
Understanding the Differences

A Working Paper Series on
Higher Education in Canada,
Mexico and the United States

Working Paper #10

At a Crossroads:
Access to
Higher Education
in North America

by

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The Western Interstate Commission for Higher Education (WICHE) is a public interstate agency established to promote and to facilitate resource sharing, collaboration, and cooperative planning among the western states and their colleges and universities. Member and affiliate states include Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

In 1993, WICHE, working in partnership with the Mexican Association for International Education (AMPEI), developed the U.S.-Mexico Educational Interchange Project to facilitate educational interchange and the sharing of resources across the western region of the U.S. and with Mexico. In 1995, the project began a trilateral focus which includes Canada, with the goal of fostering educational collaboration across North America. In 1997, the project changed its name to the "Consortium for North American Higher Education Collaboration" (CONAHEC). The "Understanding the Differences" series was developed as a resource for the initiative and was created under the direction of WICHE's Constituent Relations and Communications and Policy and Information Units. CONAHEC's Web site is located at <http://conahec.org>.

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“UNDERSTANDING THE DIFFERENCES”
A WORKING PAPER SERIES ON HIGHER EDUCATION
IN CANADA, MEXICO AND THE UNITED STATES

WORKING PAPER No. 10

AT A CROSSROADS: ACCESS TO
HIGHER EDUCATION
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PREFACE

The higher education community in Canada, Mexico and the United States is well aware that NAFTA activities in general have to a great extent overlooked higher education issues that should be addressed and in particular, the asymmetries among their higher education systems. CONAHEC (the Consortium for North American Higher Education Collaboration) has attempted to fill some of the information and discussion gaps with a research series comparing various aspects of higher education in Canada, Mexico and the United States.

This paper's topic may be the most critical of all: access to postsecondary education in the three NAFTA countries. It has become commonplace to cite the changing character of the global economy, and the increasingly significant role that higher education is playing and will continue to play in that economy. This, of course, is especially true for those countries that strive to be in the forefront of that global economic competition.

Thus the state of access to postsecondary education becomes a central topic in any discussion about the global economy, especially among countries seeking to align their economies more closely to one another, as do the NAFTA trade partners. Imbalances among the educational systems will become increasing evident and problematic.

CONAHEC offers a forum for discussion of these issues, and, prospectively, some models for cooperative action in addressing them. This paper contributes to that forum. Its authors are Rodney A. Clifton of the University of Manitoba, Canada; Richard W. Jonsen, formerly of the Western Interstate Commission for Higher Education, United States; and, Luis Lloréns and Manuel Ortíz of the Autonomous University of Baja California, Mexico. They illuminate many similarities and differences in the higher education enterprise of the three countries, and especially about their prospects for maintaining and broadening access to postsecondary education.

At a Crossroads: Access to Higher Education in North America is the tenth in a series of reports that analyzes educational practice and policy in Canada, the United States, and Mexico. All have been designed to highlight both differences and similarities, with the goal of fostering educational collaboration across our borders by building understanding and mutual respect of our diverse educational systems in North America. The series, entitled "Understanding the Differences," was initiated in 1994 in an effort to provide information on educational policy issues affecting Canada, Mexico and the United States, particularly in a comparative context. It was undertaken with the encouragement of The Ford Foundation's former Representative for the Office for Mexico and Central America, Norman Collins and The Ford Foundation's Vice President of Education, Arts and Culture, Alison Bernstein. The series analyzes the major policy issues and differences in each country, to promote meaningful discussions among higher education leaders and policymakers. "Understanding the Differences" is an important component of CONAHEC, an initiative developed to remove the obstacles to North American educational interchange and increase understanding and opportunities for collaboration in Mexico, Canada, and the United States.

The series includes:

- *Working Paper #1: Policy Approaches to Evaluation and Incentive Funding in U.S. and Mexican Higher Education* by Peter Ewell and Rollin Kent.
- *Working Paper #2: Higher Education Faculty in Mexico and the United States: Characteristics and Policy Issues* by Cheryl Lovell and Dolores Sánchez Soler.
- *Working Paper #3: The Educational Systems of Mexico and the United States: Prospects for Reform and Collaboration* by JoAnn Canales, Leticia Calzada Gómez and Nélyda Villanueva.
- *Working Paper #4: Higher Education's Responsiveness in Mexico and the United States to a New Economy and the Impacts of NAFTA* by Elizabeth Santillanez.
- *Working Paper #5: The Role of Technology in Higher Education in North America: Policy Implications* by Glen Farrell, Sally Johnstone, and Patricio López del Puerto.
- *Working Paper #6: The BORDER PACT REPORT: A Region in Transition: The U.S.-Mexico Borderlands and the Role of Higher Education* by Beatriz Calvo Pontón, Paul Ganster, Fernando León-García, and Francisco Marmolejo.
- *The main comparative report: Understanding the Differences: An Essay on Higher Education in Mexico and the United States* by Judith I. Gill and Lilián Álvarez de Testa.

- *Working Paper #7: Teaming Up: Higher Education-Business Partnerships and Alliances in North America* by Guillermo Fernández de la Garza, Bertha A. Landrum and Barbara Samuels.
- *Working Paper #8: The Vancouver Communiqué Revisited: An Assessment* by John Mallea, Salvador Malo and Dell Pendergrast.
- *The Trinational Comparative Report: Within and Across Borders: Higher Education in Canada, Mexico and the United States* by John S. Levin.
- *Working Paper #9: Academic Mobility in North America: Towards New Models of Integration and Collaboration* by Fernando Leon Garcia, Dewayne Matthews, and Lorna Smith.

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On behalf of Richard Jonsen, we would like to thank Cheryl Blanco, Director of Research at WICHE, and her colleague, Ying Ling, for assistance in assembling the tables and charts on U.S. higher education, and for reviewing early drafts of the manuscript.

CONAHEC would also like to thank Richard Jonsen for his valuable editorial services. Thanks also to WICHE staff members Debby Jang (graphics support) and Charissa Haines (production). WICHE acknowledges Francisco Marmolejo for managing the project and his editorial assistance; Margo Schultz for her editorial assistance and coordination with the authors and the translators; and, Laurie Klusman for her assistance in the layout of the final manuscripts. WICHE and CONAHEC hope that this series will foster improved understanding of significant higher education issues in Canada, Mexico, and the United States, and, over time, lead to new cooperative efforts to increase educational opportunities across North America.

WICHE and CONAHEC thank Alison Bernstein, Janice Petrovich, Pablo Farías, and Jorge Balán of The Ford Foundