Same distribution as universities; see Table One</i>		
1 College				
Ontario		<i>General Purpose Operating Grant (78%)</i>	<i>Access to Opportunities Program (2%)</i>	<i>Performance Fund (2%)</i>
24 Colleges		<ul style="list-style-type: none"> • FTEs adjusted for program mix (weights reflecting delivery costs), population density, multiple campuses, and economies of scale • Based on three-year moving average of enrolments-to provide stability 	<ul style="list-style-type: none"> • Targeting computer science and high demand engineering programs 	<ul style="list-style-type: none"> • Graduate employment rates • Employer satisfaction • Graduate satisfaction
Prince Edward Island	<i>Operating Grants (100%)</i>			
1 College				
Quebec		(96.5%)		(3.5%)
48 Colleges (CEGEPs)		<ul style="list-style-type: none"> • Adjustments made for program level and mix, capital funding, teaching costs, and special factors 		<ul style="list-style-type: none"> • Indicator: graduate incomes; not competitively awarded
Saskatchewan	<ul style="list-style-type: none"> • Base Operating Grants (75% for SIAST; 53% for Regional Colleges) • SPMC (accommodations) Grants (18% for SIAST) • Programs Grant (7% for SIAST and 47% for Regional Colleges) 		<ul style="list-style-type: none"> • SIAST: small portion (<10%) of Base Operating Grants restricted to high priority programs • Regional Colleges: around 50% of funding is restricted to high need areas such as nursing (current focus), computer science and forestry programs 	
21 Colleges				

The decline of funding from provincial governments has resulted in colleges accepting funds from corporations and other sources, as well as increases in tuition fees. Student fees in Ontario comprise a larger portion of total revenue for colleges than any other province in Canada. Although there was a tuition freeze in 2004-06, tuition is now rising, while employing fee differentiation based upon the year of study and workforce demand for graduates of a particular program.⁷⁶ For first-year students, up to a 4.5% increase is allowed from previous year fees in a regular program, or a maximum 5% increase in high-demand programs. In subsequent years of all programs, a 4% maximum increase may occur.⁷⁷ As a result of the Student Access Guarantee, set-aside sums, OSAP, the Ontario Trust for Student Support (OTSS), and Ontario Student Opportunity Trust Fund Endowments (OSOTFE) are available to students. Tuition set-aside consists of no more than 5% of total collected tuition fees, and it is used to supplement insufficient OSAP funding or to provide financial aid to other students, in the form of scholarships, bursaries, work-study terms, and employment between terms. Even if financial assistance is granted, it is often not enough to completely offset student financial aid requirements.⁷⁸

It has been estimated that system-wide costs (goods and services, utilities, maintenance) in Ontario will increase by \$117 million in 2008-09. However, the provincial government has only increased its grant to such an extent that even with increased tuition costs, \$77 million will still be required to make crucial improvements to colleges in Ontario.⁷⁹

1.8 Ontario's Current Model and Accessibility

A major concern for the authors of this study is ensuring that the system design maximizes student accessibility to post-secondary education. It is the belief of OUSA that "all willing and qualified students in Ontario must be able to access and excel within Ontario's system of post-secondary education".

Unfortunately, it is clear that the current post-secondary education system in Ontario leaves certain groups consistently under-represented. It is recognized that low income individuals, Aboriginal students, rural community members, individuals with dependents, students with disabilities, and those whose parents did not attend post-secondary education are less likely to participate in post-secondary education than other cohorts.⁸⁰ The following discussion outlines several of the challenges that each of these groups face.

i) Low Income Students

While the number of low income students increased from 1970 to 1990, the percentage of students from low income families remained stagnant. The percent of Ontario families with one or more 18-24 year old enrolled in college or university was 57% for the highest income quartile and just 36% for the lowest quartile in 2000.⁸¹ Additionally, it has been recognized that even minor increases in a family's income have an important effect on

⁷⁶ Colleges of Applied Arts and Technology Policy Framework, "2.0 Finance and Administration: Tuition and Ancillary Fee Reporting Operating Procedure," *Ministry of Training, Colleges, and Universities*, (September, 2007), 6.

⁷⁷ Ibid., 7-9.

⁷⁸ Ibid., 31-33.

⁷⁹ Ibid., 8.

⁸⁰ Hugh Mackenzie, *Funding Postsecondary Education in Ontario: Beyond the Path of Least Resistance* (Toronto: The Ontario Coalition for Postsecondary Education, 2004).

⁸¹ Rae, *Ontario*, 61.

the likelihood of a student attending post-secondary education.⁸² 2006-2007 data revealed that over 80% of 18-24 year olds from families earning over \$100,000 per year attended post-secondary education. Conversely, only 60% of 18-24 year olds from families earning less than \$25,000 attended. This gap does not appear to be currently improving and has recently increased. A recent study demonstrated that these patterns are founded on more than just tuition costs. Indeed, it was demonstrated that income, the quality of high schools, performance in early years, and parental attitudes influenced participation of low-income students in post-secondary education.⁸³

ii) Aboriginals

Consistently, Aboriginal Canadians are among the least likely to participate in post-secondary education. Additionally, while many groups have seen a steady increase in participation, Aboriginals have not. For instance, while the number of Aboriginal Canadians who graduated from some form of post-secondary education increased from 1997 to 2001, the percentage of Aboriginals enrolled actually declined.⁸⁴ In 2001, there was a gap of 15% between the Canadian average and the Aboriginal average for post-secondary attainment.⁸⁵ This education gap is evident in secondary school graduation rates, with only 40.3% of Aboriginal students attaining high school credentials.

iii) Rural and Northern Students

Another major factor in an individual's choice to attend a PSE institution is where the individual lives. Individuals living in urban communities in Ontario are almost twice as likely to hold a post-secondary degree as their rural counter-parts. Being a member of a low income family from a rural community reduces a student's likelihood of attending post-secondary education even further.⁸⁶

iv) Individuals with Dependents

It is recognized that individuals with dependents are less likely to attend post-secondary education. This is especially true for single mothers. A study published in 2005 revealed that only 12.5% of single mothers attended post-secondary education, compared to the Ontario average of 19.6%.⁸⁷ Reasons for the lower

⁸² Miles Corak, Garth Lipps and John Zhao, *Family income and participation in post-secondary education* (Ottawa: Statistics Canada, 2003).

⁸³ Marc Frenette, *Why are youth from lower-income families less likely to attend university? Evidence from academic abilities, parental influences, and financial constraints* (Ottawa: Statistics Canada, 2007).

⁸⁴ Jeremy Hull, Prologica Research Inc., *Post-secondary Education and Labour Market Outcomes, Canada, 2001* (Winnipeg, Manitoba: 2005), http://www.ainc-inac.gc.ca/pr/ra/pse/01/index_e.html (accessed February 29, 2008).

Department of Indian Affairs and Northern Development, Basic Departmental Data – 2002 (Ottawa: First Nations and Northern Statistics Section, 2003), 38.

⁸⁵ Department of Indian Affairs and Northern Development, Basic Departmental Data – 2004 (Ottawa: First Nations and Northern Statistics Section, 2005), 52.

⁸⁶ Henry, *Restructuring*, 5.

⁸⁷ David Holmes, *Embracing Differences: Post-Secondary Education among Aboriginal Students, Students with Children and Students with Disabilities* (Ottawa: Canada Millennium Scholarship Foundation, 2005), 23.

participation rate of single parents can vary from a lack of affordable child care, difficulties finding appropriate housing, and the difficulties of balancing work, school and child care.⁸⁸

v) First Generation Students

Students with parents who have attended post-secondary education are more likely to participate in PSE themselves than students whose parents did not attend PSE. Amongst those aged 26-28, 41% of Canadians whose parents completed some PSE had a university degree, while less than 20% of those whose parents completed high school or less had the same.⁸⁹ First generation students face a number of barriers to accessing PSE compared to their peers. There are academic barriers as they tend to achieve lower high-school grades compared to their peers. First generation students are also more skeptical of the benefits of a PSE credential when compared to non-first generation students. Finally, like many other cohorts of under-represented students, first generation students also tend to face financial barriers.

vi) Students with Disabilities

One in seven Canadians has a disability, and while high school completion for this population is only slightly below the provincial average, the attainment of PSE students with disabilities is only 40% of the Ontario provincial average.⁹⁰ Students with disabilities face a broad and multi-faceted range of social, medical, administrative, and financial barriers that may affect their ability to access and succeed in the current PSE system. Additionally, the physical limitations of some campuses and learning facilities pose significant challenges for individuals with physical disabilities.

As mentioned above, it is recognized that, while tuition fees are a major hindrance for many marginalized students, there are a multiplicity of barriers preventing them from enrolling, or influencing their decision to enroll, in a PSE program. It is therefore imperative that education policies must be comprehensive and ensure all students have the opportunity to reach their potential recognizing both financial and non-financial barriers.

⁸⁸ "The Government of Canada helps single mothers with supportive housing and educational opportunities," *Human Resources and Social Development Canada*, 2007, <http://news.gc.ca/web/view/en/index.jsp?articleid=361219> (accessed March 1, 2008).

Katherine Reed, *Fairness for Single Parents in Nova Scotia* (Canadian Centre for Policy Alternatives, 2007), http://www.policyalternatives.ca/documents/Nova_Scotia_Pubs/2005/Fairness_in_Education.pdf (accessed March 1, 2008).

⁸⁹ Statistics Canada, 2009. *Youth in Transition (YITS) cycle 5, cohort A and B*. Ottawa.

⁹⁰ Higher Education Quality Council of Ontario, *Third Annual Review and Research Plan* (Toronto, 2010).

Conclusion

Canadian post-secondary education is an annual \$34 billion investment.⁹¹ While the system receives funding from many sources, the majority of funding comes from provincial governments, the federal government and students. Although the provincial governments, which provide funding to institutions through four main mechanisms, have and continue to be the primary contributor to PSE, their contribution as a proportion of total investment has declined since the late 1980s. The federal government supports PSE through transfers to the provinces, research grants, student aid and tax assistance, but their contribution to the provinces has declined as well. These decreases have required students in most provinces to offset the lost income. Average tuition has doubled over the past decade and continues to increase in many provinces. Institutions also have turned to private donations, sale of goods and services, and non-government research grants to increase revenue. In particular, student fees and contributions from private sources have increased dramatically to supplement decreased provincial and federal support and increased enrolment. It is imperative the affordability and accessibility of PSE in Ontario is not compromised if this current funding trend is to continue.

The federal government predicts that the future economy will require 70% of the workforce to have a post-secondary education. Canada currently only has a 48% attainment rate in PSE.⁹² With such an anticipated demand, it is imperative that Ontario and Canada employ the most effective and sustainable cost recovery model available, to meet the goals of the nation.

⁹¹ Statistics, "Revenue."

⁹² Rae, *Ontario*, 62.

2. Global Cost Recovery Models

2.1 Introduction

This section of the paper provides an overview of methods used globally in the cost recovery of post-secondary education. It is important to define what is meant by the term post-secondary education, considering the scope of this section and variation in the term's use globally. The Organisation for Economic Co-operation and Development (OECD) defines type-A tertiary education as "largely theory-based and designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, with a minimum cumulative theoretical duration of three years' full-time equivalent". Furthermore, type-B tertiary education is "typically shorter than tertiary-type A and focuses on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered, with a minimum duration of two years full-time equivalent". The research presented in this study is typically limited to type-A and type-B tertiary education, and will be referred together as either tertiary education, higher education, or post-secondary education.

The cost recovery methods observed globally have been grouped into five primary models that were selected to differentiate the fundamental characteristics of cost recovery. The models are not intended to imply that all countries within the same group employ the exact same mechanism of recovery; rather, countries are grouped for the purposes of comparison according to their similarities in cost recovery.

The models are as follows:

- i) Public Up-Front Tuition
- ii) Mix of Public and Private Institutions
- iii) No Tuition
- iv) Deferred Tuition
- v) Differentiated Government Subsidy

The countries discussed include countries belonging to the OECD, who permit membership based on a commitment to democracy and the market economy.⁹³ Brazil, a partner economy of the OECD, was also studied. Each country contains a summary of its post-secondary education system structure and enrolment, its principal modes of cost recovery, its financial aid availability (if applicable), and the strengths and challenges associated with the system and its cost recovery method. It should be noted that no attempt was made to assess differences in the quality of the higher education systems, as there exists no widely-accepted quantifiable method for cross-comparison of institutions, particularly across different continents, though it is noted when issues surrounding quality are particularly relevant to the country's system.

Five alternative methods of cost recovery are also summarized, namely a graduate tax system, a payroll tax, an educational cess tax, a student voucher system, and pre-paid tuition. Additionally, global data are provided on enrolment, tuition, and finances of tertiary systems.

⁹³ "About the OECD," *Organisation for Economic Co-operation and Development*, 2008, http://www.oecd.org/pages/0,3417,en_36734052_36734103_1_1_1_1_1,00.html (accessed 15 May 2008).

2.2 Public Up-Front Tuition

This model is defined by the charging of fees to students who are enrolled in public post-secondary institutions. The charges are levied prior to, or at the start, of a study period. Additional student fees may be charged as a separate component of the cost of post-secondary education. Tuition fees vary from a nominal charge to a significant portion of the cost of education and may also be dependent upon the program and the institution of study. This model occurs in Canada, Germany, the Netherlands, Spain, and Switzerland. Canada is not elaborated on in this section as it was extensively outlined in the first section of this paper.

Germany

Germany's educational system is a highly branched structure that contains numerous types of institutions. By the age of 11, students are streamed into paths that lead alternatively directly to the work force, to vocational training, to technical specialized education, or to academic universities. At the higher education levels, there are multiple categories of institutions: general universities, technical universities, applied universities (Fachhochschulen), vocational academies (Berufsakademie), and colleges in public administration, theology, education, arts and music.⁹⁴ In Germany, there are 104 universities, 184 Fachhochschulen, 52 colleges of art and music, 31 colleges of public administration, 14 colleges of theology, and 6 colleges of education.⁹⁵ There are also vocational educational institutions, including colleges and Fachschule, for those in streams that do not lead to higher educational opportunities.⁹⁶

Each of the 16 states (Länder) in Germany has autonomy over its higher education institutions. The institutions are considered public corporations, with their budgets incorporated into the Länder budget adopted by their respective parliaments. Capital for large investments, such as infrastructure, has historically been shared equally by the state and federal governments; however the federal government has declared they will no longer be contributing in the future. Institutions receive incremental (block) funding from the state based on academic performance and student population, in addition to funding provided for specific targets. Recently, states have been utilizing a more arms-length approach with regard to setting institutional budgets than in the past. Target contracts between the state and the institution are being used to increase stability and independence from external influences, such as elections, which are increasingly using the controversial topic of tuition as a political maneuvering tactic.⁹⁷

⁹⁴ "Basic Structure of the Education System in the Federal Republic of Germany", *Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, Documentation and Education Information Service*, (2006), <http://www.kmk.org/doku/en-2006.pdf> (accessed 11 June 2008).

⁹⁵ "Type of institution of higher education", *Federal Statistical Office of Germany*, (2008), <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Navigation/Statistics/BildungForschungKultur/Hochschulen/Hochschulen.psm1> (accessed 12 June 2008).

⁹⁶ "Basic", *Secretariat*.

⁹⁷ Franz Strehl, Sabine Reisinger, and Michael Kalatschan, *Funding Systems and their Effects on Higher Education Systems*, (Johannes Kepler University Linz: Institute of Strategic Management, 2006).

Mike Gardner, 17 February, 2008, "GERMANY: Students vent fee anger ahead of elections," *University World News*, <http://www.universityworldnews.com/article.php?story=20080214152530555> (accessed July 23, 2008).

A 2005 federal constitutional ruling permitted the introduction of tuition fees; since then, six states have given permission to institutions to commence charging fees, most at 500 € (\$692 CDN) per semester.⁹⁸ All of these states, namely Baden-Württemberg, Bavaria, Hamburg, Lower Saxony, North Rhine-Westphalia, and Saarland, were governed by the Christian-Democrat party at the introduction of tuition fees.⁹⁹ The state of Hesse did charge tuition for the 2007-2008 school year; however it stopped in winter 2009 for various reasons including student protests and dissent by opposition parties in the state government.¹⁰⁰ Other states also levy fees for those that take longer than the typical length of six to seven years to graduate and for those students who return for a second degree.¹⁰¹ There is some evidence to suggest tuition fees may have altered enrolment patterns: a significantly larger number of first-year students enrolled in institutions without tuition in 2007, while those states that levied fees saw a small decrease in enrolment.¹⁰² In addition, student organizations have held numerous demonstrations to abolish tuition fees.¹⁰³ At the same time, the length of time spent obtaining a degree is decreasing in accordance with the Bologna Declaration, a 1999 agreement amongst European countries to create a common university system by 2010 with Bachelor's and Master's programs.¹⁰⁴

In Germany, there is increasing competition amongst students for entrance into higher education institutions, which is compounded by underfunding compared to other European countries and increasing student-to-faculty ratios.¹⁰⁵ In order to gain eligibility for enrolment into universities or Fachhochschulen, it is necessary to write nation-wide entrance exams. Enrolment is typically based on the 20-20-60 model, meaning 20% of open spots are awarded to the highest entrance exam marks, 20% given to students who have been on the wait list, and 60% of students are permitted based on average school grades and other criteria.¹⁰⁶ The composition of students in higher education by social background in 2006 shows 38% of those enrolled are from the 'high' income bracket, 24% from the 'elevated' bracket, 25% from the 'medium' bracket, and 13% from the 'low' bracket.¹⁰⁷

The effects of the Bologna accord on the structure and student enrolment at post-secondary educational institutions will not be apparent for several years. Growth in tertiary attainment is one of the lowest in the OECD. The states and country remain divided on the issue of tuition. Although universities in Germany may benefit from the increased funds brought from the introduction of student tuition fees in several states, no evidence of vast improvements in education has yet arisen. Issues with the quality of teaching and university resources due to a lack of funding, in addition to questions of social justice associated with the introduction of tuition fees, must be addressed in a country whose tertiary education sector is in a state of transition.

⁹⁸ Martin Spiewak, "Education, Science and Research", *Facts About Germany* (Frankfurt: Societäts-Verlag, 2007).

⁹⁹ "Which fees do students have to pay in the different federal states of Germany?," *Deutsches Studentenwerk*, <http://www.internationale-studierende.de/> (assessed July 24, 2008).

¹⁰⁰ Gardener, *University*.

¹⁰¹ Spiewak, *Facts*.

¹⁰² "Number of first years up 4% in the academic year of 2007," *Federal Statistical Office of Germany*, (2007), <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Content/Statistics/BildungForschungKultur/Hochschule/n/Aktuell,templateId=renderPrint.psml> (accessed 12 June 2008).

¹⁰³ Gardener, *University*.

¹⁰⁴ Spiewak, *Facts*.

¹⁰⁵ Strehl, *Funding*, 82.

¹⁰⁶ Spiewak, *Facts*.

¹⁰⁷ Astrid Schwarzenberger, "Funding of higher education in Germany: Raising the issue of efficiency and equity," *Hochschul Information System GmbH*, http://www.his.de/pdf/pub_vt/23/2007-11-22_schwarzenberger.pdf (accessed 11 June 2008).

Netherlands

The Netherlands' education system is divided into three distinct tracks from the commencement of secondary school and remains as such into the higher education system. The first of the three secondary tracks is VMBO (literally translated to "preparatory middle-level vocational education"), which prepares students for entry into one-to-four year vocational training programs at MBO ("middle-level applied education"). A majority of the population is tracked into this stream and never enters tertiary education. HAVO ("higher general continued education") is required for entrance into HBO ("higher applied education"), while VWO ("preparatory scientific education") leads to the more research-intensive WO universities. HBOs train students in a specific professional field and are geared toward future employment, while WOs focus more on generalist preparation. However, there has been a recent trend towards more research-based Master's degrees in HBOs and more program-specific training in WOs which is blurring the lines between the two tracks somewhat. There is some flexibility for movement between the HBO and WO tracks before entry into tertiary education; however one must successfully complete MBO to enter into a university if trained in VMBO. Both HBO and WO universities offer Bachelor's and Master's degrees, while only WO institutions offer the doctorate. There are 14 WOs, 8 academic medical centres, and 42 government-funded HBOs; of the 546,000 student enrolled in Dutch universities in 2005, 64% attended HBOs while the remaining 36% were enrolled in WOs. A single unit in the government, the Ministry of Education, Culture and Science, is responsible for all funding and administration of higher education.¹⁰⁸

Higher education is financed primarily by formula-based government funding (79%), while 21% of revenue comes from up-front tuition fees and private contributions. Per-student funding for WO students is considerably higher than for HBO students; however, total per student expenditure, excluding research funding, ranks third in the OECD and has remained stable over the past decade. Formula-funding is based mainly on the number of diplomas granted and number of first year students. The research function of WOs is funded through the government's formula funding and through performance-based funding agencies, while HBOs do not have fully funded Master's level programmes and do not receive substantial government funding for research. Private support through tuition has only slowly increased (rose by 2% of total revenue from 1996 to 2006) due in large part to national regulation of tuition.¹⁰⁹ Maximum tuition for students from the European Union for a Bachelor's degree in 2009 was 1620 Euros (\$2244 CDN), while non-EU students paid considerably higher (between \$9500 -17,500 CDN).¹¹⁰ Students over the age of 30 or those who take too long to complete their degrees pay higher unregulated tuition rates.

The proportion of 25-64 year olds with tertiary qualifications in 2006 was 29%, which was above the OECD average (25%) but below many high-income countries. Dutch tertiary attainment in the 25-34 year old age bracket was 3% closer to the OECD average (34% compared to OECD average of 31%) than in the 45-54 year old range (29% to OECD average of 23%), indicating the Netherlands has not accelerated participation in higher education at the same rate as many OECD countries. Only 2.9% of those over 30 were enrolled in education, which is considerably lower than the OECD average of 5.6%; higher tuition and ineligibility for loans and grants for those over the age of 30 may

¹⁰⁸ Simon Marginson, Thomas Weko, Nicola Channon, Terttu Luukkonen, and Jon Oberg, "Thematic Review of Tertiary Education: The Netherlands," *Organisation for Economic Co-operation and Development*, http://www.cshe.unimelb.edu.au/people/staff_pages/Marginson/Tertiary_Review_Country_Note.pdf (accessed June 29, 2009).

¹⁰⁹ Ibid.

¹¹⁰ Utrecht University, "Tuition Fees, International Students" <http://www.uu.nl/EN/informationfor/internationalstudents/financialmatters/tuitionfees/Bachelorsprogrammes20092010/Pages/default.aspx> (accessed June 29, 2009).

play a factor in this.¹¹¹ One of the more impressive statistics from the Netherlands is that a study from the 1990s showed little correlation between parental background/income and participation in higher education once controls for grades were put in place; a more recent study also concluded the same.¹¹² However, non-Western immigrants have been identified as less likely to enrol in or complete tertiary education. While participation by minorities has grown somewhat, it has barely reflected growth in the population composition, and completion and success rates remain much lower than native students. It is believed that the early sorting and streaming process in secondary education could be contributing to this, since many schools in immigrant neighbourhoods are more likely to track a larger percentage of students into vocational training or the workforce. Efforts to improve mobility between tracks, particularly between the HBO and WO streams, have increased movement amongst students in recent years, but more may need to be done to target those streamed for MBOs early on. It has been noted in several studies that there is an inadequate number of graduates in science and technology and that the system does not always respond to national priorities. While the Netherlands is not the only country with this issue, it remains a national concern in policy development.¹¹³

Both loans and grants from the government are available to all students. All students are eligible for a basic grant and public transportation allowance for the normal duration of their university programme (typically four years), and a supplementary grant is available for 30% of students deemed to be low-income based upon parental income. The basic grant has fluctuated somewhat in value over the past decade, while the supplementary grant has grown, but the two together cover almost all of the cost of tuition. In 1996, the length of eligibility for the grants was reduced from five to four years, which was found to have no effect on student enrolments but did cause an increase in courses taken each year. For three years after the end of the grant period, students may take out a loan for the cost of tuition and up to 800 Euros per month in living expenses. This loan has a two-year grace period, allows deferral due to insufficient earnings, and is forgiven after 15 years.¹¹⁴

The Netherlands has a well-established tertiary education system that has remained relatively unchanged both in structure and in cost recovery. The country's strong commitment to funding of the system has allowed the student contribution to remain stable and kept universal financial aid meeting the academic and living costs of students, particularly those from low-income families. While concerns remain with enrolment of minority students, participation has been found to be independent of parental income and background, which should be commended. The premature streaming of students into tracks at the beginning of secondary school will remain a fundamental challenge if the system is to expand to the country's stated goal of 50% enrolment. Although recent efforts to remove mobility barriers between tracks will likely help, the Netherlands' higher education system continues to show a propensity for little change.

¹¹¹ Marginson, "Thematic".

¹¹² Hessel Oosterbeek, and Dinand Webbink, "Enrolment in Higher Education in the Netherlands," *De Economist*, (1995), 143, 367.

Michele Belot, "What lessons can we learn from the Netherlands and the United Kingdom?"
http://www.universitairstichting.be/common_docs/Michele_Belot.ppt (accessed June 29, 2009).

¹¹³ Marginson, "Thematic".

¹¹⁴ Ibid.

Spain

Unlike most OECD countries, Spain's higher education system is almost entirely comprised of universities. While non-university institutions exist, they are governed by the same act that governs primary and secondary education and are often viewed in a similar manner.¹¹⁵ This means that, in Spain, tertiary education is focused exclusively on university students.

The university education system in Spain has seen many changes since 1983 as the government of Spain adapted the system so that it would be driven in part by market forces. The current landscape of university education in Spain is based on legislation called the Organic University Law, which was passed in 2001 and later reformed in 2007. This legislation allows for universities to act autonomously in regards to finances, administration and academics. The tertiary education system in Spain now is populated by a collection of 75 institutions. An additional dimension of the Spanish education system is the role of the Catholic Church in some private universities. Presently there are 7 universities that are the property of the Catholic Church. The bodies responsible for setting direction for higher education in Spain are the Council of Universities, which represents the public and private universities, and the Coordination Council, which represents regional and central ministries. Across the system there are 1.6 million students.¹¹⁶

Despite changes to the Spanish education system to make it more competitive, there are a declining number of students participating in higher education in part due to shifting demographics. In addition to this, the net entry rates in Spain still remain low for Type A tertiary education compared to other OECD countries. For instance, while the net entry rates increased for Type B tertiary education from 15% in 2000 to 20% in 2004, Type A saw a decline from 47% to 44% in the same time period. This meant that Spain's enrollment was below the OECD average of 53%.¹¹⁷ In addition to this, the total number of students in the university system declined over the decade from 1,608,671 students in 1996/97 to 1,505,100 students in 2006/07.¹¹⁸ This means that Spain has the dubious honour of being the only OECD country to see their enrollment in Type-A tertiary education decrease from 2000 to 2004.¹¹⁹ It should be noted, however, that the decline in participation in Type A education has been offset by enrollment in Type B education (in percentage, but not total number of students).¹²⁰

The public portion of the education system in Spain is funded by a number of different sources. Some of the sources of funding include fees charged to students, funding from regional governments, European Union funds, contributions from the private sector, and institutional funds.¹²¹ The percentage of public expenditures spent on education in Spain remains high. It should be noted that a large part of the increase in funding for education since 1995 has been focused on tertiary education. While funding for non-tertiary education increased by only 4% from 1995 to 2003, funding for tertiary education increased by 58% over the same time period.¹²² In 2006, this increase in funding has

¹¹⁵ Paulo Santiago, José Joaquín Brunner, Guy Haug, Salvador Malo, and Paola di Pietrogiamomo. "OECD Reviews of Tertiary Education: Spain". 2009.

¹¹⁶ European University Institute. "Spain: Academic Career Structure". 2009.

¹¹⁷ Organisation for Economic Co-operation and Development. "Education at a Glance 2006". 2006.

¹¹⁸ Organisation for Economic Co-operation and Development. "OECD Briefing Note for Spain". 2006.

¹¹⁹ OECD, "Education at a Glance 2006".

¹²⁰ Organization for Economic Co-operation and Development. "OECD Briefing Note for Spain". 2006.

¹²¹ European University Institute. "Spain: Academic Career Structure". 2009.

¹²² Organization for Economic Co-operation and Development. "OECD Briefing Note for Spain". 2006.

meant that 11.1% of total government expenditure was directed toward education in Spain. Of the total expenditure spent on education by the Spanish government, 18% was directed to tertiary education in 2006.¹²³ The student contribution into the public system in Spain is amongst the lowest in the OECD. For the 2003/2004 year, the annual average tuition fee was \$801 (USD).¹²⁴

In Spain, the financial assistance available to students is provided by the National government and the autonomous communities. The national level grants are divided into two categories. The first national program is for students who are not travelling outside of their autonomous communities. The second amount of aid is for students who are travelling outside of their communities. The difference for this aid is that when students travel outside of their autonomous community, they can get additional funding for mobility. Beyond this, the purpose of the grants is to assist with paying for tuition, some of the costs of living, and academic materials costs.¹²⁵ The vast majority of aid available to students goes to students enrolled in public institutions. In the public system for the 2003/2004 year, 20% of students had their tuition completely covered, 11% of students had part of their tuition covered and 69% of students had none of their tuition covered. In the private stream, 95% of students had none of their tuition paid for them.¹²⁶

Switzerland

Switzerland has two primary divisions in its tertiary education sector: the academically-oriented university system, and advanced vocational training. The first division, which contains over two-thirds of total participants, is made up of 10 Cantonal (state) universities, 7 universities of applied sciences that focus on technical sciences, and two Swiss Federal Institutes of Technology. There are two general tracks within the vocational training system, one that offers state-recognized diplomas, and one that offers credentials recognized by a professional association. The Swiss federal government regulates all vocational training and has supervisory authority over the federal institutes of technology and two polytechnic institutes, while the cantons have decentralized responsibility for their universities. The federal government is also responsible for research at universities, contributing generously in research and development as a means of economic investment, particularly in the last few years.¹²⁷

Approximately 82% of those aged 25 to 64 have received some form of post-compulsory schooling, compared to 62% for all OECD countries. However, the current upper-secondary attainment rate of young adults at the typical age is 83% in Switzerland and 79% for the OECD, suggesting that Switzerland's tradition of high attainment rate has leveled off compared to other OECD countries.¹²⁸ In fact, through much of the 1970s and 1980s, maintaining quality in tertiary education was a much higher political priority, while much of Europe was expanding their systems. However since the 1980s, the overall enrolment in tertiary education more than doubled in Switzerland, as increasing the productivity of the Swiss population became a priority and growth in the vocational system was seen as key to

¹²³ UNESCO. "Finance Indicators by ISCED Levels". <http://stats.uis.unesco.org>. Accessed January, 2010.

¹²⁴ Organisation for Economic Co-operation and Development. "Education at a Glance 2006". 2006.

¹²⁵ Ibid.

¹²⁶ Ibid.

¹²⁷ Organisation for Economic Co-operation and Development. "Reviews of National Policies for Education: Tertiary Education in Switzerland". 2003.

¹²⁸ OECD, "Switzerland".

increasing participation and access.¹²⁹ The current participation rate in university (type A) of those aged 21 is 20%, which is moderately higher compared to the OECD; the vast majority of graduates are in human and social sciences. The average length of a Swiss bachelor's degree is six years and very few programs are less than five years in length, though the Bologna process will likely change this average. The overall retention rate through to graduation is 70%.¹³⁰

An average of 43% of financing for universities is provided directly by the canton in which they reside, and approximately 12% of revenue is derived from cost-sharing with non-university-containing cantons. The federal government's support for universities varies significantly across the cantons and has been in decline proportionally for two decades. On average, the Confederation makes up 20% of total revenue coming primarily in the form of granting subsidies based primarily on the total number of enrolled students, in addition to direct financing of research and matching funds for third party contributions. Approximately 70% of total financial support for research comes from private interests, particularly in the chemical and pharmaceutical industries. Switzerland is the only European country to allow each jurisdiction to set their own tuition fee without regulation, and as a result the proportion of revenue derived from student fees varies considerably, though it is typically less than 20% and growth in tuition fees has been very modest.¹³¹ The average annual university tuition fee for 2009-10 was 1556 CHF (\$1497 CDN), though it varied between 1000 and 4000 CHF. Tuition fees for international students are often identical to domestic students or contain a small additional fee.¹³² Universities of applied sciences are financed with a similar cost-recovery model, while institutes of technology and vocational training are almost entirely financed by the federal government.¹³³

Approximately 5% of the funds provided by the Confederation to the cantons are dedicated to student financial aid in the form of scholarship non-repayable grants, interest-bearing loans, and means-tested student allowances for both domestic and international students.¹³⁴ Approximately 14% of students receive either a loan or grant from the state, and an additional 3% receive financial support from the institution or a private organization. A full 87% of this total support is non-repayable and 25% of the support is dedicated to students whose parents have Switzerland's lowest educational attainment level.¹³⁵ While tuition remains relatively low, public expenditure on financial aid is low compared to the OECD, which averages approximately 18% investment in financial aid.¹³⁶

A recent wide-reaching review of Switzerland's tertiary education sector articulated two primary recommendations. The first was to increase flexibility for movement of students between different types of institutions. The second was to strengthen efforts for promoting participation amongst under-represented groups, since parental education and gender continue to play key roles in participation decisions of potential students.¹³⁷ In particular, increasing the

¹²⁹ Marlis Buchmann, Stefan Sacchi, Markus Lamprecht, and Hanspeter Stamm. "Switzerland: Tertiary Education Expansion and Social Inequality". In "Stratification in Higher Education: A Comparative Study", Yossi Shavit, Richard Arum, and Adam Gamoran (editors). 2007. Pages 321-350.

¹³⁰ OECD, "Switzerland".

¹³¹ OECD, "Switzerland".

¹³² Rectors' Conference of the Swiss Universities. "Study in Switzerland: Costs". <http://www.crus.ch/information-programme/study-in-switzerland.html?L=2>

¹³³ OECD, "Switzerland".

¹³⁴ OECD, "Switzerland".

¹³⁵ Swiss Confederation. "Bologna Process, National Report: 2007-2008, Switzerland".

http://www.ond.vlaanderen.be/hogeronderwijs/Bologna/links/National-reports-2009/National_Report_Switzerland_2009.pdf

¹³⁶ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2008". 2008.

¹³⁷ OECD, "Switzerland".

availability of financial aid for the middle class and maintaining the per-student support from the federal government to avoid the necessity for universities to approve large-scale increases in tuition are two potential courses of action. However, tuition fees remain modest with small, stable growth, and increases in the types of vocational training have improved the number of routes for citizens to gain access to tertiary education. While efforts must continue to improve retention, increase financial aid, and expand access, Switzerland should be commended for its long history of relatively high participation and quality institutions in post-secondary education.

2.3 Mix of Public and Private Institutions

Inclusion of a country in this group indicates a significant proportion of both publicly-financed and privately-funded post-secondary institutions. Higher tuition costs are typically charged for attendance at the private institutions, whereas tuition is lower or non-existent at the public institutions. The structures and roles of private institutions vary greatly amongst the countries. This model incorporates Austria, Brazil, Czech Republic, Iceland, Japan, Korea, Mexico, Portugal, and the United States.

Austria

Austria has four general universities, ten specialised medical or technical universities, six universities of arts and music, 12 private universities, 21 applied sciences institutions (Fachhochschulen), and a multitude of institutions that provide youth and adult education and training outside the traditional education system.¹³⁸ The public universities provide education to 84% of students who attend post-secondary education, with over 72,000 students enrolled in the country's largest university (University of Vienna).¹³⁹ The private universities are smaller, with the largest institution's enrolment at just over 500 students.¹⁴⁰ The size of Fachhochschulen varies from 85 to over 4,000 students.¹⁴¹

Until 1993, the country had just three accredited general universities, when the Federal Ministry for Education, Arts, and Culture began to recognize specialized institutions as universities. Over a period of several hundred years, control and influence over these general universities had included royalty, the Catholic Church, and the federal government, and universities have since evolved into semi-autonomous institutions with financial support from the federal and provincial governments.¹⁴² In particular, the 2002 Universities Act granted autonomy to the public universities implementing a funding model with tri-annual agreements between the institutions and the federal government, with 80% of the funding given through performance agreements and 20% provided by a formula based

¹³⁸ "Study and Research in Austria," *Austrian Exchange Service*, (2008), http://www.oead.at/_english/austria/ (accessed May 25, 2008).

¹³⁹ Strehl, *Funding*, 64.

"Welcome to the University of Vienna," *University of Vienna*, <http://www.univie.ac.at/?L=2> (accessed May 25, 2008).

¹⁴⁰ "The Catholic-Theological Private University of Linz," *Private Universities in Austria*, http://www.privatuniversitaeten.at/pages_en/theolinz.htm (accessed May 25, 2008).

¹⁴¹ "Erhalter mit Aufnahmeplätzen und Gesamtplätzen - 2007/08", *European Association for Quality Assurance in Higher Education*, http://www.fhr.ac.at/fhr_inhalt/00_dokumente/Statistiken_2007-08_Web.pdf (accessed May 25, 2008).

¹⁴² "The Educational System in Austria," *European Commission, Eurydice: Eurybase, The Information Database on Education Systems in Europe* (2007). http://www.eurydice.org/ressources/eurydice/eurybase/pdf/0_integral/AT_EN.pdf (assessed May 25, 2008).

upon societal need, demand, teaching, research, and social goals.¹⁴³ It also formalized the previous accreditation of specialized universities focusing on medicine, technology, teaching, and the arts. Private universities were granted recognition as universities by law in 1999; while regulatory systems have been established by the Federal Ministry for Education, Arts, and Culture, the institutions are granted freedom to regulate academic programs and set tuition fees.¹⁴⁴

Unlike many countries, Austria did not develop an applied branch in its higher education system after WWII.¹⁴⁵ In response to demand to expand the post-secondary sector in the early 1990s, the country designed and implemented Fachhochschulen whose aim was to provide a shorter learning experience with a higher level of scientifically-oriented vocational education, while allowing universities to focus more on research and scholarship. These institutions have more autonomy than universities, and are they able to attend to their own affairs and finances (subject to review every five years); they receive funding from the federal and provincial governments in a manner similar to formula funding dependent on enrolment and other criteria.¹⁴⁶

Tuition is standard for all programs in public universities at 363 € (\$503 CDN) per semester for citizens of the European Union; tuition is double for citizens of countries outside the EU, and education is free for students from the poorest countries in the world.¹⁴⁷ Tuition fees for private institutions are significantly higher with the majority charging more than double that of the public institutions, although one private university (Catholic Theological Private University Linz) charges the same as the public fee.¹⁴⁸

Fachhochschulen are entitled, but not obliged, to charge the same amount to students; approximately 70% of programs currently assess these fees.¹⁴⁹ Investment in higher education has increased by 70% in just seven years, and tuition fees continue to make up a small percentage of revenue with over 90% of the funding provided by the federal government.¹⁵⁰

Growth in enrolment remained relatively steady until the introduction of tuition fees in 2001-02, which coincided with a sharp decrease in enrolment from over 220,000 students to 176,700 students in just one school year; both a

¹⁴³ Strehl, *Funding*, 35, 62.

¹⁴⁴ "Universities Act 2002," *National Council of the Republic of Austria* (2002).
http://www.reko.ac.at/upload/UG_2002_Englisch.pdf?PHPSESSID=8d3147f472bc7f6d928b6ac1b214d718 (accessed May 2, 2008)

¹⁴⁵ "Educational", *European*.

¹⁴⁶ "Higher education in Austria," *Center for Higher Education Policy Studies* (July 2003),
<http://www.utwente.nl/cheps/documenten/austria.pdf> (accessed May 25, 2008).

¹⁴⁷ "Solemn Vigil for the Abolition of Tuition Fees", *European Students' Union*, December 20, 2006, <http://www.esu-online.org/index.php/News/news-archive/185-news-archive/157-solemn-vigil-for-the-abolition-of-tuition-fees> (accessed May 25, 2008).

¹⁴⁸ David Haardt, "Study in Austria" (2003), <http://haardt.net/studyinat.htm> (accessed May 25, 2008).

¹⁴⁹ "Degrees and Programmes," *Fachhochschulrat, FH Council* (2008).
http://www.fhr.ac.at/fhr_dyn/studienangebote/studienangebot.aspx (accessed May 25, 2008).

¹⁵⁰ "Budget Information 2007 – At A Glance," *Austrian Government: Department of Education, Employment and Workplace Relations* (2007),
http://www.dest.gov.au/portfolio_department/dest_information/publications_resources/resources/budget_information/budget_2007_2008/at_a_glance.htm (accessed May 27, 2008).

Strehl, *Funding*, 64.

decrease in new enrolments and drop-outs contributed to the decline.¹⁵¹ Enrolment in Fachhochschulen has more than doubled since their conception and the institutions have developed reputable programs, particularly in the fields of engineering, business, and applied science. The inception of tuition fees sparked strong reaction and protests from students.¹⁵² According to the National Union of Students in Austria, 80% of students must now work to finance their studies and there are growing levels of debt and poverty amongst students. The Social Democratic Party, which was elected in 2005, had promised to abolish tuition fees but has not followed through on the commitment, and enrolment has only just recently recovered to pre-tuition fee levels.¹⁵³

New modest financial aid allocations and the introduction of subsidized loans coincided with the introduction of tuition fees in 2001, which added to the current approach of providing means-based study grants linked with academic performance, along with travel allowance and aid for studies abroad. Study allowances were also introduced in 2004 for students that can demonstrate need.¹⁵⁴

Low enrolment of women in post-secondary education has been a longstanding concern, which still largely exists in Fachhochschulen where female participation is below 35%. Accusations of discrimination against women are particularly widespread in medical institutions.¹⁵⁵ A long duration of study, which averages 11.4 semesters (or approximately six years) and can last over eight years for medical training, also contributes to high drop-out rates. The tertiary education system is widely regarded as inefficient. In 2005-06, the percentage of students that completed their degree was less than 40%.¹⁵⁶

Despite Austria's successful implementation of Fachhochschulen and increased funding to the higher education system, the introduction of tuition fees to increase revenue and low retention rates have impeded the country in significantly expanding enrolment in tertiary education.

Brazil

Brazil has a large, and ever increasing, population in addition to its status as a powerful emerging economy. The post-secondary education system is complex and in a nearly constant state of evolution and renewal. Higher education in Brazil is provided by 2,165 institutions split into universities (public federal, state, and municipal universities and private universities) that have a high level of autonomy and carry out research, community outreach and teaching; public and private university centers that are not required to carry out research; and higher education

¹⁵¹ "Higher", *Center*.

¹⁵² "Absurd proposal on tuition fees in Austria," *European Students' Union*, January 8, 2007, <http://www.esib.org/index.php/News/news-archive/185-news-archive/159-absurd-proposal-on-tuition-fees-in-austri> (accessed May 25, 2008).

¹⁵³ "Solemn", *European*.

¹⁵⁴ The International Comparative Higher Education Finance and Accessibility Project, "Austria", <http://www.gse.buffalo.edu/org/inthigheredfinance/CountryProfiles/Europe/Austria%20%20updated.pdf> (accessed December 5, 2008).

¹⁵⁵ "Higher", *Center*.

¹⁵⁶ *Ibid*.

schools, multiple faculty facilities and single faculty facilities. The two types of facilities are non-university institutions.¹⁵⁷

In 2007, 4.5 million students were enrolled in higher education in Brazil, and over two-thirds of those students were enrolled in private institutions. This is particularly troubling from an access perspective as public education is free to anyone who qualifies to attend and those students who do well enough to make the cut are often from the upper-class. The remainder of students must attend the more expensive private institutions. Brazilian higher education fits the elite public / mass private model of higher education, in which the public system has been kept small, relatively well-funded, academically selective, and for the most part socially elite, while a large, tuition-dependent private system of very diverse quality has been encouraged to absorb the rapidly growing demand for higher education.

The 2008 OECD report showed Brazil's public spending on education at 4.4 percent of GDP. About one-fifth of its education budget is spent on higher education, which is close to the OECD average. However, the average cost to the budget of higher education per student is 150 percent of GDP per capita, or almost four times as high as the OECD average.¹⁵⁸ Given that nearly 60 percent of students in the public higher education system come from the top income quintile, this investment could be argued as regressive.

Enrollments almost tripled between 1999 and 2005, growing from 1.5 million to more than 4.5 million students due to expansion in secondary school enrollments and rapid growth of the private higher education sector. Despite this growth, in 2004, the gross enrollment ratio for tertiary education was only 22.3 percent and the higher educational participation rate for 18 to 24 year olds was only 11 percent.¹⁵⁹ In light of these numbers, the government's 2001 National Education Plan aim to reach 30 percent gross enrollment by 2011 with 40 percent appears extremely ambitious.

In an attempt to offer support to students in the form of an income-contingent loan, the government established the Fundo de Financiamento ao Estudante do Ensino Superior (FIES) program in 1999. This new program provides loans (paid directly to the higher education institutions) to needy students to cover up to 50 percent of their tuition costs. The fixed interest rate for contracts signed in 2006 was 6.5 percent (3.5 percent for students studying to be teachers). The interest rate is set by the Conselho Monetário Nacional (National Monetary Council). While in school, the borrower must make interest payments every three months up to a maximum of R\$50.

Additionally, in 2005 a grant program was established that gives four federal tax breaks to private higher education institutions that award means-tested tuition scholarships to students with special needs, teaching degrees for public school teachers and public high school students or full scholarship students. A percentage of these scholarships are reserved for afro-descendents, indigenous people and disabled citizens that corresponds to the percentage of each group in the population. In 2006, a total of 1,232 institutions, or more than half of all institutions, participated in this grant program.

The cost of private higher education in Brazil for the majority of students, especially those from lower income backgrounds, is still incredibly high. Below is a table outlining the low, medium and high costs a student and their family could face in their attempt to access post-secondary education.

¹⁵⁷ The International Comparative Higher Education Finance and Accessibility Project, "Brazil", http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Latin_America/Brazil.pdf

¹⁵⁸ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2008". 2008

¹⁵⁹ 2004 World Bank Development Indicators.

Table Five: Higher Education Expenses Borne by Parents and Students, First Degree, 2006¹⁶⁰

	Public Universities			Private Universities		
	Low	Moderate	High	Low	Moderate	High
One Time Fees	R 130 [\$117]	R 130 [\$117]	R 130 [\$117]	n.a.	n.a.	n.a.
Tuition	0	0	0	R 11,765 [\$10,599]	R 12,600 [\$11,350]	R 14,700 [\$13,243]
Books and Other Educational Expenses	R 500 [\$450]	R 500 [\$450]	R 500 [\$450]	R500 [\$450]	R500 [\$450]	R 500 [\$450]
Subtotal Costs of Instruction	R 630 [\$567]	R 630 [\$567]	R 630 [\$567]	R 12,260 [\$11,045]	R 13,100 [\$11,800]	R 15,200 [\$13,690]
Lodging	0	R 4,000 [3,603]	R 7,500 [\$6,756]	0	R 4,000 [3,603]	R 10,000 [\$9,010]
Food	R 1,000 [\$900]	R3,000 [\$2,700]	R 4,000 [\$3,600]	R 1,000 [\$900]	R 3,000 [\$2,700]	R 4,500 [\$4,050]
Transportation	R 800 [\$720]	R 800 [\$720]	R 1,500 [\$1,350]	R 800 [\$720]	R 800 [\$720]	R 2,000 [\$1,800]
Other Personal Expenses	R 1,000 [\$900]	R 1,000 [\$900]	R 2,000 [\$1,800]	R 1,000 [\$900]	R 1,000 [\$900]	R 2,000 [\$1,800]
Subtotal Cost of Student Living	R 2,800 [\$2,522]	R 8,800 [\$7,927]	R 15,000 [\$13,513]	R 2,800 [\$2,522]	R 8,800 [\$7,927]	R 18,500 [\$16,666]
Total	R 3,430 [\$3,090]	R 9,430 [\$8,495]	R 15,630 [\$14,080]	R 15,060 [\$13,567]	R 21,900 [\$19,730]	R 33,700 [\$30,360]

Note: Low estimates are averages based on a single student living with parents. Average estimates are based on single students not with living with parents. High estimates reflect those students who are head of household. In Brazilian Real; U.S. dollar conversion by 2004 purchasing power parity estimates of \$1 = R 1.11

Czech Republic

The Czech Republic is one of many economies that can be classified as being “in transition” after the dissolution of the Soviet Union and the end of Communism in the country. Many sectors, such as banking or private industry, are still developing and the post-secondary education system is no exception. Originally intended for a very small, elite group of students, 1989 brought on a huge influx of new students, which has since ballooned to almost 300,000 students in tertiary education as of 2006.¹⁶¹ Of those 300,000 students in higher education, approximately 135,000 are enrolled in a three or four year bachelor program full-time.¹⁶²

For the most part, the university system in the Czech Republic is entirely public, with over 90% of students attending a government-financed institution. At the university level, there are 28 institutions which cover the range of usual topics in undergraduate education, and are fully funded with no tuition from students. There are also 36 “non-

¹⁶⁰ International, “Brazil”.

¹⁶¹ The International Comparative Higher Education Finance and Accessibility Project, “Czech Republic”, http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Europe/Czech_Republic.pdf.

¹⁶² Czech Statistic Office, 2008

university” private institutions which typically deliver degrees of a specific nature. All private institutions must be approved by government through a rigorous process.

In addition to the university and non-university type tertiary education institutions, there are 174 tertiary professional schools (114 regional, 1 state, 47 private and 12 religious), which provide students with advanced technical knowledge and generally take three to three and one half years to complete. Their curriculum is prepared by the school and accredited by the Ministry of Education. The graduate is called a “specialist with a diploma”. At vocational colleges, students must pay tuition fees. These tuition fees range from several thousand Czech crowns per year to several tens of thousands.

Beyond paying for the schooling of all students at public institutions, scholarships are offered by the government to cover living expenses such as housing and food. Given the large number of students now enrolled in post-secondary education, the Czech government now spends ten percent of its annual budget on education generally, which is nearly 4.4% of GDP.¹⁶³ Of this investment, 30% is on tertiary education.

Financial crisis in post-secondary education has been growing over the past decade. Continuing financial and structural obstacles have limited the growth of the number of higher educational opportunities. The Czech Republic remains close to the bottom among OECD countries with respect to the number of adults with tertiary education and the number of young people of relevant age who continue their studies after graduation from secondary school. At the same time, however, aspirations for higher education have been steeply rising, because the economic returns of higher education in post-communist countries have grown significantly.

Iceland

In Iceland, compulsory education begins at age six and carries forward until a student is 16 years old. At the end of compulsory education, all students are given the right to enter into upper-secondary education. The upper-secondary education system in Iceland is divided into general academic education and vocational education.¹⁶⁴ The driving force behind upper-secondary education and post-secondary education in Iceland, according to the national government, is to provide equity of opportunity for all citizens regardless of gender, region, culture or socio-economic background.¹⁶⁵ The post-secondary sector is made up of a mixture of public and private universities and institutes (the difference being that institutes do not conduct research). At present there are 11 universities in Iceland. Eight of the universities in Iceland are public institutions while three are government supported private institutions.¹⁶⁶ The national government is responsible for the operation of the universities and the upper secondary schools.

¹⁶³ UNESCO Institute of Statistics. (2007). Global education digest 2007: Comparing education statistics across the world. Montreal.

¹⁶⁴ Ministry of Education, Science and Culture. “Structure of the Educational System”. http://eng.menntamalaraduneyti.is/education-in-iceland/Educational_system (accessed January 5, 2010).

¹⁶⁵ Ministry of Education, Science and Culture. “The Educational System in Iceland”. <http://bella.mrn.stjr.is/utgafur/skolenska.pdf> (accessed January 5, 2010).

¹⁶⁶ Ministry of Education, Science and Culture. “Structure of the Educational System”. http://eng.menntamalaraduneyti.is/education-in-iceland/Educational_system (accessed January 5, 2010).

Attainment of tertiary education in Iceland is slightly above average for Type A tertiary education, but well below the OECD average in terms of Type B.¹⁶⁷ A review of cohort groups in Iceland demonstrates that, while recent years have shown growth in enrolment and educational attainment, it appears to be slowing.¹⁶⁸ This may be due to multiple reasons. First, improvements to the overall system in the late 1990s led to the adult population entering the education system, which inflates the historic numbers.¹⁶⁹ Second, there seems to be a slowing of individuals entering into the system at the traditional age.

Funding for upper-secondary and PSE in Iceland is primarily funded by the central government, with some involvement from the local governments. Students, while not being charged tuition fees within the public system, are charged some fees. Students in upper-secondary schools are charged enrolment fees and must pay for their own academic materials. Vocational students are charged for their materials. At the university level, the fees a student pays are based on the institution they attend. Students who attend public universities do not pay tuition; however, they are charged registration fees.¹⁷⁰ Students at private institutions, on the other hand, are charged tuition fees. In 2003/04 the average tuition for a student attending a private university in Iceland was \$3,000 (USD).¹⁷¹

Public funding is available to both public and private universities in Iceland. The funding that is provided to each institution in Iceland is based on regularly constructed performance based contracts between the state and the university. The performance contracts that are negotiated every three years allow the government of Iceland a great deal of leverage to direct tertiary education.¹⁷² While the public portion of funding for tertiary education is at the OECD average – 1 percent of GDP – the private sources of funding are below average. This means, that as a portion of GDP, Iceland spends less than the OECD average on tertiary education.¹⁷³

In Iceland, financial assistance is limited to government loans that are available to all students. The loan system is aimed at providing support for all students to help pay for tuition and costs associated with attending higher education.¹⁷⁴ Loans are administered through the Icelandic Student Loan Fund. Repayment of the loan in Iceland is contingent on the individual's income after graduation, which means that loan terms are based on the ability of the graduate to pay.¹⁷⁵

Japan

Japan has two sectors of higher education: a public sector controlled by the national and local governments and a much larger market-driven private sector. In 2007, Japan had 87 national universities run by the federal government's Ministry of Education, 89 public universities run by local or regional governments, and 568 private universities. There

¹⁶⁷ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2006". 2006

¹⁶⁸ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2009". 2009.

¹⁶⁹ Organisation for Economic Co-operation and Development. "Thematic Review of Tertiary Education: Iceland". 2008.

¹⁷⁰ Ministry of Education, Science and Culture. "Structure of the Educational System".

http://eng.menntamalaraduneyti.is/education-in-iceland/Educational_system (accessed January 5, 2010).

¹⁷¹ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2006". 2006

¹⁷² Organisation for Economic Co-operation and Development. "Thematic Review of Tertiary Education: Iceland". 2008.

¹⁷³ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2009". 2009

¹⁷⁴ Organisation for Economic Co-operation and Development. "Highlights from Education at a Glance 2009". 2009

¹⁷⁵ Organisation for Economic Co-operation and Development. "Thematic Review of Tertiary Education: Iceland". 2008.

are also 525 junior colleges, most of which are private, and 63 nationally-run technical colleges, in addition to special training schools that offer certain professional certifications.¹⁷⁶ University is typically four years in length for those aged 18 to 21; it is unusual for those in Japan to return to higher education after beginning work. More than three-quarters of enrolled students attend the private universities and it is the private sector that is considered to have “largely contributed to the massification of higher education in Japan”; in 2002, only 11.6% of undergraduates were directly funded by the government.¹⁷⁷ In 2004, the national universities were given independent corporation status, allowing the institutions to set their own tuition fees (to a certain maximum) and manage their own employees that are no longer considered to be civil servants, which further blurred the line between the public and private institutions.¹⁷⁸

Japan’s public financing of higher education consumes only approximately 0.5 percent of its GDP, nearly half the OECD average, which is largely due to lower overall public expenditures compared to most industrialized countries and the large private sector involvement in higher education. Private institutions set their own tuition without regulation, while the public institutions’ tuition fee cannot exceed 110% of the standard fee set by the Ministry of Education and the Ministry of Finance. In 2005, the standard tuition fee was raised to 535,800 Yen (\$6,026 CDN) and, despite the promise made by the Japan Association of National Universities, most institutions raised their tuition accordingly.¹⁷⁹ Local public universities typically charge slightly higher tuition than the national universities, while private institutions charge significantly more, although the ratio of tuition fees of private to national universities has been declining and was 1.40 in 2001.¹⁸⁰

Outside of tuition income, public institutions receive income from the government in a variety of ways: formula operating grants determined by the number of academic staff and students, subsidies for capital expenditures, grants for facility improvement, and long-term loans (which are limited to capital expenditures for university hospital building or specific objectives, such as dormitories). While private institutions are self-financed in principle, they do receive expenditure subsidies from the government through the Promotion and Mutual Aid Corporation for Private Schools of Japan to reduce the financial burden on students and improve educational quality; in addition, private institutions receive direct grants for educational and research equipment and long-term low-interest loans from the national government. However, state subsidies have been decreasing since 1980 and now account for less than 10% of private institutions’ budgets. Both public and private institutions use income from teaching university hospitals,

¹⁷⁶ The International Comparative Higher Education Finance and Accessibility Project, “Japan”, http://www.gse.buffalo.edu/org/inthigheredfinance/CountryProfiles/Asia/Japan_Updated.pdf (accessed October 13, 2008).

¹⁷⁷ Jun Oba, “Higher education in Japan – Incorporation of national universities and the development of private universities,” *Research Institute for Higher Education, Hiroshima University*, 2005, http://www.tr.emb-japan.go.jp/T_04/Education.pdf (accessed October 13, 2008).

Linda N. Edwards, and Margaret K. Pasquale, “Women’s higher education in Japan: Family background, economic factors, and the Equal Employment Opportunity Law,” *Journal of the Japanese and International Economies*, (2003), 17, 1-32.

Kumiko Aoki, “Japanese Higher Education Institutions in the 21st Century,” *Electronic Journal of Contemporary Japanese Studies*, 2005, <http://www.japanesestudies.org.uk/discussionpapers/2005/Aoki.html> (accessed November 2, 2008).

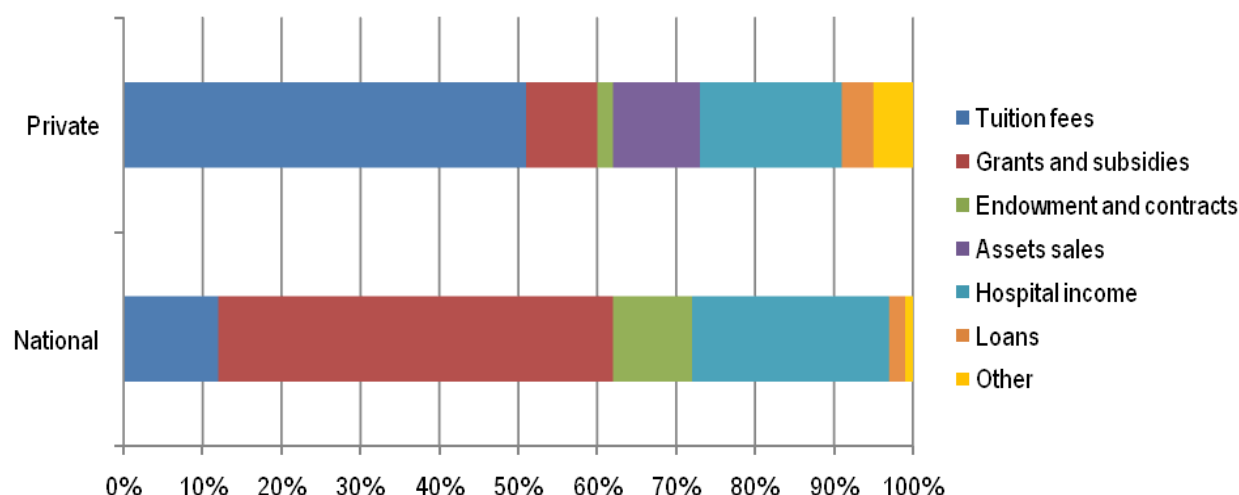
¹⁷⁸ Oba, “Higher”.

¹⁷⁹ International, “Japan”.

¹⁸⁰ Oba, “Higher”.

research contracts, and endowment income to cover costs as well. A breakdown of university income structure is provided below.¹⁸¹

Figure Nine: Income Structure of Japanese Universities, 2008¹⁸²



The national universities have typically been held in higher regard than private institutions for a number of reasons: historical reputation, lower student-to-faculty ratios, better facilities, and the practice of prestigious employers, such as the government or large corporations, restricting hiring to the graduates of the national universities. This leads to intense competition for the national spots and typically high scores in two separate entrance examinations are required.¹⁸³ While the national universities still tend to attract the top students, it should be noted that some private universities have begun to develop into equally reputable institutions.¹⁸⁴

Higher education enrolment levels remained relatively constant for over two decades at approximately 35-40% of the 18 year-old cohort until 1990 when an increase in the number of private and public institutions and the beginning of population decline began, leading to close to 50% enrolment in 2002.¹⁸⁵ Low birth rates has led to a decline in those beginning higher education (usually age 18), as the total number of eighteen-year-olds has declined from 2 million to 1.5 million from 1992 to 2002 and is expected to fall to 1.2 million in 2010. This has placed stress on the ability of institutions to fill enrolment targets and will continue to hurt institutions that have built their business model on ever-increasing tuition revenue.¹⁸⁶

Enrolment of women has been remarkably low throughout the history of Japanese higher education compared to other industrialized countries. Although enrolment has risen fairly rapidly in the past two decades and now is at 39% of undergraduates, much of the increase has been concentrated in junior colleges rather than universities. Parental

¹⁸¹ Kiyoshi Yamamoto, "Funding and Management for National Universities in Japan," The Center for National University Finance and Management, 2008, <http://www.zam.go.jp/p00/pdf/806/00000003.pdf> (accessed November 2, 2008).

¹⁸² Ibid.

¹⁸³ Library of Congress Country Studies, "Japan, Higher Education", 1994, [http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field\(DOCID+jp0108\)](http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field(DOCID+jp0108)) (accessed November 2, 2008).

¹⁸⁴ Oba, "Higher".

¹⁸⁵ Ibid.

¹⁸⁶ Akito Arima, "The Future of Higher Education in Japan," The Third Annual Michio Nagai Memorial Lecture, 2002, <http://www.unu.edu/hq/public-lectures/arima.pdf> (accessed November 2, 2008).

education remains a large factor in the likelihood of student's participation in Japanese higher education, with those students whose parents attended higher education more than twice as likely to attend themselves. Socioeconomic background has a similar effect; children whose parents worked in the 'service class' are far more likely to obtain post-secondary than those whose parents are non-skilled manual workers. Both of these effects, parental education and socioeconomic background, have persisted since before the expansion of the higher education sector.¹⁸⁷

A new student loan system, called the Independent Administrative Institution Japan Student Services Organization (JASSO), was introduced in 2004. There are two types of loans, both means-tested. The first is a zero-interest, academically-selective loan which is intended to cover some of the cost of tuition on a monthly basis, while the second type is a larger sum for those attending private institutions that are interest-bearing. Both loans have a six-month grace period with a maximum repayment period of 20 years. Neither type of loan typically comes close to covering all of a student's tuition and living expenses, and students are expected to work or receive parental contributions to cover the remaining costs.¹⁸⁸

Overall, total public and private expenditure on higher education in Japan remains lower than almost all other industrialized countries despite having relatively high enrolment. Many universities, both public and private, routinely run deficits and are in financial distress.¹⁸⁹ A dramatic decline in the higher education age cohort is leading to unprecedented challenges for both public and private institutions alike, and many are turning to higher tuition, international students, adult learners, and on-line delivery to expand their enrolment base to meet income demands.¹⁹⁰ While the development of a market-driven private sector allowed for significant enrolment expansion in the 1990's to meet economic demand for technically-trained post-secondary graduates, the population decline and low levels of public financing from the government have created financial challenges for the entire higher education sector. Furthermore, the enrolment expansion, which coincided with relatively high tuition increases and inadequate investment in financial aid, did not result in any real change in the unbalanced socioeconomic composition of the student body, and equal access to higher education in Japan remains a distant goal.

Korea

The education system in South Korea has grown and matured across all levels over the past 40 years.¹⁹¹ This is in large part due to the strong emphasis that South Korean society places on education. Students in South Korea can be described as amongst the best educated in the world in regards to literacy, completion rates and test scores.¹⁹²

¹⁸⁷ Hiroshi Ishida, "Japan: Educational Expansion and Inequality in Access to Higher Education", *Stratification in Higher Education: A Comparative Study*, Yossi Shavit, Richard Arum, and Adam Gamoran, (Stanford University Press, 2007), 63-86.

¹⁸⁸ International, "Japan".

¹⁸⁹ Arima, "Future".

Yamamoto, "Funding".

¹⁹⁰ Aoki, "Japanese".

¹⁹¹ Organisation for Economic Co-operation and Development. "Reviews of National Policies for Education: Korea 1998". 1998

¹⁹² Paul Jambor, "Why South Korean Universities Have Low International Rankings", http://www.academicleadership.org/empirical_research/606.shtml.

The education system in South Korea is controlled by the Ministry of Education and Human Resource Development at the national level and the Regional Offices of Education at the local level. One of the most apt ways to describe the South Korean education system, especially at the higher levels, is hierarchical.¹⁹³ As Korean students enter secondary education, they are generally streamed into general high school or vocational high school based on their performance in middle school and entrance examinations. In addition to this, many Koreans believe that the institution of higher education that they become enrolled in will play a significant part in their success in adulthood.¹⁹⁴

Korea is one of only two OECD countries that maintain a mixture of public and private institutions where the majority of students are enrolled in the private system.¹⁹⁵ In 2000, of the 372 institutions of higher learning in Korea, 310 were private. Within this structure, Junior colleges made up 158 of the institutions, 161 were college and university, 19 were industrial university, 11 were universities of education, one was by correspondence, one was a technical college and 4 were miscellaneous schools. The vast majority of the 1.67 million students participate in the college and university institutions.¹⁹⁶ In addition to this, there are a large number of graduate schools in Korea.

Education, including tertiary education, has broad appeal in South Korea. The high school completion rate in South Korea is approximately 100% with 80% of those students going into a post-secondary education.¹⁹⁷ It is very clear when one looks at the percentage of 24-35 year olds in Korea who have some form of tertiary education compared to individuals in the 45-55 age bracket that increasingly different segments of the population are accessing higher education. Only 16% of Korea's between the ages of 45-55 have participated in tertiary education, while nearly 50% of those aged 24-35 have participated in higher education.¹⁹⁸ This is reflective of Korea's amazing growth in participation in recent years. As the OECD data reveals, Korea has a lot to celebrate, as it has gone from being amongst those countries with the lowest levels of participation to being one of the top countries in total participation.

The South Korean education system is well supported financially. With more than 7.5% of the total gross national product going to education in 2003, South Korea was second in the OECD for education spending. Amazingly, in 2001, 20% of the central government's total budget was dedicated to education.¹⁹⁹ Interestingly, while a vast amount of funding comes from the central government to fund education broadly, at the tertiary level the majority of funding comes from private sources. For public universities in 1999, 57.5% of the total funding came from the state, while 42.5% came from students. For private universities, students' tuition represented 61.8% of income, while government funding represented only 3.5% of income. Additional sources of funding for private universities included non-educational incomes, additional subsidiary educational revenue and endowments.²⁰⁰ Average tuition in 2003/2004 for public institutions was \$3,623 (USD) annually with a low of \$1,955 and a high of \$7,743. Private institutions, on the other hand, had average tuition fees of \$6,953 with a low of \$2,143 and a high of 9,771.²⁰¹ The financial burden

¹⁹³ Organisation for Economic Co-operation and Development, "Learning for Jobs: OECD Reviews of Vocational Education and Training", <http://www.oecd.org/dataoecd/53/49/42689417.pdf>.

¹⁹⁴ Jambor, "Why".

¹⁹⁵ Organisation for Economic Co-operation and Development, Education at a Glance 2009

¹⁹⁶ Anna Kim and Young Lee, "Student loan schemes in the Republic of Korea: review and recommendations", <http://unesdoc.unesco.org/images/0013/001336/133622e.pdf>.

¹⁹⁷ Jambor, "Why".

¹⁹⁸ Organisation for Economic Co-operation and Development, Education at a Glance 2009

¹⁹⁹ UNESCO.

²⁰⁰ Ibid.

²⁰¹ OECD, 2009.

placed on individuals to fund their education has become a concern for some observers of the Korean education system. As the universities in Korea are based on a user-pay model and academic demand is very high, the price that a household pays for academic fees (tuition and tutoring) can be almost half of their income. To help mitigate the cost burden of tuition for private institutions, the government of Korea sets direction for how they set their tuition.²⁰²

As the cost of funding education has become a significant portion of household expenses, the government of Korea has implemented some supports for students. The major support created by the government of Korea comes in the form of student loans. While there are multiple loan schemes in Korea, the Ministry of Education scheme is the one most aimed at improving access to education for students less likely to attend higher education due to their fiscal circumstances. Loans for student support in Korea, it should be noted, still only represent a very minor portion of the funding for education.

It is clear from the immense growth in higher education that Korea's culture and government policies are getting students into higher education. However, a deeper review shows some areas for concern for Korea. Specifically, Korea demonstrates that with high levels of growth come quality concerns. The concern from many observers is that despite improvements in access to education, there is a growing gap in the quality of education dependent on the institution that one attends. There is a concern now in Korea that as access has improved, socio-economics dictates the type of education that students receive.²⁰³ An additional fear in Korea is that the intense competition for limited spaces in higher education is leading to an exodus of qualified students. As a 2007 presentation from the Ministry of Education, Science and Technology demonstrated, a high number of Koreans leave the country to participate in higher education abroad, because of the competition in Korea.²⁰⁴ This has a negative impact on the Korean system, because they are losing out on the investment from educating these students at the lower levels.

Mexico

Similar to its NAFTA partners, Mexico's higher education system does not come under the direct control of the federal government. The only exceptions to this rule are public technological and teacher training institutions, which fall under the jurisdiction of the Secretaría de Educación Pública (SEP).²⁰⁵ Both public and private institutions are supervised by the local state governments, with public institutions coming under more direct control. Just over half (52%) of students enrolled in higher education attend public autonomous institutions.²⁰⁶ The rest are enrolled in a mix of independent, officially recognized, and unrecognized private institutions.

In 2006, the participation rate in Mexican higher education was over 26 percent of the 19-23 year old age group, which is a considerable increase from only 5 percent of the cohort in 1970. Most of this increase took place throughout the 1970s and early 1980s. In the last decade of slower growth, women have accounted for up 40 percent of new students. Enrollments also vary significantly by region. As of 2005, there were over 1.7 million students in

²⁰² UNESCO.

²⁰³ UNESCO.

²⁰⁴ Ministry of Education & HRD "Presentation on Higher Education in Korea"
http://english.mest.go.kr/main.jsp?idx=0301020101&brd_no=52&cp=1&pageSize=10&srchSel=&srchVal=&brd_mainno=570&mode=v

²⁰⁵ WES Report.

²⁰⁶ WES Report

public tertiary education with more than half in universities.²⁰⁷ These universities are split between public and private institutions, with the private far out numbering the government run, at 713 and 995 respectively in 2008.

For many decades, tuition at public institutions was very low, though not free. During fiscal crises in the 1990s, tuition prices steadily climbed at both public and private universities. The government funded universities have only seen tuition increase a modest amount; however, this has lead to serious overcrowding. Due to this, public institutions are often seen as subpar, and thus the elite and affluent send their children to private universities. At these universities the average tuition cost is \$11,500 (USD), with the upper reaches approaching \$17,000 (USD) per year.²⁰⁸ Below is a table showing the lower to upper costs of attending both public and private universities.

Table Six: Higher Education Expenses Borne by Parents and Students First Degree, 2008-09²⁰⁹

		Public Universities			Private Universities	
		Low Public	Moderate Public	High Public	Low Private	High Private
Instructional Expenses	Special “One-time” Fees	0	MXN100 [US\$13]	MXN250 [\$ 32]	n.a.	n.a.
	Tuition Fees	MXN1,000 [US\$126]	MXN3,000 [US\$378]	MXN6,500 [US\$818]	MXN13,000 [US\$1,636]	MXN130,000 [US\$16,353]
	Other Fees	MXN400 [US\$51]	MXN1,000 [US\$126]	MXN2,500 [US\$315]	n.a.	n.a.
	Books & Other Educational Expenses	MXN500 [US\$63]	MXN1,000 [US\$126]	MXN1,400 [US\$177]	MXN700 [US\$88]	MXN3,000 [US\$378]
	Subtotal Expenses of Instruction	MXN1,900 [US\$239]	MXN5,100 [US\$641]	MXN10,650 [US\$1,340]	MXN13,700 [US\$1,724]	MXN133,000 [US\$16,703]
Student Living Expenses	Lodging	0	MXN6,000 [US\$798]	MXN15,000 [US\$1,995]	0	MXN15,000 [US\$1,995]
	Food	MXN3,000 [US\$378]	MXN6,000 [US\$798]	MXN13,000 [US\$1,636]	MXN3,000 [US\$378]	MXN13,000 [US\$1,636]
	Transportation	MXN1,200 [US\$160]	MXN2,000 [US\$252]	MXN7,000 [US\$931]	MXN1,200 [US\$160]	MXN7,000 [US\$931]
	Other Personal Expenses	MXN2,500 [US\$315]	MXN4,000 [US\$532]	MXN7,000 [US\$931]	MXN2,500 [US\$315]	MXN7,000 [US\$931]
	Subtotal Expenses of Student Living	MXN6,700 [US\$891]	MXN18,000 [US\$2,394]	MXN42,000 [US\$5,586]	MXN6,700 [US\$891]	MXN42,000 [US\$5,586]
	Total Cost to Parent & Student	MXN8,600 [US\$1,144]	MXN23,100 [US\$3,072]	MXN52,650 [US\$7,001]	MXN20,400 [US\$2,713]	MXN175,000 [US\$23,272]

Note: Low estimates are averages based on a single student living with parents. Average estimates are based on single students not with living with parents. High estimates reflect those students who are head of household, and having a car. National currency converted to \$US by 2005 ICP World Bank; Purchasing Power Parity \$1 = Mexican New Pesos (MXN) 7.13

²⁰⁷ Brunner, José Joaquín, Paolo Santiago, Carmen García, Johann Gerlach and Léa Velho. (2008). Mexico. OECD Reviews of Tertiary Education. Paris: Organisation for Economic Co-operation and Development.

²⁰⁸ Organisation for Economic Co-operation and Development. “Highlights from Education at a Glance 2008”. 2008

²⁰⁹ http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Latin_America/Mexico.pdf

Despite increased tuition, student financial assistance in Mexico is quite limited. Only five percent of undergraduates receive grants or scholarships and only two percent receive student loans.²¹⁰ Only one means-tested program exists in the country, and it was created in 2001 to provide needy (and academically meritorious) public sector students with monthly stipends. As of 2009, eligible students receive 750 new pesos (US\$105) per month in the first year of study, 830 new pesos (US\$116) per month in the second year, 920 new pesos (US\$129) per month in the third year, and 1,000 new pesos (US\$140) per month in the fourth year. In the 2007-2008 academic year, 250,000 students benefited from these scholarships. In addition to these grants, there are few student loan programs available and no federal loan scheme whatsoever.

In Mexico, students in grade 9 take examinations to enter upper-secondary schools, which are federally controlled but linked to post-secondary institutions. Depending on the results of the exam, students can enter into technical upper-secondary streams or university preparatory schools. Exiting upper secondary, students are required to take exit exams, which are used by post-secondary institutions when making admission decisions. Certain institutions require students to have taken upper-secondary streams relating directly to their field of study. For instance, students hoping to attend a medical program would take a pre-medical stream in upper-secondary²¹¹. Institutions have varying entrance requirements, including grade point assessments as well as written examinations.

While the federal government does not control tertiary education, it is partially responsible for it along with the states. Private institutions are governed by either public institutions, or regulated by the provincial or federal governments. It is within the power of both levels of government to grant accreditation to institutions. It is also within the power of the President of Mexico to decree any institution independent, meaning that it is free from any kind of government control or regulation.

Portugal

Portugal houses 14 public universities focused on research and theory, 5 other non-integrated schools, and 31 state-run polytechnics. Private schools need to be approved by the Ministry of Science and Higher Education and tend to be more suited to labour market needs; there exist 13 private universities, 35 non-integrated schools, and 62 polytechnics. The overall attainment rate of higher education is very low at 13%, compared to the OECD average of 27%. In part, this is explained by a low secondary school attainment (26% overall, 53% graduation rate) and a much higher functional illiteracy rate than most European countries.²¹² However, expansion of the system since 1975 has seen the average annual growth rate in number of students enrolled in tertiary education exceed 5%, ranking as the fastest growth in the European Union.

The majority of revenue in the higher education sector is derived from formula-based government funding based upon total number of students, qualification of teaching staff, and graduation rate.²¹³ After system growth began in

²¹⁰ The International Comparative Higher Education Finance and Accessibility Project, "Mexico", http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Latin_America/Mexico.pdf.

²¹¹ WES Report.

²¹² The International Comparative Higher Education Finance and Accessibility Project, "Higher Education Finance and Cost-Sharing in Portugal", http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Europe/Portugal.pdf (accessed January 20, 2010).

²¹³ Maria João Rosa, Diana Amado Tavares and Alberto Amaral, "Funding Systems and their Effects on Higher Education Systems: Portugal", OECD. November 2006.

earnest in the 1980s, nominal tuition fees were instituted in 1992 to relieve budget pressure. As a result, the proportion of expenses paid for by the public declined from 96.5% in 1995 to 68.1% in 2005. A tuition framework was instituted in 2003 with a minimum value of 1.3 times the minimum monthly wage and a maximum value determined by updating previous values to inflation (949 Euros in 2008-09). This new framework resulted in a 250% increase to tuition costs and coincided with a significant decrease in participation, though this could have in part been due to a decline in secondary school graduation (-10.2% in 2003-04 in candidates and -4.2% in 2003-04 in enrolment). Tuition fees are growing, though they make up less than 10% of total income. Private universities became politically popular in the mid-1980s due to their low cost to public finances, and now account for 30% of students; tuition rates are set by the institutions with an average of 3023 Euros in 2008-09.

Means-tested grants, available to approximately one-quarter of total students, consist of a monthly allowance sufficient to cover the cost of public tuition, and housing, transportation, and food subsidies. Student loans were introduced in 2007 through the banks that are available to all students, though only 1% of students take them out; the loans have a fixed interest rate that can be reduced with high academic scores.

An OECD review of Portugal's higher education system revealed that fundamental problems remain with the structure of academic institutions and the way in which faculty and leadership appointments are made. One of the chief concerns is that there is no governing body tasked with quality assurance or mission-steering in higher education. Complaints of outdated curricula, high student-to-faculty ratio, and lack of resources are common.²¹⁴ The system remains relatively accessible due to reasonable costs in the public system, and a recent increase in the availability of student aid and funding for university research is a step in the right direction. Still, low enrolment and insufficient resources continue to hinder Portugal's tertiary education system.

United States

Higher education is a well integrated facet of American culture, and the United States is home to one of the largest tertiary education systems in the entire world. About 4300 institutions exist in the United States, 1700 of which are public, and 2300 of which are private.²¹⁵ Public institutions mostly consist of two to four year community colleges, which enroll the majority of students in the United States. Private not-for-profit institutions include many of the well known and prestigious Ivy League schools, as well as the less selective "open admission" colleges. Investments in higher education comprise 2.9% of the Gross Domestic Product, the largest investment in tertiary education in the OECD.²¹⁶ Enrollment in the year 2005 was projected to be close to 18 million. Of these, approximately 13 million are in public institutions broken down fairly equally between four and two year institutions (primarily public community colleges).²¹⁷

Expenditures for public degree granting institutions in 2003-04 were approximately \$205 billion (including over \$34 billion in auxiliary enterprises and hospitals). In 2003-04, the per student expense per full time equivalent student in

²¹⁴ Rosa, "Funding".

²¹⁵ WES Report, USA.

²¹⁶ OECD, 2009.

²¹⁷ The International Comparative Higher Education Finance and Accessibility Project, "United States of America", http://gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/North_America/United_States_of_America.pdf

public four-year institutions was \$30,166, and \$10,158 in public two-year programs.²¹⁸ The yearly per-student expenditure increases in higher education, as in most "productivity resistant" enterprises, are usually a bit above the average economy-wide increases, thus assuring that higher educational costs will also rise in most years at a rate slightly above the rate of inflation.

Not only are the underlying per-student costs high in most US colleges and universities, but the share borne by parents and students—particularly prior to netting out the effects of grants and other forms of price discounting—are also higher than most other countries. For public four-year institutions average 2006-07 undergraduate tuition fees ranged from \$4,000 to \$9,000 (can be considerably more for out-of-state students), and dormitory and board costs amount to about \$7,000 for a student living on campus. Tuition fees at private four-year institutions range from \$18,000 to as high as \$35,000.

Regulation and governance of post-secondary education is under the control of the states. As a result, support for post-secondary education across states varies widely. In some states, institutions function as constitutionally autonomous branches of state government, whereas in others there are elected trustees to oversee the administration of public colleges.²¹⁹ However, the federal government plays a large role in the distribution of financial aid, as well as research grants. Through mainly the Pell grant system, guaranteed loans and the Perkins Loan System, the federal government provides direct aid to low and middle-income students who would otherwise be unable to afford the high cost of tuition in the United States.

The role of the federal government in higher education is shifting however. Because institutions must opt-in to federal financial aid programs, the federal government can utilize reporting mechanisms that provide incentives for certain initiatives at institutions.²²⁰ Teacher preparation, gender equality initiatives, and athletic programs are all initiatives that the federal government can require institutions to take part in to participate in federally supported financial aid programs. Another unique factor of the tertiary education system in the United States is the role the private sector plays in funding education. In 2006, private donations to institutions totaled over 23 billion USD.²²¹ Private institutions rely on donations and alumni support for approximately 14 percent of operating costs.²²²

As has been discussed, financial aid is primarily handled by the federal government. Prospective students are assigned an Expected Family Contribution (EFC) by either federal methodology or through an accredited private needs analysis system.²²³ Once a student's financial need is established, all educational costs beyond the EFC are covered by federal financial aid. Usually this is a mix of Pell grants, subsidized loans and Perkins loans. Students may also receive tuition discounts from their individual institutions. Many private institutions have adopted this practice, though it remains controversial, as it has been compared to tuition increases for fee-paying students.

Despite having a fundamentally different design, the American post-secondary system faces many of the same big questions as the Canadian one. The role of the federal government, the increasing cost of maintaining post-secondary institutions, and fair student contributions are all issues faced by both public and private institutions in the United States.

²¹⁸ NCES, 2007.

²¹⁹ United States Report.

²²⁰ US PSE Article.

²²¹ US PSE Article.

²²² Ibid.

²²³ WES Report.

2.4 No Tuition

The defining criterion for the countries included in this model is simply the lack of tuition fees assessed to students. The post-secondary system is financed predominantly by the government. This model incorporates Denmark, Finland, Greece, Norway, Slovakia, and Sweden.

Denmark

Education in Denmark is broken into five categories: pre-primary, primary and lower secondary, upper-secondary, higher, and adult. While only the primary and lower secondary portion of the education system are compulsory, the government of Denmark plays an important role in each of the five sectors. The government's role is developed through funding and legislative oversight. Additionally, power over the education system is divided between the federal and municipal governments.

Danish higher education is divided into multiple types of programs, which take place in different types of institutions and are governed by different ministries. The four types of programs are short, medium, long cycle programs and artistic programs.²²⁴ In this context, short and medium cycle education is handled by the college sector which is regulated by the Ministry of Education. Long cycle programs are the responsibility of the university system, which is overseen by the Ministry of Science, Technology and Innovation.²²⁵ Finally, arts education is conducted in specialized arts schools and is the responsibility of the Ministry of Culture.

In 2006, the number of colleges and universities began to decrease. This was done through legislative order and was meant to increase the use of research facilities, increase the international competitiveness of the universities, and increase partnerships.²²⁶ Today, the college system in Denmark contains over 100 colleges, which specialize in specific fields of study.²²⁷ In Denmark, one third of the colleges focus on short cycle education, while the rest focus their attention on specialized medium cycle programs.²²⁸ The University sector in Denmark is comprised of eight universities. Of the eight universities, five have multiple faculties and three are specialized in only one field of study.²²⁹

The cost of the post-secondary education system in 2005 was equal to 4.5% of Denmark's total government expenditures.²³⁰ This level of government spending on tertiary education has historically placed Denmark atop or near the top of global funding per student in PSE. In addition to this, Denmark has a high rate of funding to help offset

²²⁴ Peder Michael Sørensen. "The labour market and the Danish Tertiary Education System". Ministry of Education.

²²⁵ Danish Ministry of Education. "Higher Education". <http://www.eng.uvm.dk/Uddannelse/Higher%20Education.aspx> (accessed March 18, 2010).

²²⁶ Ministry of Science, Technology and Innovation. "The University Mergers". 2009. <http://en.vtu.dk/education/the-university-mergers> (accessed March 18, 2010).

²²⁷ Ministry of Education. "Facts and Figures 2007 – Key Figures in Education". 2008 <http://pub.uvm.dk/2008/facts/>

²²⁸ Ibid.

²²⁹ Ministry of Science, Technology and Innovation. "The University Mergers". 2009. <http://en.vtu.dk/education/the-university-mergers> (accessed March 18, 2010).

²³⁰ UNESCO Institute for Statistics. "Education in Denmark". http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=2080&BR_Region=40500 (accessed March 18, 2010).

non-tuition related costs associated with attending post-secondary education.²³¹ The government provides students with grants and loans to help them during their education. The education grant system in Denmark begins when a student turns 18 and has multiple phases.²³² These phases assist students in both upper-secondary and tertiary education.

The investments that Denmark has put into its education system seems to be paying off with high enrolment and test scores. In terms of enrolment, it is clear that Denmark is a world leader both in recruitment of its students into tertiary education and retention. For instance, in 2007 the OECD estimated that Denmark's Net Entry Rate was 59%, which placed them above the OECD average for participation.²³³ In addition to the enrolment totals in Denmark, a high completion rate also exists. Denmark has a completion rate of around 70% for undergraduates and Master's students. Additionally, of the students who drop out of a tertiary education program in Denmark, the majority of them re-enter the system in a different program within ten years.²³⁴

Finland

The second free tuition model reviewed in this study is the Finnish education system. The Finnish system has developed as an integrated approach with heavy government involvement over the entire career of a student. While mandatory education ends at age 16, the majority of students enter upper-secondary schools or vocational schools, which focuses on either preparing students for universities, polytechnics or the workforce.²³⁵

The funding for the Finnish system is provided primarily from the government. In 2005, government spending represented 96.1% of the total funding for tertiary education²³⁶. This funding provided for tertiary education represented 1.7% of GDP of Finland, which was slightly above the OECD average of 1.5% of GDP. On a per-student basis, this meant that Finland spent significantly more than the OECD average during this period.²³⁷

Upper-secondary schools in Finland are attractive because the state provides funding for the student similar to that given to them when they eventually enter either university or college.²³⁸ The aid available to students includes travel allowances, housing allowances if the student is studying away from home, and free meals at the school.²³⁹

In addition to the funding provided to students during their time in upper-secondary school, Finnish students are also provided with government scholarships and loans to cover living expenses while they are studying at post-secondary

²³¹ UNESCO Institute for Statistics. "What do societies invest in education? Public versus private spending". 2007.

²³² Ministry of Education. "Facts and Figures 2007 – Key Figures in Education". 2008 <http://pub.uvm.dk/2008/facts/>

²³³ Ministry of Science, Technology and Innovation. "The University Mergers". 2009.

²³⁴ Organisation for Economic Cooperation and Development. "Education at a Glance 2008". 2008.

²³⁵ Ministry of Education. "Facts and Figures 2007 – Key Figures in Education". 2008 <http://pub.uvm.dk/2008/facts/>

²³⁶ Education Finland. "The Education System in Finland". <http://www.edu.fi/english/SubPage.asp?path=500,4699> (accessed March 18, 2010).

²³⁷ Organisation for Economic Cooperation and Development. "Education at a Glance 2008". 2008.

²³⁸ Ibid.

²³⁹ Ministry of Education. "Student Financial Aid Scheme". <http://www.minedu.fi/OPM/Koulutus/opintotuki/opintotukijaerjestelmae/?lang=en> (accessed March 18, 2010).

²⁴⁰ Ibid.

education units.²⁴⁰ Finnish students studying at Finnish post-secondary institutions or comparable international schools are eligible for study grants, housing supplements, loans, travel assistance, and reduced meal prices at student cafes. For all students the amount of funding is set based on the length and level of their studies and their income.²⁴¹

The continued involvement of the Finnish government in the education of students combined with the level of support provided to individual students appears to be paying off. In recent studies of both the World Economic Forum and the OECD, Finland's education sector score high in terms of enrolment and student performance. While the enrolment and student performance is exceptional in Finland, it should be noted that Finland's gross enrolment ratios will be inflated due to high rates of adult education in the country. In 2006, Finland sat near the top of the world's enrolment rates with a NER of 76%, which was well above the OECD average.²⁴² Next to enrolment, the completion rate for students in tertiary education is also high in Finland. A 2005 study showed that 75% of students who entered tertiary education in Finland went on to complete their degree.²⁴³

In addition to the increases in student enrolment, Finland is impressive because of the level of equity that they are reaching in education. Finland's enrolment is characterized by high levels of first generation students and different socio-economic backgrounds.²⁴⁴ Further, Finland is unique, as it has been able to drastically increase the number of adults returning to tertiary education.

It should be noted that there has been a number of complaints leveled against the Finnish education system by both academics and business leaders. First, some individuals have argued that the incentives to stay in the education system lead students to enter into the workforce too late. This means that Finland is not making effective use of its workforce. Second, some critics have argued that Finland has increased its enrolment by decreasing its expectations for students.²⁴⁵ Ultimately, what this means is that the quality of the program and its outputs for society may be limited by the systems designed to increase the total number of students going through the system.

Greece

Tertiary education in Greece is divided into two streams: university and higher technical education. The university stream has a total of 20 institutions, while the higher technical stream maintains 14 institutions. Students can also pursue distance learning through the Hellenic Open University. According to the constitution of Greece, each of the bodies of tertiary education are funded by the State, act as autonomous legal persons and are under the supervision

²⁴⁰ Organisation for Economic Cooperation and Development. "Education at a Glance 2008 – OECD Briefing Notes for Finland". 2008.

²⁴¹ Ministry of Education. "Student Financial Aid Scheme".
<http://www.minedu.fi/OPM/Koulutus/opintotuki/opintotukijaerjestelmae/?lang=en> (accessed March 18, 2010).

²⁴² Organisation for Economic Cooperation and Development. "Education at a Glance 2008". 2008.

²⁴³ John Davies, Thomas Weko, Lillemor Kim, and Erik Thulstrup. "OECD Review of Tertiary Education – Finland". Organisation for Economic Cooperation and Development. 2009.

²⁴⁴ Organisation for Economic Cooperation and Development. "Education at a Glance 2008 – OECD Briefing Notes for Finland". 2008.

²⁴⁵ Pasi Sahlberg. "Raising The Bar: How Finland Responds To The Twin Challenge Of Secondary Education?" 2006.

of the State.²⁴⁶ Beyond this, it should be noted that there is a growing number of international private institutions in Greece. These private institutions are often branches of schools from around the world and their future is currently a legislative debate in Greece.²⁴⁷

Within the tertiary system in Greece, there were over 360,000 students participating in 2006-07. This was an increase of almost 20,000 students from the previous year.²⁴⁸ Even with this influx of students, however, Greece continues to be below the OECD average in terms of both net enrolment ratios and percentage of the adult population completing tertiary education. In 2007, for instance, the net enrolment ratio for Greece was 43%, which was 13 points behind the OECD average. In regards to completion rates, for 24-35 year olds Greece sat 6 points back from the OECD average with 28% of their population having completed some form of tertiary education.²⁴⁹ While Greece is improving in terms of the number of students participating, it is still well below OECD average.

According to the constitution of Greece, all higher education must remain free for students. This means that the State in Greece plays a very important part in ensuring the system is funded properly. This is not a task that Greece takes lightly. In 2007 Greece put forward 9.2% of its total government expenditure toward education. Over 30% of the spending for education went to tertiary education.²⁵⁰ In Greece, this funding from the government is the only significant funding source that supports tertiary education. In 2000, private funding only amounted for 0.3% of the total funding for tertiary education.²⁵¹ This means that students and institutions are heavily dependent on the government for their success.

In addition to having the costs of education paid for by the state, students in Greece also benefit from a healthy set of additional supports from the government. First, text books and other academic materials are provided to all students in the education system free of charge. Second, students can apply for additional funding for living expenses and travel depending on their family income and the location of their studies. In addition to these sources, students can also apply for interest free loans while they are in school. Third, students studying in Greece through their student cards are granted subsidies for travel, entrance into museums and other artistic events. Finally, Greece also offers a number of merit based scholarships through the State Scholarship Foundation.²⁵²

With all of the benefits awarded to students in Greece, combined with the fact that it comes without needing to pay tuition fees, it seems very strange that Greece has lower than average participation in tertiary education. Ultimately, for Greece the issue comes down to a discussion around the demand being higher than the supply and the rigorous process for accessing the education. Two reports have recently come out in Greece that discusses this in detail. The first report, "Social Class and Access to Higher Education in Greece," focused on the role that parental income had on the private preparation that students had for the national exams, which decide if a student is eligible for university

²⁴⁶ National Centre for Vocational Orientation. "Tertiary Education". <http://www.ekep.gr/english/education/tritobathmia.asp> (accessed January 5, 2010).

²⁴⁷ Makki Marseilles. "Greece: Private colleges want stricter controls". University World News. 2007. <http://www.universityworldnews.com/article.php?story=20071101150021149>

²⁴⁸ Eurydice. "Organization of the Education System in Greece. Education". Audiovisual and Culture. 2009. http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/EL_EN.pdf

²⁴⁹ Education at a Glance 2009.

²⁵⁰ UNESCO Institute for Statistics. Education in Greece. (accessed January 5, 2010).

²⁵¹ Education at a Glance 2009.

²⁵² Eurydice.

education.²⁵³ The review demonstrated that socio-economic background did play a role in the student's access to private support and ultimately their success on the exams. The second study, "The Demand for Higher Education in Greece," focused on the forces that drove students into higher education in Greece. In Greece, it was clear that students saw economic and intellectual advantages to participating in higher education. Additionally, this report showed that students from higher economic backgrounds who are not successful on their entrance exams often study abroad.²⁵⁴ What these reports demonstrated was that while the barrier of tuition fees was not present in Greece, there were still social and systemic barriers that are impacting a student's ability to succeed.

Norway

As a result of poor labour markets in the 1990's, there was a rapid increase in the demand for higher education in Norway. The increased demand for higher education led to massive expansions to the system.²⁵⁵ Combined with the consequences of the Bologna Process, the massive growth in the education system has resulted in major reforms to the Norwegian education system over the past twenty years. Currently the Norwegian higher education system is comprised of a collection of public and private institutions. The system includes seven universities (all state run), six specialized institutions (5 state run and 1 privately run), 26 university colleges (24 state run and one privately run) and 25 private higher education institutes. The majority of students in Norway study at the university colleges and universities, and the vast majority of students are in public institutions.²⁵⁶

Higher education enrolment in Norway is fairly high, with a significant portion of those involved with the system being women. In 2007, of the 208,432 students enrolled in higher education, nearly 127,000 were women.²⁵⁷ The net entry rate for the same period was 66%, which is well above the OECD average of 56%. The impressive statistics are in large part due to increases in female enrolment. The net entry rate for men is 53%, which is only 3% above the OECD average.²⁵⁸

In Norway funding for higher education comes from public and private sources. The vast majority of funding for education comes from the public sector. Funding for education in Norway remains impressive both in terms of real dollars and dollars per student. In 2004, education funding in Norway was the equivalent of 6.8% of the GDP.²⁵⁹ Beyond the impressive portion of Norway's GDP that is dedicated to education, a significant of funding in Norway is dedicated specifically to higher education. In 2006, the funding per student in Norway was higher than the OECD

²⁵³ Eleni Sianou-Kyrgiou. Social Class and Access to Higher Education in Greece: Supportive Preparation Lessons and Success in National Exams. *International Studies in Sociology of Education*, v18 n3-4 p173-183 Sep 2008

²⁵⁴ Anna Saiti and Georgia Prokopiadou. The Demand for Higher Education in Greece. *Journal of Further and Higher Education*, v32 n3 p285-296 Aug 2008

²⁵⁵ Tony Clark, Richard Sweet, Karl Heinz Gruber, Pedro Lourtie, Paulo Santiago and Åsa Sohlman. "OECD Review of Tertiary Education: Norway". Organisation for Economic Cooperation and Development. 2009.

²⁵⁶ The International Comparative Higher Education and Finance Project. "Higher Education Finance and Cost-Sharing in Norway". http://gse.buffalo.edu/org/IntHigherEdFinance/files/Country_Profiles/Europe/Norway.pdf. (accessed January 5, 2010).

²⁵⁷ Ibid.

²⁵⁸ Organisation for Economic Cooperation and Development, "Education at a Glance 2009", 2009.

²⁵⁹ The International Comparative Higher Education and Finance Project. "Higher Education Finance and Cost-Sharing in Norway". http://gse.buffalo.edu/org/IntHigherEdFinance/files/Country_Profiles/Europe/Norway.pdf. (accessed January 5, 2010).

average. A total of \$16,235 (USD) was spent per student on all tertiary education. It should be noted that this number declines significantly when research and development is removed from the figures, but still remains above the OECD average.²⁶⁰ The student portion of funding in Norway is dependent on the type of institution that the individual is participating in. Currently in Norway, tuition is free for studies at public institutions. Tuition at the few select private universities is allowed, but controlled by the government. In 2006 the average tuition was \$5124 (USD) for students in private institutions.²⁶¹

Norway provides educational support for students. The purpose of the educational support in Norway is threefold: provide equal access to education despite economic, geographic and social differences; ensure that students see education as a positive option; and ensure that students can freely decide the education that they pursue.²⁶² The form of assistance that is provided to students comes in the form of both grants and loans. Grants are provided to students in both upper-secondary and higher education. In upper-secondary, grants are given to students based on their personal income and the income of their parents to pay for travel and additional costs of education. At the higher education level, the primary mechanism for funding is government loans. The loans are provided on a set basis for every student who decides to study. Additional grants are provided to students based on their personal and family incomes. Funds can be increased for students who travel to study or for students who have children.²⁶³

In Norway, much of the progress in enrolment led to challenges of quality within the system. Dating back to before 2002, this was recognized by representatives of the university sector and the government. Starting in 2002, the government of Norway put forward additional funds to universities to improve quality. Unfortunately, this money was retracted in 2006 when the government of Norway changed.²⁶⁴ In 2007, the largest concern from institutions of higher learning was the declining resources from government, which were having an impact on quality and research agendas.²⁶⁵ Ultimately, then, the lessons from Norway focus on the benefits and concerns of funding being delivered from government sources. The benefit of strong government involvement, of course, has been the increased adaptability through massive changes. Throughout the 1990s, the government of Norway played an important role in making certain that the system could adapt to increases in students. The subsequent concern, however, is that as governments change, so can their view of education. As the 2006 retraction in funding demonstrates, changes in government – when they are the funders of education – can destabilize the education system. Today, there is a growing concern in Norway related to increases in student enrolment, excellence in research and maintenance of facilities that must be addressed or they risk the benefits associated with their impressive twenty years of growth and development.²⁶⁶

²⁶⁰ OECD, 2009.

²⁶¹ Ibid.

²⁶² Ministry of Education and Research. "Educational Supports". <http://www.regjeringen.no/en/dep/kd/Selected-topics/study-financing-.html?id=1422>. (accessed January 5, 2010).

²⁶³ Ibid.

²⁶⁴ Per Nyborg. "Higher Education in Norway – Fifty Years of Development". The Norwegian Association of Higher Education Institutions. http://www.uhr.no/documents/50_years_HE_Norway_1.pdf (accessed January 5, 2010).

²⁶⁵ Ibid.

²⁶⁶ Ola Stave. "The Norwegian Association of Higher Education Institutions 50Years of cooperation". The Norwegian Association of Higher Education Institutions.

Slovakia

Higher education in the Slovak Republic has gone through many changes since the fall of the Soviet Union. While the Slovak Republic has moved quickly to establish itself as a part of the European Community, it only gained its independence from Czechoslovakia in 1993. The recent history of the Slovak education system still reflects some of the turmoil present in any nation's movement toward liberalization and independence.²⁶⁷ In addition to the political changes that occurred in the Slovak Republic, there have been structural changes to the higher education system spurred by large increases in the demand for higher education. Between 1989 and 2005, the number of students in undergraduate studies went from 60,000 to 160,000 students. This growth has led to the development of new institutions and the merging of others.²⁶⁸

The most recent major change to the Slovak education system was the 2002 Higher Education Act.²⁶⁹ The major change that came out of the Higher Education Act was the change of institutions from state budgetary organizations to more autonomous statutory institutions with non-profit characteristics.²⁷⁰ Most importantly, this allowed universities to seek out different sources of funding and increase their autonomy from the state. Today the higher education system in the Slovak Republic is made up of 33 institutions. Twenty of the institutions are publically controlled, ten are 'private' schools and three are state run schools that are more vocational in nature. All of these institutions are ultimately responsible to the Ministry of Education.

Historically, the government of the Slovak Republic has been the only source of income for higher education. This started to change after the Higher Education Act in 2002. As the pressure from increases in enrolment made it very difficult for the state to improve quality, it became necessary for institutions to start searching for alternative sources of funds. Most recently tuition fees have been developed for students in part-time studies. Currently there are no fees for students studying full-time.²⁷¹ For much of the past decade, the Slovak government has wrestled with the idea of implementing tuition fees for full-time domestic students.²⁷²

In 2006, the Slovak Republic's per-student funding was well below the OECD average. According to OECD figures, in 2006 the Slovak Republic spent only \$6,506 per student on all tertiary education. The OECD average for the same year was \$12,336. The Slovak numbers remain comparatively low even after funds for research and development are taken out.²⁷³ It should be noted, however, that the actual dollars spent on tertiary education in Slovakia have increased substantially since 2000. The per-student funding remained low, because in the same time period the total number of students in the system increased by over 20%.²⁷⁴

²⁶⁷ Darina Malova and Erik Lastic. "Higher Education in Slovakia: A Complicated Restoration of Liberal Rules," *East European Constitutional Review*. Volume 9 Number 3 (2000): 100-104.

²⁶⁸ Henrik Toft Jensen, Alojz Kralj, Don McQuillan and Sybille Reichert. "THE SLOVAK HIGHER EDUCATION SYSTEM AND ITS RESEARCH CAPACITY – EUA Sectoral Report". European University Association. 2008.

²⁶⁹ Peter Mederly. "Funding Systems and Their Effects on Higher Education Systems – Country Study Slovakia". Organisation for Economic Cooperation and Development. 2006.

²⁷⁰ Ibid.

²⁷¹ Organisation for Economic Cooperation and Development. "Economic Policy Reforms: Going for Growth". 2009.

²⁷² Vera Rich. "Two votes foil introduction of tuition fees in Slovakia". *Times Higher Education*. 2004.
<http://www.timeshighereducation.co.uk/story.asp?storyCode=189790§ioncode=26> (accessed January 5, 2010).

²⁷³ Organisation for Economic Cooperation and Development. "Education at a Glance: 2009". 2009.

²⁷⁴ Organisation for Economic Cooperation and Development. "OECD Factbook 2009". 2009.

The state also plays a role in making sure that students can afford to attend higher education. In the Slovak Republic, assistance for students comes in four ways: social scholarships, dormitories, student subsidy canteens, and loans.²⁷⁵ The majority of funds spent on assistance go to the social scholarships. In fact, the provision of social scholarships has skyrocketed since 2001. In 2001, only 37,056,000 SKK were spent on social scholarships; however, in 2006 210,890,000 SKK were spent on the social scholarships.²⁷⁶

The Slovak Republic has been very successful at increasing the number of students that enter the education system. This in itself should be applauded, as the state has done a lot to increase the number of spaces available for study and has also improved the incentives available to encourage access to higher education. That said the Slovak Republic still has substantial work to do to make sure that the system is of high quality and is equally accessible across the Slovak population. According to the 2008 review of Slovakian higher education by the European University Association, the drive to diversify and increase enrolment has meant that quality has suffered.²⁷⁷ At the same time, an OECD review of economic competitiveness highlighted two additional concerns with higher education in Slovakia. First, there is concern with the seemingly crude and loosely justified distinction between part-time and full-time students when it comes to tuition fees. Second, there are still socio-economic barriers to education in the Slovak Republic.²⁷⁸ It appears, then, that despite positive increases in student participation, the Slovak Republic still suffers from social and economic barriers to higher education and insufficient resources to fund tertiary education.

Sweden

The education system in Sweden is similar to the Danish and Finnish models in structure and government involvement. For instance, like Denmark and Finland, Sweden's education sector is comprised of pre-primary, compulsory education, upper-secondary, higher and adult education.²⁷⁹ Regarding government involvement, it is the Ministry of Education and Research which provides oversight for every level of education in Sweden.²⁸⁰ For higher education, the Ministry of Education and Research is responsible for 14 universities and 22 other higher education institutions.²⁸¹ This is different than many of its neighbours who have separate ministries for compulsory education and higher education.

In 2005, the government of Sweden dedicated 12.6% of all government expenditures to tertiary education. Of the funding dedicated to education, 28% of it went to tertiary education.²⁸² This expenditure represented 1.6% of the total

²⁷⁵ Peter Mederly. "Funding Systems and Their Effects on Higher Education Systems – Country Study Slovakia". Organisation for Economic Cooperation and Development. 2006.

²⁷⁶ Peter Mederly. "Funding Systems and Their Effects on Higher Education Systems – Country Study Slovakia". Organisation for Economic Cooperation and Development. 2006

²⁷⁷ Henrik Toft Jensen, Alojz Kralj, Don McQuillan and Sybille Reichert. "THE SLOVAK HIGHER EDUCATION SYSTEM AND ITS RESEARCH CAPACITY – EUA Sectoral Report". European University Association. 2008.

²⁷⁸ Ibid.

²⁷⁹ Ministry of Education and Research. "Universities and Other Higher Education Institutions". <http://www.sweden.gov.se/sb/d/6943> (accessed March 18, 2010).

²⁸⁰ Ibid.

²⁸¹ Ibid.

²⁸² UNESCO Institute for Statistics. "Education in Sweden". http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=7520&BR_Region=40500 (accessed March 18, 2010).

GDP of Sweden, which was slightly above the OECD average²⁸³. Finally, per-student funding in Finland remained well above the OECD average for the same period. From this it is clear that the Swedish government has worked hard to make sure that the system remains well funded.

In addition to providing free tuition to all students, the government also maintains a program of assistance for students. Student assistance in Sweden comes in the form of grants and loans. The grant portion available to students represents approximately 30% of the assistance available. The larger loan portion available to students has a grace period no-less than six months after a student completes their studies. The interest associated with the loan does not take effect until the first payment occurs. Both the loan allowed for students and the grant provided are connected to inflation.²⁸⁴

Not surprisingly, Sweden has similar results to Denmark and Finland: high enrolment and performance. Regarding enrolment, Sweden ranks quite well. In 2006 NER for Sweden were 76%, which was well above the OECD average.²⁸⁵ In regards to access for different groups, it is clear that Sweden has seen serious improvements. Over the past couple of decades, the diversity of students involved in the system from different socio-economic backgrounds has expanded, there is an increasing number of women in the system (to the point that women make up nearly half of the doctoral students), and new Swedes are increasingly entering into higher education.²⁸⁶

2.5 Deferred Tuition

In the deferred tuition model, students who are enrolled in post-secondary institutions still contribute financially to the cost of their education; however, the cost may be postponed until after graduation. Some countries under this model enable students to pay their tuition fees up-front at a discounted rate. The rate of repayment is dictated by a variety of metrics, including income and time. This model incorporates Australia and New Zealand. This is not to be confused with those countries, such as Canada, that offer an means-tested financial aid loan repayment system that defers the costs of post-secondary education until after graduation.

Australia

The higher education system in Australia is divided into three types of institutions: universities, other self-accrediting providers, and non-self-accrediting providers. All of these institutions grant higher education awards, which include certificates and diplomas (take 1-2 years to complete), Bachelor's degrees (3-4 years), Master's degrees, and Doctorates. There are 37 public universities, two private universities, and four other self-accrediting institutions, which accredit their own higher education awards. There are approximately 120 non self-accrediting providers, mostly specialized private institutions, that offer at least one course of study that is accredited as a higher education award, including business, health, law, accounting, and information technology. Vocational Education and Training (VET) are

²⁸³ Organisation for Economic Cooperation and Development. "Education at a Glance 2008". 2008.

²⁸⁴ P. Marcucci, Handan Maziouglu, and Jie Wang. "Higher Education Finance and Cost-Sharing in Sweden". The International Comparative Higher Education Finance and Accessibility Project. 2006.

²⁸⁵ Organisation for Economic Cooperation and Development. "Education at a Glance 2008". 2008

²⁸⁶ Swedish National Agency for Higher Education. "Oecd Thematic Review Of Tertiary Education Country Background Report For Sweden". 2006.

tertiary education institutions that provide people with specific occupational or work-related knowledge and skills, granting both certificates and diplomas.²⁸⁷ Technical colleges are present as well, but are excluded from the higher education system, as they are designed for secondary school students in Years 11 and 12 who intend to start an apprenticeship.²⁸⁸

Funding of higher education is primarily the responsibility of the federal Australian government, which determines the number and allocation of Commonwealth supported undergraduate spaces through the Commonwealth Grant Scheme (CGS). These spaces are available to all citizens or permanent residents of Australia and New Zealand for a maximum of seven years of full-time study.²⁸⁹ At some institutions, fee-paying places are also available, which permits domestic students to attend at the full cost of the education, but these spaces may not amount to more than 35% of the total undergraduate students at a given institution.²⁹⁰ The government also provides funding in the form of scholarships to students and institutional grants for quality, teaching, research, and training programmes. Governance and regulation of institutions is shared amongst the institutions themselves, the state and territory governments, and the federal government; in particular, establishment and recognition of universities is under state legislation.²⁹¹

The distinguishing characteristic of the Australian post-secondary system is the presence of its Higher Education Loan Programme (HELP). Initially called the Higher Education Contribution Scheme (HECS), the financial assistance program was seen as an innovative solution when it was introduced in 1989. At the time of implementation, the scheme was well supported as the higher education sector was under demand to expand with increasing secondary school retention rates, and there was a widely-held view that financing of higher education solely by tax revenue was regressive in terms of income distribution. The program permitted higher education institutions to charge all students an annual fee to cover a portion of the cost of their education, which increases by the Consumer Price Index (CPI) each year, replacing years of tuition-free higher education. While the institution is able to charge any fee up to the government-mandated maximum, typically institutions charge the maximum allowable fee. This fee or 'student contribution' was initially uniform for all students, but it has since been divided into four levels of contribution (called 'bands'), dependent on curriculum area, its delivery cost, and the perceived ability to generate future income for the student.²⁹² The Australian government also provides Commonwealth funding for students based on the area of study. The student and Commonwealth contribution amounts for 2008 are summarized in Table Seven.

²⁸⁷ Department of Education, Employment and Workplace Relations, Australian Government, "Higher education in Australia", <http://www.goingtouni.gov.au/Main/CoursesAndProviders/ProvidersAndCourses/HigherEducationInAustralia/Default.htm> (accessed August 26, 2008).

²⁸⁸ Department of Education, Employment and Workplace Relations, Australian Government, "Australian Technical Colleges", <http://www.australiantechnicalcolleges.gov.au/> (accessed August 26, 2008).

²⁸⁹ Department of Education, Employment and Workplace Relations, Australian Government, "Higher education summary", http://www.dest.gov.au/sectors/higher_education/ (accessed August 26, 2008).

Department of Education, Employment and Workplace Relations, Australian Government, "Fact Sheet – Higher Education Loan Programme – HECS-HELP", http://backingaustraliasfuture.gov.au/fact_sheets/5.htm (accessed August 26, 2008).

²⁹⁰ Department of Education, Employment and Workplace Relations, Australian Government, "Australia's higher education student support policy", [http://www.sheeo.org/wellington/pres_06/Public%20Forum%20\(sessions%208-11\)/Session%2010%20-%20Lois%20Sparkes%20-%20Student%20contribution.ppt](http://www.sheeo.org/wellington/pres_06/Public%20Forum%20(sessions%208-11)/Session%2010%20-%20Lois%20Sparkes%20-%20Student%20contribution.ppt) (accessed August 26, 2008).

²⁹¹ Department, "Higher education summary".

²⁹² Bruce Chapman and Chris Ryan, "The Access Implications of Income Contingent Charges for Higher Education: Lessons from Australia", *Centre for Economic Policy Research, Australian National University*, Discussion Paper No. 463, <http://dspace-dev.anu.edu.au/bitstream/1030.58/12411/2/DP463.pdf> (Canberra, April 2003).

Table Seven: Australian Student and Commonwealth Contribution by Curriculum Area, 2007-08²⁹³

Student Contribution Band	Curriculum Area	Student Contribution (\$ AUD)	Commonwealth Contribution (\$ AUD)	Total Funding (\$ AUD)	% of Student Contribution to Operating Funds
National Priorities	Education	\$4,077	\$8,217	\$12,294	33.2%
	Nursing	\$4,077	\$11,280	\$15,357	26.5%
Band 1	Humanities	\$5,095	\$4,647	\$9,742	52.3%
	Behavioural science, social studies	\$5,095	\$8,217	\$13,312	38.3%
	Clinical psychology, applied health, foreign languages, visual and performing arts	\$5,095	\$10,106	\$15,201	33.5%
	Mathematics, statistics, computing, built environment	\$7,260	\$8,217	\$15,477	46.9%
Band 2	Engineering, science, surveying	\$7,260	\$14,363	\$21,623	33.6%
	Agriculture	\$7,260	\$18,227	\$25,487	28.5%
Band 3	Law, accounting, administration, economics, commerce	\$8,499	\$1,674	\$10,173	83.5%
	Medicine, dentistry, veterinary science	\$8,499	\$18,227	\$26,726	31.8%
Average					40.8%

The student contribution can be deferred to after graduation, when the charge is collected depending on the former student's income, with no payments required if the income is below a certain threshold. The nominal amount of the loan is indexed each year by CPI; however there is no real interest on the loan before or after graduation. The rationale at the time of implementation was that an income contingent repayment scheme would maximize participation of the less advantaged, as it would remove the initial cost barrier and ensure only those that had attained a comfortable standard of living would have to pay back the cost of their education.²⁹⁴

If a student chooses to participate in HECS-HELP, which all Australian citizens and permanent residents are permitted to do, the government pays the student contribution directly to their higher education institution, and the loan repayments are automatically removed from the former student's pay cheque after graduation, once their

²⁹³ Department of Education, Employment and Workplace Relations, Australian Government, "Information for Commonwealth Supported Students: 2008", http://www.goingtouni.gov.au/NR/rdonlyres/35A9BDC0-C476-4FC2-9BF6-1A55C510E07B/0/07_068_HECSHELPiNTERNET_004.pdf (accessed August 27, 2008).

²⁹⁴ Chapman, "Access".

income has risen above the threshold. This income threshold has increased considerably in recent years and was \$39,825 AUD (\$37,335 CDN) in 2008-09. The rate of repayment increases as income rises, starting at 4% of income committed to repayment and rising in increments to 8% once total income exceeds \$73,960 AUD (\$69,342 CDN). Repayment continues if income is above the threshold until the balance has been paid or the former student dies; the average repayment time for fully repaid debts is 7.1 years and approximately 20% of outstanding debt is never expected to be repaid due to incomes below threshold.

Students who choose to not defer their tuition and pay some or all of the student contribution up-front receive a 20% discount on the amount paid. People who voluntarily submit early payments on their HECS-HELP debt of greater than \$500 AUD receive a 10% discount; both of these discounts are meant to encourage prompt loan repayment and thus reduce the government subsidy on the accumulated interest. Approximately 75% of students choose to take out a loan, rather than pay up-front. A nearly identical program to HECS-HELP exists for fee-paying domestic students as well, called FEE-HELP; however, a \$50,950 AUD lifetime limit exists for the loan in this program.²⁹⁵

It should be noted that both the real value of the student contribution and the percentage it makes up of total funding has risen considerably since the program's inception, and in many programs the inflation-adjusted student contribution has at least doubled.²⁹⁶ The government of 1996 that introduced the three-band structure of student contributions raised fees by an average of 40% and the Commonwealth government in 2005 deregulated university fees, allowing them to increase again by a maximum of 25%. Additionally, while the threshold levels have risen, the rate of repayment percentage has increased from 3-6% of income to 4-8%.²⁹⁷

Enrolment has grown significantly in the past decade, increasing by more than 20% from 1995 to 2002, bringing Australia's tertiary education participation rate above the OECD average.²⁹⁸ However, the proportion of graduates in science, agriculture and engineering are well below OECD averages and continue to be a national priority in education.²⁹⁹ The effect of the introduction of tuition fees on the socioeconomic composition of higher education has been relatively neutral. Qualitative studies on the factors that shape the decision to participate in higher education have determined that HECS has not been a dominant influencing factor, and many quantitative studies have concluded that the fees have had little impact on participation across the wealth distribution. The composition of the student body did change somewhat between 1988 and 1993 with modestly increased participation by those in the middle of the wealth distribution; however this growth and change in distribution was due mainly to increased participation by females across the socioeconomic distribution, although there was a small increase in participation by middle-income males as well. The proportion of students who indicated their intention in secondary school to not participate at university and then eventually did participate increased significantly amongst low-income students from

²⁹⁵ Department, "Australia's higher education student support policy".

Chapman, "Access".

²⁹⁶ Ibid.

²⁹⁷ Simon Marginson, "Dynamics of national and global competition in higher education", *Higher Education* 52: 1-39, <http://www.education.monash.edu.au/centres/mcrie/docs/hed-2006-national-and-global-competition.pdf> (2006).

Department, "Australia's higher education student support policy".

²⁹⁸ NAIS Education Services, "Australia Tertiary Education", <http://www.naisinternational.com/> (accessed August 28, 2008)

²⁹⁹ Julia Gillard, "Speech: A Higher Education Revolution: Creating a Productive, Prosperous, Modern Australia", <http://mediacentre.dewr.gov.au/mediacentre/Gillard/Releases/AHigherEducationRevolutionCreatingAProductiveProsperousModernAustralia.htm>, March 13, 2008 (accessed August 28, 2008).

1988 to 1999, indicating that HECS did not act as a deterrent from attending university for less-advantaged students.³⁰⁰

The introduction of tuition fees and increase in enrolment has come at a time of decreased public financing of tertiary education in Australia, as funding declined by 4% from 1995 to 2004, while funding increased by an average of 49% in other OECD countries in the same timeframe. Despite this, the increasing contribution of student fees has allowed the total funding, both public and private, per student to remain stable (an increase of 1% from 1995 to 2004).³⁰¹ Financial pressure has caused institutions to turn to fee-paying and international students for additional revenue. While government contributions from HECS-HELP constituted 16% of total institutional income in 2003, 14% of income came from fees of foreign students, who constitute 24% of total undergraduate students. A renewed commitment by the federal government to increase funding to higher education by \$11 billion over ten years from 2005 to 2014 was welcome news for Australian institutions; however, how much that increases per-student public funding, rather than increasing the number of Commonwealth supported spaces, is not yet clear.³⁰²

There is also a wide variety of financial aid available to students, including public and university grants, scholarships, bursaries, and loan support schemes to cover living expenses. The non-refundable Youth Allowance, for all those aged 16 to 25, and Austudy, for those over the age of 25, are designed to help pay for accommodation, transport, food and books. Commenced in 2004, the Commonwealth Learning Scholarships (CLS) Program is designed to assist with or eliminate tuition fees for low-income students. Additional scholarships exist for those enrolled in priority disciplines and for those who relocate interstate for courses not available near their home.³⁰³

Australia has developed and successfully implemented a novel financial aid program that effectively postpones the cost of higher education until after a student's income reaches a reasonable threshold and then has the student pay back their loan at an income-contingent rate. It is evident that the introduction of tuition fees has had no real effect on the participation of less-advantaged students and the Australian government should be commended for their continued commitment to removing one of the primary financial barriers to access and for their ability to significantly increase the overall rate of participation in post-secondary education. However, HECS-HELP has allowed the student contribution of higher education to rise dramatically to offset declining public funding, and international students and domestic students paying the full cost of their education are making up an increasingly large proportion of undergraduates as institutions seek out additional revenue. How the increasing, albeit deferred, costs of higher education and the growing presence of fee-paying students affects the socio-economic composition of the Australia post-secondary system remains to be seen.

New Zealand

Tertiary education in New Zealand, like in many countries, has undergone considerable change both in terms of structure and ideology over the past two decades. In part due to the country's small size and the fact that all

³⁰⁰ Chapman, "Access".

³⁰¹ Gillard, "Speech".

³⁰² Marginson, "Dynamics".

The International Comparative Higher Education Finance and Accessibility Project, "Australia", http://www.gse.buffalo.edu/org/inthigheredfinance/region_oceania_Australia10-26-2006.pdf (accessed August 29, 2008).

³⁰³ Ibid.

education policy and implementation is controlled by the same level of government, New Zealand has managed to steer its tertiary education sector in multiple competing directions as the ruling federal party changed. The system began to expand in the late 1980s from an elite system with low participation rates to a more competitive-based model through emphasis on private contributions from tuition fees and declining government funding. The year 2000 brought about a shift towards using tertiary education as a tool to further New Zealand's socio-economic development which saw more government-influenced objectives for the institution, as well as regulation of fees and an expansion of student aid under the objective of increasing access.³⁰⁴

The tertiary education sector is broadly divided into a number of different institutions. Most students study in public tertiary education institutions (TEIs), which can be further divided into universities (8), institutes of technology and polytechnics or ITPs (20), colleges of education (2), and Wānanga (3). There are approximately 900 private training establishments, adult and community education providers, and other tertiary education providers; these are predominantly small to very small institutions which operate in niche areas and can be not-for-profit or for-profit. Of the 500,000 tertiary students in New Zealand, 42% study in ITPs, 33% at universities, 14% at private institutions and Wānanga, and 2% study at colleges of education. These institutions have charters and profiles with the Ministry of Education's Tertiary Education Commission, the latter of which is negotiated annually with the determination of government funding to the institution to align its activities with national goals.³⁰⁵ This level of government oversight in institutional activities is a unique feature of New Zealand's tertiary education system, although efforts have recently been made to stabilize the sector after years of political instability.³⁰⁶

Higher education in New Zealand represents 5.2% of public expenditures, which is the highest in the OECD. Over half of this expense is on subsidies to tertiary education institutions. The majority of funding is determined by a formula based upon enrolment and field of study; this formula funding is capped to control enrolment growth. Funding for research was previously given in the same formula based upon enrolment, but has recently been phased out from the formula and is determined based upon a performance-based approach. Targeted funding also exists and is the primary source of funding that ensures institutional activities are aligned with its charter and profile. All institutions, both public and private, charge tuition fees; the average university fee (which is the highest of all institutions) in 2004-05 was \$3,934 NZD (\$2,860 CDN). Tuition was deregulated in 1990 and increased 170% until 1999 (the Consumer Price Index rose 13% in the same time frame), while per-student government funding fell. In 1999, fee stabilization policies were introduced and tuition increases were capped at 5% annually beginning in 2004; additionally, government funding began to rise again in 2000, although these increases have been inflationary at best.³⁰⁷ Affordability has increased as the ratio of domestic tuition fees to the average weekly income of the employed has fallen considerably since 2000 from 5.8 to 3.9 in 2007.³⁰⁸ International student tuition is not regulated and these students typically pay at least the full cost of their education.

³⁰⁴ Maureen McLaughlin, "Tertiary Education Policy in New Zealand", <http://www.fulbright.org.nz/voices/axford/docs/mcLaughlin.pdf>, 2003.

³⁰⁵ Leo Goedegebuure, Paulo Santiago, Laara Fitznor, Bjørn Stensaker, and Marianne van der Steen, "OECD Reviews of Tertiary Education, New Zealand", *Organisation for Economic Co-operation and Development*, <http://www.oecd.org/dataoecd/11/52/38012419.pdf>, 2008.

³⁰⁶ Norman LaRocque, "The New Zealand Student Loan Scheme", *Education Forum*, April 2005.

³⁰⁷ Goedegebuure, "OECD".

³⁰⁸ New Zealand Ministry of Education, "Student Loan Scheme Annual Report To 30 June 2008", <http://www.educationcounts.govt.nz/publications/series/2555/33499/33519/5> (accessed June 14, 2009).

New Zealand spends 44% of their tertiary education public expenditure on student aid (13.3% in grants and 30.9% in loans), which is usually the highest or second highest proportion in the OECD. There are three primary forms of student support: student loans; student allowances; and scholarships and bursaries. The Student Loan Scheme, introduced in 1992, is very similar to the HECS-HELP program in Australia; any domestic student can borrow the cost of their fees, academic materials, and a weekly amount to cover living costs. No interest is charged before or after graduation, repayment is income-contingent, and collection is done through the tax system. 53% of eligible students and 74% of full-time students took out a loan in 2004 and the median repayment time was 6.7 years.³⁰⁹ The cost to the government to cover interest costs is typically 25-35 cents per dollar loaned.³¹⁰ Student allowances are non-repayable, mean-tested living allowances based upon parental income up to the age of 25 and are intended to encourage participation from low-income students. 16% of students receive these allowances and these students are still eligible to take out a loan for their remaining fee and academic material costs.³¹¹ In 2008, the then-incumbent New Zealand Labour Party ran on the platform of abolishing the parental income means test and making all students eligible for living allowances; however, they were defeated in the election and allowances remain based upon parental income.³¹² The living allowance is consistent for all those that are eligible and there is no variance based upon actual living costs, which has been a point of contention for student groups who claim that the cost of living differs considerably across the country. Finally, a number of scholarships and bursaries exist through the institutions and based upon the results of secondary school examinations. Maximum caps on living costs under the Student Loan Scheme and living allowances typically mean that liquidity constraints are not completely removed for students. As a result, a very high proportion of students work part time to cover costs (67% of full-time students in 2004, 41% in 2001, an average of 13 hours per week).³¹³

Despite these investments in tuition regulation and student aid, a significant participation gap exists between low- and high-income students. Secondary schools are grouped into 10 different deciles based mostly upon average household income and occupation; in 1999, deciles 1-3 (those with the lowest relative socio-economic class) had a tertiary participation is 31%, while in deciles 8-10 participation is 54%.³¹⁴ Various studies in New Zealand though have indicated that the participation of low-income students has not changed considerably upon the increase in tuition fees beginning in 1990 and one study indicated that low motivation and parental attitudes were the most difficult barriers to participation for low-income students, rather than finances.³¹⁵ Additionally, participation is very low in the native Maori people, and the New Zealand government has made a recent conscious effort to increase this participation level through targeted outreach. Internationalization of New Zealand universities has been a recent push from the institutions mostly as a means to cover costs; international student numbers have risen from 31,000 to 113,000 in just five years and international students continue to make up an increasing proportion of the sector.³¹⁶

³⁰⁹ Goedegebuure, "OECD".

³¹⁰ LaRocque, "New".

³¹¹ Goedegebuure, "OECD".

³¹² *The National Business Review*, "University boss criticises student allowance plan", October 14, 2008.

Study Link, New Zealand Ministry of Social Development, "Study Allowance Criteria", <http://www.studylink.govt.nz/thinking-about-study/what-studylink-offers/study-starting-in-2009/student-allowance/index.html> (accessed June 14, 2009).

³¹³ Goedegebuure, "OECD".

³¹⁴ McLaughlin, "Tertiary".

³¹⁵ Norman LaRocque, "Who Should Pay? Tuition fees and tertiary education financing in New Zealand", *Education Forum*, http://www.educationforum.org.nz/documents/publications/who_should_pay.pdf, 2003.

³¹⁶ Goedegebuure, "OECD".

For a country of four million people, New Zealand's nine hundred-plus institutions create a complex and diverse tertiary education sector. The country has committed significant funds to the principles of adequate financial aid and a fair balance of cost-sharing between students and government. The regulation of tuition has created some budgetary pressure on institutions, but increased predictability and affordability for students. However, challenges and debate remain on how to best use the country's significant resources dedicated to student aid and how to increase participation amongst low-income and ethnic minority groups.

2.6 Differentiated Government Subsidy

This model use certain criteria to determine the amount of tuition each student is charged. These criteria can include grades, parental income, and standardized testing results. The model currently only incorporates Italy.

Italy

Higher education in Italy is provided predominantly by universities, in addition to technical universities, institutes and a variety of other institutions that provide artistic education and professional training in commerce, fashion, and industry. There are 52 state universities, 17 non-state legally-recognized universities, 3 technical universities, 3 polytechnic institutes, 2 foreign universities, and 6 higher schools. The non-state universities were established by private entities and later recognized by the state and required to comply by some state rules, specifically curricula structure.³¹⁷

In 1996, the then Minister of Education established a commission on tertiary education that resulted in the creation of three levels or cycles in the higher education system.³¹⁸ The first cycle, which is three years in length after completion of secondary school, is typically focused on practical skills for employment as well as general principles. The second cycle is completed by those seeking additional theoretical education and advanced specialization in a specific field of study, lasting three to four years. A research doctorate is obtained after three years in the third cycle.³¹⁹ The 1996 commission also created a credit transfer system to be brought in line with its European counterparts and established a body now known as the National Committee for the Assessment of the University System (CNVSU), which provides quantitative evaluation of institutions and incentives for the departments deemed to be performing best.³²⁰

Also established by the higher education reform, the Ministry of Education, Universities and Research (MIUR) is the primary body responsible for university institutions. This state ministry is responsible for funding teaching and

³¹⁷ Directorate-General for Education and Culture, "The Education System in Italy, 2006-07", *Eurybase: The Information Database on Education Systems in Europe*, http://www.eurydice.org/ressources/eurydice/eurybase/pdf/section/IT_EN_C6.pdf (accessed July 23, 2008).

³¹⁸ Robert Moscati, "Italy: A Hard Implementation of a Comprehensive Reform", *International Higher Education*, http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News26/text002.htm (Boston, 2002).

³¹⁹ European Education Directory, "Italy", (2002), <http://www.euroeducation.net/prof/italco.htm> (accessed July 23, 2008).

³²⁰ Moscati, *International*.

Antje Stannek and Frank Ziegele, "Germany" in *The Rising Role and Relevance of Private Higher Education in Europe*, edited by Peter James Wells, Jan Sadlak and Lazăr Vlăsceanu. UNESCO-CEPES, <http://unesdoc.unesco.org/images/0015/001511/151100e.pdf> (accessed July 24, 2008).

research, as well as the setting of curriculum.³²¹ Institutions that are deemed by the CNVSU to be in noncompliance with evaluation requirements can have their funding from the MIUR restricted.³²²

The institutions themselves are autonomous with respect to governance of their own affairs, setting of tuition within the state guidelines, and implementation of the state curriculum.³²³ Tuition must be charged by institutions, amounting to no more than 20% of the total operating fees provided by the state, leading to a maximum annual charge of 1,426 € (\$1976 CDN) in 2007-08. A minimum threshold is also set by the state, which was 178 € (\$247 CDN) in 2007-08.³²⁴ The universities apply reductions to the tuition charge based on family income, assets, and size, and the institutions are free to set the number of tuition exemptions given to students.³²⁵ These reductions, which averaged 38% off the maximum tuition charge, resulted in a mean tuition fee of 880 € (\$1219 CDN) in 2007-08. However, the tuition average has doubled in the last ten years.³²⁶ Student assistance is also available in the form of limited grants, interest-free loans, and free lodging.

Access to higher education, regardless of financial means, is a constitutional right in Italy, and typically all students with a secondary school diploma are granted entry into post-secondary institutions upon the passing of a state-administered exam.³²⁷ The country is plagued by low investment in higher education when compared to other OECD countries, and large classes and high student-to-faculty ratios are common, with the exception being in medical training. Enrolment in universities in 2000 was only 10.6% of the typical age range and 22.2% in all tertiary education, including non-university training and institutions, which is considerably lower than other European countries. One of the primary contributions to this low enrolment could be the lack of a significant salary advantage conferred by university graduates. If the average salary of an upper secondary graduate is assigned a value of 100, the salary of an Italian university graduate is 141 for men and 112 for women, compared to 164 and 204, respectively, in the United Kingdom.³²⁸ While the income-adjusted tuition is a unique feature amongst higher education cost-recovery models in addressing low-income enrolment, system-wide low enrolment and under-investment makes it difficult to extrapolate the results of such a model.

2.7 Global Post-Secondary Education Data

The data presented on the following four pages is collected by the OECD of its member countries.³²⁹

³²¹ Ministero dell'Istruzione dell'Università e Ricerca Scientifica e Tecnologica, "Higher Education in Italy", <http://www.miur.it/guida/guide.htm> (accessed July 23, 2008).

³²² Stannek, *Rising*.

³²³ Ministero, "Higher".

³²⁴ Università Ca'Foscari Venezia, "Tuition and fees", http://www.unive.it/nqcontent.cfm?a_id=10373 (accessed July 23, 2008). Stannek, *Rising*.

³²⁵ Politecnico di Torino, "Undergraduate courses: Tuition fees", http://international.polito.it/en/admission/prospective_undergraduates_and_graduates/undergraduates_courses/tuition_fees

³²⁶ Directorate, *Eurybase*.

³²⁷ Ministero, "Higher".

³²⁸ Daniele Checchi, "University education in Italy." *International Journal of Manpower* 21, no. 3/4, (2000): 177-205. Directorate, *Eurybase*.

³²⁹ OECD, *Education at a Glance*, 2009.

Table Eight: Tertiary Education Enrollment and Expenditure Data from 2006 for OECD Countries

	% Pop. with Tertiary Education (25-64 age group)	Rank of 30	Annual Average Growth in 25-64 Aged Pop. with Tertiary Education from 1998-2006	Rank of 28	% of Tertiary Type-A Students by Type of Institution:			Expenditure on Tertiary Educational Institutions as % GDP	Rank of 28
					Public	Dep. Private ¹	Private		
Australia	34	7	4.5	11	97	–	3	1.6	6
Austria	18	23	3.7	18	88	12	–	1.3	13
Belgium	32	9	3.4	21	50	50	–	1.3	13
Canada	48	1	4.0	17	–	–	–	2.7	2
Czech Republic	14	26	4.5	11	–	–	–	1.2	18
Denmark	32	9	4.3	15	100	–	–	1.7	4
Finland	36	5	2.2	26	89	11	–	1.7	4
France	27	18	3.7	18	87	–	13	1.3	13
Germany	24	20	0.5	28	–	–	–	1.1	21
Greece	23	21	4.5	10	100	–	–	–	–
Hungary	18	23	4.6	10	88	12	–	1.1	21
Iceland	30	16	2.5	25	79	21	–	1.1	21
Ireland	32	9	7.7	2	98	–	2	1.2	18
Italy	14	26	5.7	7	92	–	8	0.9	27
Japan	41	2	3.4	21	25	–	75	1.5	8
Korea	35	6	6.4	6	22	–	78	2.5	3
Luxembourg	27	18	–	–	–	–	–	–	–
Mexico	16	25	4.4	14	66	–	34	1.1	21
Netherlands	31	13	3.1	23	100	–	–	1.5	8
New Zealand	41	2	5.1	9	98	2	–	1.5	8
Norway	34	7	–	–	88	12	–	1.2	18
Poland	19	22	7.1	5	–	–	–	1.3	13
Portugal	14	26	7.5	4	74	–	26	1.4	11
Slovakia	14	26	5.7	7	–	–	–	1.0	26
Spain	29	17	7.7	2	88	–	12	1.1	21
Sweden	31	13	1.6	27	93	7	–	1.6	6
Switzerland	31	13	4.1	16	–	–	–	1.4	11
Turkey	11	30	7.8	1	–	–	–	0.8	28
United Kingdom	32	9	3.7	18	–	100	–	1.3	13
United States	40	4	3.0	24	67	–	33	2.9	1
OECD Average	28		4.5		–	–	–	1.4	

1. Private institutions that are financially-dependent on government.

Table Nine: Tertiary Education Expenditure and Tuition Data from 2006 for OECD Countries

	Relative Proportions of Revenue for Tertiary Educational Institutions			Annual Total Expenditure (USD) Per Student on Tertiary Education ¹	Rank of 25	Annual Avg. Tuition Fees (USD) for Tertiary Type-A ²	
	Public	Household	Other Private			Public Institutions	Private Institutions
Australia	47.6	35.8	16.6	9321	7	4035	7902
Austria	84.5	5.4	10.1	10454	5	825	825
Belgium	90.6	4.7	4.7	8153	11	–	583
Canada	53.4	22.2	24.4	15858	2	3705	–
Czech Republic	82.1	9.0	8.9	6376	19	No fees	–
Denmark	96.4	3.6	–	–	–	No fees	–
Finland	95.5	–	–	7951	13	No fees	No fees
France	83.7	10.1	6.2	7349	16	176-1173	–
Germany	85.0	–	–	7339	17	–	–
Greece	–	–	–	–	–	–	–
Hungary	77.9	–	–	4579	23	–	–
Iceland	90.2	9.1	0.7	–	–	No fees	2058-6449
Ireland	85.1	13.2	1.7	8407	10	No fees	No fees
Italy	73.0	19.3	7.7	5537	20	1123	3866
Japan	32.2	51.4	16.4	–	–	4279	6695
Korea	23.1	52.8	24.0	7476	15	4717	8519
Luxembourg	–	–	–	–	–	–	–
Mexico	67.9	31.6	0.4	5393	21	–	–
Netherlands	73.4	15.5	11.1	9717	6	1707	–
New Zealand	63.0	37.0	–	8010	12	2765	–
Norway	97.0	3.0	–	10638	4	No fees	5124
Poland	70.4	29.6	–	4467	24	–	–
Portugal	66.7	27.6	5.7	7208	18	1180	4774
Slovakia	82.1	9.4	8.5	4201	25	–	–
Spain	78.2	17.6	4.2	7820	14	844	–
Sweden	89.1	–	10.9	8855	8	No fees	No fees
Switzerland	–	–	–	12783	3	–	–
Turkey	–	–	–	4648	22	–	–
United Kingdom	64.8	26.6	8.6	8425	9	4694	–
United States	34.0	36.3	29.7	19476	1	5666	20517
OECD Average	72.6	–	–	8418		–	–

1. Excludes ancillary services (housing, transport, meals provided by institutions) and research expenditures. Equivalent USD converted from GDP as is for full-time equivalents only.

2. Fees should be used as only proxies for comparison as they result from weighted averages and do not cover all institutions.

Table Ten: Tertiary Education Expenditure Data from 2006 for OECD Countries

	% of Total Expenditure on Tertiary Education				% of Institutional Expenditures by Category			
	Institutions	Scholarships/Grants	Student Loans	Private Entities	Teacher Compensation	Staff Compensation	Capital	Other Non-Capital
Australia	69.0	13.2	17.8	–	30.0	25.4	10.6	34.0
Austria	75.1	17.0	–	7.9	42.9	15.9	6.6	34.7
Belgium	86.4	13.6	–	–	50.9	23.2	3.0	22.9
Canada	81.9	3.5	13.6	1.0	33.9	24.9	7.5	33.7
Czech Republic	95.2	4.8	–	–	26.8	17.1	13.5	42.6
Denmark	70.5	24.7	4.8	–	49.0	23.6	3.5	23.7
Finland	83.3	16.2	–	0.4	33.1	27.0	4.5	35.3
France	92.0	8.0	–	–	45.8	25.2	11.5	17.4
Germany	80.5	14.4	5.2	–	–	–	7.8	29.9
Greece	–	–	–	–	–	–	–	–
Hungary	84.9	15.1	–	–	–	–	11.5	28.1
Iceland	76.0	–	24.0	–	–	–	6.7	11.0
Ireland	85.6	14.4	–	–	46.4	23.5	6.5	23.7
Italy	83.4	16.6	–	–	40.5	21.2	10.7	27.7
Japan	76.8	0.7	22.5	–	–	–	13.1	34.6
Korea	87.1	2.8	4.4	5.6	29.0	13.7	16.5	40.8
Luxembourg	–	–	–	–	–	–	–	–
Mexico	93.3	4.1	2.6	–	56.0	14.0	4.3	25.7
Netherlands	70.4	12.3	17.2	0.1	–	–	11.8	27.5
New Zealand	57.7	12.0	30.3	–	–	–	–	–
Norway	58.3	13.9	27.8	–	–	–	6.4	33.1
Poland	98.3	1.7	–	–	–	–	14.5	24.5
Portugal	88.4	11.6	–	–	–	–	10.5	27.5
Slovakia	85.4	12.9	1.2	0.5	26.3	19.2	9.4	45.1
Spain	92.1	7.9	–	–	48.9	17.0	18.1	15.9
Sweden	74.2	10.2	15.6	–	–	–	4.0	35.7
Switzerland	94.6	2.3	0.2	3.0	48.4	21.1	8.7	21.8
Turkey	83.1	2.9	14.0	–	–	–	21.4	21.5
United Kingdom	73.6	5.6	20.8	–	39.5	28.6	6.1	25.8
United States	69.1	13.1	17.9	–	24.8	31.9	12.0	31.3
OECD Average	80.9	10.2	8.9	0.7	39.2	21.8	9.7	28.8

Figure Ten: Population that has attained at least tertiary education, 2007

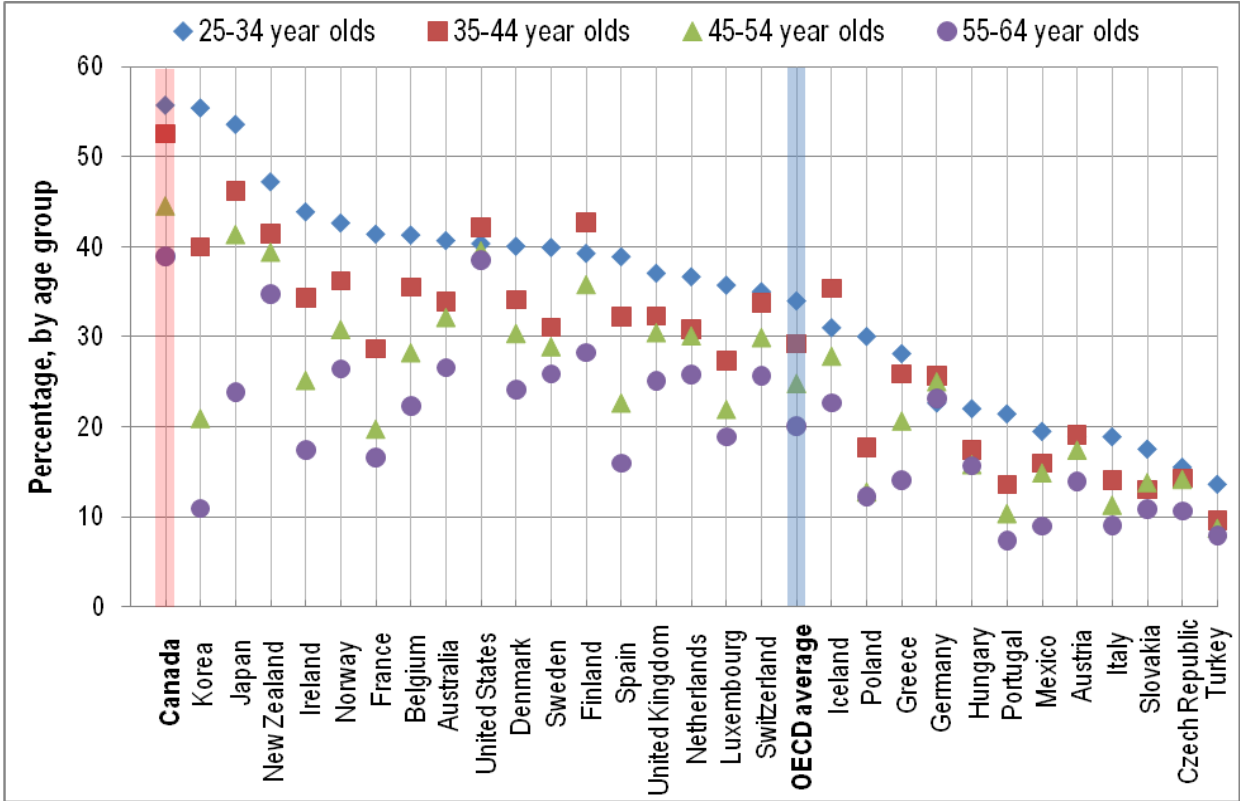
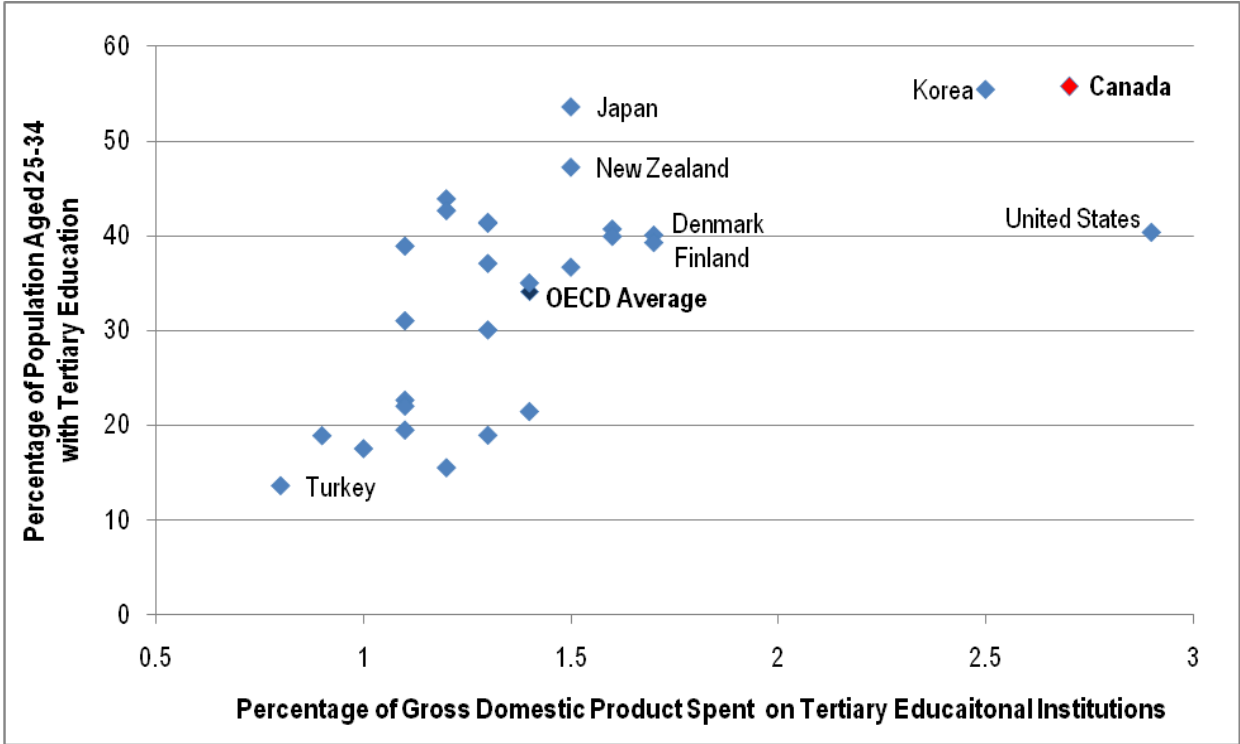


Figure Eleven: Relationship between spending on and attainment in tertiary education, 2007



2.8 Alternative Cost Recovery Methods

The following five methods of cost recovery are not included with the previously discussed models as they have either not been implemented in comparable jurisdictions to Canada or have not been in place for long enough to provide for sufficient evaluation of results. A brief overview of each has been provided for completeness.

Graduate Tax

The concept of a graduate tax is that all those who have obtained a post-secondary credential pay a tax on earned income above a certain threshold for a part or the whole of their working lives, and that the revenue derived from this tax is used to pay for all or some of the costs of post-secondary education. It is a similar model to income-contingent deferred tuition, although there is no fixed contribution and some individuals will end up paying far more or far less than the cost of their own education. The perceived benefits include: removing financial barriers to access while increasing resources to improve quality; enhancing the 'beneficiary pays' principle which is less regressive than financing through the general tax system; and contributing to international student mobility.³³⁰ Concerns cited include the opposition to hypothecation (i.e., the dedication of revenue from a specific tax to a specific expenditure), and the large-scale public financing that would be needed initially before the system reached a break-even point. This concept was proposed by the National Union of Students in England as a replacement for up-front tuition fees in 2009.³³¹ It is not believed that it has ever been implemented in any sizeable jurisdiction.

Payroll Tax

Payroll taxation levies a tax on those who employ workers with post-secondary education credentials, with the justification that the employers profit from the educated human capital and should be required to pay for the production of this capital. The tax rate can be varied based upon the total number of graduate employed, the cost of the education, and/or the proportion of income paid to graduates. Similar to the graduate tax model, this tax is often proposed as a tax that would contribute directly to the costs of the tertiary education system. The primary concern often raised with this model is the obvious disincentive to employ educated workers. This model has had limited use globally, and it is typically used more in the cost recovery of worker training than post-secondary education. Employers of graduates that took out student loans in Ghana pay 12% of wages paid to a fund for the education budget. In some parts of China, the employer is obligated to repay the outstanding student loan of graduate employees.³³²

³³⁰ Peter Dietsch, Université de Montréal. "Financing Higher Education: The Case for a Graduate Tax", Volume 1, Les ateliers de l'éthique, Volume 1, No 1, Page 88-100. Spring 2006.

H. Lorne Carmichael, Queen's University. "Timing the Payment of Tuition to Enhance Accessibility: A Graduate Tax?", Conference Proceedings from Taking Public Universities Seriously, University of Toronto, 2004.

³³¹ http://news.bbc.co.uk/2/hi/uk_news/education/8092977.stm

³³² Cost recovery in education by Jandhyala B. G. Tilak. In Marketizing education and health in developing countries: miracle or mirage? By Christopher Colclough. Page 79-81. 1997.

Educational Cess Tax

An educational cess is a levy on all or most of the households in a given locality that is dedicated to the financing of education in the locality itself; it is most often in the form of a property or professional tax. It had been utilized in China and India by local governments for the development of the school system; however, the taxes have since been removed due to inadequate revenue generation.³³³

Pre-Paid Tuition

The concept of a pre-paid tuition system is that either the government or a private institution offers families a fixed price for tuition credits that can either be used by a child admitted at institutions within the given jurisdiction or be refunded. The primary benefit for families is perceived to be a guaranteed fixed price with often a reasonable rate of return on investment considering recent university inflation, while institutions have up-front income that can be invested or used in operational expenses. Many governments provide tax incentives for investments in these programs. Drawbacks typically include a lack of flexibility to go to institutions out-of-jurisdiction, significant financial penalties associated with refunds, and the demonstrated use of the system and subsidy costs going to wealthier families who can afford to invest early in their dependents' education.³³⁴ These systems are common in the United States, though many have recently come under financial duress due to the market returns being insufficient to cover the rising costs of the committed pre-paid students.³³⁵ While pre-paid tuition systems have previously been proposed in Ontario election campaigns³³⁶, none have ever been implemented in the province.

Student Vouchers

The concept of governments providing vouchers to students as a way of contributing to all or some of the cost of education through individual students, rather than funding institutions, is likely the oldest of the non-traditional models included in this report. First proposed by Tom Paine in *The Rights of Man* (1792) as a method for financing universal education at the primary and secondary school level, variations of voucher systems have been tried in parts of the United States in tertiary education.³³⁷ No jurisdiction is believed to have implemented it universally, though it has been proposed recently in the review of higher education in Australia to raise student numbers through a more deregulated system.³³⁸ The idea is typically that the public voucher is worth either a percentage of the tuition fee or a flat sum for all students. The rationale for the vouchers is that the system would increase private preferences and make institutions more responsive to the changing labour markets. The voucher system was recommended to the Canadian federal government in the 1980s as a means of directly funding tertiary education, without infringing on the

³³³ Ibid.

³³⁴ <http://www.collegeboard.com/parents/pay/scholarships-aid/21391.html>

<http://finance.yahoo.com/how-to-guide/college-education/18314>

David A. A. Stager. Focus on Fees: Alternative Policies for University Tuition Fees. Council of Ontario Universities, Toronto. 1989.

³³⁵ <http://www.msnbc.msn.com/id/29618030/>

³³⁶ http://www.ospe.on.ca/gr_connections_OSPE_recd_Leader_responses_Jan_2002.html

³³⁷ Stager.

³³⁸ <http://www.wsws.org/articles/2009/jan2009/aedu-j02.shtml>

provinces' constitutional responsibility for education. There would be little benefit for a province to implement the voucher system as it would be not be substantially different in effect from the current enrollment-based formula funding system. Concerns cited are that the system can lead to growth beyond the funding capacity of the government, increased class sizes, and the increased privatization of the tertiary education system.³³⁹

³³⁹ Stager.

3. Findings and Implications

Over the past decade, there has been a conscious effort by every country studied to expand their post-secondary education systems and attainment rates. The OECD countries together are growing their tertiary education attainment rates annually by an average of 4.5%, and not a single country's attainment rates are currently in decline (though a few are retracting in absolute counts because of changing demographics). The most interesting observation, however, is the incredible diversity of expansion methods utilized by the various OECD countries studied. Korea utilizes an almost completely private cost recovery system where households contribute over 50% of the cost of tertiary education, whereas Greece and Denmark have only public institutions with no tuition fees. There exists everything from nominal entrance fees in France to the full cost of education being borne by the student in the United States' private institutions. Government involvement ranges from setting curricula to nearly complete autonomy. Student financial aid can essentially be non-existent, as in Switzerland, or readily available, for example in New Zealand where one can defer the entire cost of education and pay later through the tax system. With this kind of variance across a wide range of attributes, it is impossible to identify a single best method for recovering the cost of tertiary education, and any attempt to do so would be simply biased by the selected priorities of those making the selection. Instead, the authors of this study summarize key patterns that have been observed and lessons that have been learned about how OUSA should proceed in developing policy as it relates to cost recovery in the context of Canada and, more specifically, of Ontario.

3.1 Public Up-Front Tuition

- All of the countries with public institutions that charge up-front tuition have more than half of total revenue derived from public sources. Public contributions are largely derived from formula or block funding from the national or state/provincial governments. Total expenditure per student varies considerably from low (Germany, Spain) to high (Canada, Norway, Switzerland). The proportion that is derived from public sources has either remained relatively steady or declined and been replaced with private contributions. There is a universal pressure on governments in these countries to maintain or increase this funding amidst concerns of declining quality and high cost inflation.
- Growth in student fees is regulated to some degree by the government in all countries, except in Switzerland. The proportion of revenue derived from the student fees is less than 25% in all of the countries, while the average fees in real dollars ranges from approximately \$600 (USD) in Germany to over \$3500 (USD) in Canada.
- The diversity observed in the availability of financial aid in the forms of grants and loans was striking. Financial aid availability ranges from low in Spain and Switzerland, to modest in Canada and Germany, and to universal access in the Netherlands. Concerns related to access for students from low-income backgrounds amid increasing tuition rates are shared amongst many of the countries with this funding model, and maintaining adequate financial aid often is a priority in countries with up-front tuition.
- The ability of students to move between different types of institutions, particularly between type A and type B institutions, is a top-of-the-mind concern in Canada, Germany, Netherlands, and Switzerland, and there have been recent moves to reduce mobility barriers for students.

- Canada and the Netherlands seem to have successfully transitioned from low to high tuition fees in public institutions without compromising participation rates. The Netherlands in particular has managed to maintain the proportion of public financing, slow growth in tuition, and grant universal access to financial aid.

3.2 Mix of Public and Private Institutions

- As post-secondary education systems grow and evolve throughout the OECD, it becomes clear that the distinction between what is a “public” institution and what is a “private” institution begin to blur. In many countries with a mix of public and private institutions, the original design of the post-secondary sector was often based on the ideal of complete public funding; however, as times changed and an increasing number of students began attending tertiary education, the financial pressures of maintaining these systems grew. Not surprisingly, different countries dealt with these issues in different ways. Always, however, the intention was to find balance between a ballooning population of students attending post-secondary education, and the costs associated with funding them.
- Countries with a mix of public and private institutions often produce diverse methods to deal with the cost of post-secondary education. In some cases, new costs are simply passed on to students, significantly in Mexico and Brazil. In other cases, such as the Czech Republic, which is tempting to become a “no tuition” country, concerted effort has been made to limit student cost. Perhaps the main similarity between countries is the goal to constantly increase the percentage of the population that achieves a post-secondary credential. This goal is particularly evident in post-communist countries, where participation was low only three decades ago and has been expanding rapidly since then. In these countries, institutional and program expansion has been driving change. The associated long-term financial challenges will be daunting for these countries.
- Conversely, the three countries with the largest private systems, the United States, Japan, and Korea, are already facing serious challenges of affordability and access. Each country views and faces these challenges differently. The dominant trend, however, has been towards higher tuition in combination with attempts to provide loans and aid that allow students from lower income groups the possibility of access. These are imperfect solutions to complicated problems; however, the attainment rates in these countries cannot be denied, and so, it is unfair to heap only criticism on these systems.
- Overall, many countries are tracking towards a mixed public/private system. Places that currently have no tuition are facing enormous strain and change in their systems. This often leads, as in the case of the Czech Republic, to the allowance of a number of private institutions to be created. The real challenge will be the one that has faced Canada for at least two decades: how does a government fund institutions in a prudent manner, while ensuring that cost to the individual does not hinder access for people with financial barriers?

3.3 No Tuition

- Historically, there is often a tempting drive to push for a cost recovery method that eliminates tuition. As the economic and social benefits of countries with highly educated work forces becomes more apparent, it is

easy to see higher education as an extension of primary and secondary education deserving of the same funding mechanisms. The lessons from countries with no tuition, however, demonstrate that the story is much more complicated than this.

- Countries without tuition fees predominantly maintain high levels of enrolment and student retention. Of the countries reviewed for this study, only two countries had rates of enrolment below the OECD average. Beyond this, many countries, for instance Finland, have invested significantly in improving access to education for different socio-economic groups, and as a result family background and gender are now less correlated to success in education. Additionally, many of the countries maintain robust financial aid systems for educational costs beyond tuition fees.
- Countries that have maintained zero tuition while increasing the number of students have often had insufficient funds to increase per-student funding and have found it either difficult or impossible to maintain. As discussed in Johnstone's "Financing Higher Education: Who Pays and Other Issues", inflation at institutions of higher learning increases faster than the normal rate of inflation.³⁴⁰ This means that it is difficult for governments to maintain funding at the level of inflation set by institutions without sacrificing other public priorities. Further to this, governments that operate systems that do not charge tuition must either continuously increase their per-student funding or accept declining quality.
- In completely public systems, funding for PSE can be more impacted by changes in government, as evidenced in Norway in 2006, when a newly elected government cut planned increases to funding that were meant to provide improvements in quality after large increases to student enrolment.
- While many of the countries that do not charge tuition fees appear to have less pronounced access issues and higher student success, there are lessons to be learned with regards to advocating for reductions in tuition and in the importance of ensuring that there will be adequate public funds available to maintain the expansion and quality of the tertiary education system.

3.4 Deferred Tuition

- Deferred tuition has been a recent trend in several Commonwealth countries, including the United Kingdom. Some are quick to conclude that deferred tuition systems are simply income contingent loan repayment by another name; however, the universal eligibility and lack of interest on the deferred fees address many of the concerns of an income contingent loan scheme. There are several variations on the deferred tuition model, but the intention remains the same: to reduce access barriers by eliminating the principal financial barrier of up-front fees.
- The large scale investment in financial aid through the deferred fee scheme has coincided with either the introduction or rise in tuition fees. It is therefore important to note that the fee increases associated with the introduction of these schemes has allowed for the cost burden of higher education to be shifted from governments to students.

³⁴⁰ D. Bruce Johnstone. "Financing Higher Education: Who Pays and Other Issues". The International Comparative Higher Education Finance and Accessibility Project. 2009.

- There is little data to suggest that access has changed considerably with the introduction of these fees, and qualitative and quantitative evidence from Australia suggest that the ability to defer fees interest-free has had a neutral or positive impact on participation by the low and middle-income class.

3.5 Differentiated Government Subsidy

- While this model currently has a small sample size, utilized in Italy and Hungary within the OECD and at times in China, the concept of creating a scale of tuition based upon metrics for access sounds promising in theory. Acting similarly to many countries' current practice of providing grants to disadvantaged students, the goal is to reduce the total cost for some students to ensure equal opportunities for all students.
- In practice, however, unless students are considered on a case-by-case basis, the model is not efficient or effective at reaching its intended goal. Broad metrics or criteria, such as parental income, to determine a student's access barriers are generally not specific enough, and can inadvertently exclude ethnic and/or disadvantaged students that the cost recovery model was intended to benefit. Additionally, it could be argued that the money needed to employ the necessary number of people to determine more specific eligibility requirements could likely be better spent on contributing directly to student financial aid.
- Inflation in average tuition fees is often not taken into account in the discounts given on tuition, effectively reducing the subsidy each year.

3.6 Final Thoughts

- Canada continues to lead the world in tertiary attainment rate with an overall attainment rate of 48% in the 25-64 age bracket. However, this distinction may not last, as the annual growth in attainment rate is 0.5% less than the OECD average (ranked 17 of 28 in the OECD). Enrolment in Canada is split almost evenly between type A and type B education at 24% and 25%, respectively, in ages 25-64. It is trending towards type A, as the split in ages 25-34 is now 29% and 26%, respectively. This is important considering that Canada's type A population attainment rate is now tied for only sixth place in the OECD. It should be noted that Canada's top-ranked overall tertiary attainment rate is primarily driven by having the world's highest type-B attainment, and the global comparability of tertiary vocational training has been questioned by some.
- Canada spends the second most in tertiary education of any country, outranked only by the United States, both in terms of total expenditure per student and as a percentage of GDP. Such spending varies considerably amongst the OECD countries, with 4.5 times more per student spent in the United States than compared to Turkey. Not surprisingly, there is a positive relationship between spending on tertiary education (as a percentage of GDP) and the tertiary attainment rate. More interestingly, several countries such as New Zealand and Japan spend considerably less than Canada to achieve similar attainment results.
- In recent years, there has been a shift globally to a decrease in the share of public investment in tertiary education; among OECD countries, the change has been from 78% in 1995 to 76% in 2000 to 72% in 2005, mainly due to the rise in tuition fees and to private enterprises contributing to research in many countries. Public funds accounted for 53% of Canadian expenditures in tertiary education in 2005, compared to the

OECD average of 72%. Globally, there is incredible variation in this percentage from less than 25% in Korea to over 90% in six countries. Those countries that have maintained the share of public financing since 1995 are almost exclusively those with nominal or no tuition fees.

- No strong relationship exists between overall participation and public investment in tertiary education. Of the 12 countries with the highest attainment rates in tertiary education, five (Ireland, Belgium, Finland, Denmark, and Norway) have no tuition fees, while the remaining seven have the seven highest average tuition fees in the world (namely Australia, Canada, Japan, Korea, New Zealand, the United Kingdom, and the United States).
- Dramatic changes to tuition and financial aid usually follow in close succession, making it difficult to draw conclusions on isolated policy decisions. Potentially negative impacts from tuition increases on overall participation have often been mitigated, at least to some extent, by robust investments in financial aid (e.g., in Australia, Canada, the Netherlands, New Zealand, and the United Kingdom). Other countries that have not coupled increases in tuition costs with significant increases in the availability of financial aid (e.g., Austria, Germany, and Portugal) experienced negative early consequences in terms of declining or shifting enrolment away from tuition-charging institutions.
- It has been observed that many countries have moved to expand their tertiary education systems without much critical thought as to if the structure of the system is capable of successful expansion or if adequate financial resources are available to do so. Expansion of participation, without consideration of ways to maintain and improve quality, tends to require a later need for further investment and planning.
- Low participation amongst disadvantaged socio-economic groups is common in many of the countries studied, regardless of the cost recovery system in place. Like in Canada, large increases in enrolment have not been synonymous with more equitable participation rates among socio-economic classes in most countries. It should be noted though that some countries studied, predominantly those that do not charge tuition fees, at least appear to have more uniform participation rates across the socio-economic spectrum.
- Finally, there is nothing definitive to suggest that the public up-front tuition model utilized in Canada is a detriment to its post-secondary education system. To ensure the continued success of the Ontario tertiary education sector, the authors of this study believe that it would be prudent to:
 - Support expansion of the type A and type B tertiary education systems to maintain Ontario's high attainment rates and to increase the broad accessibility of the system, and ensure that sufficient resources are provided to facilitate expansion without compromising the system.
 - Continue to advocate for early intervention, community outreach, and proper support for quality K-12 education as a means of preparing students for entrance into post-secondary education across the socio-economic spectrum.
 - Ensure that any tuition increases are regulated so as to be manageable and predictable for students and should be coupled to adequate increases in the availability of financial aid.
 - Further explore potential reforms to the financial aid system in Ontario, including the potential of a universally accessible deferred tuition system and the elimination of real interest on loans as a means of reducing real and perceived financial barriers.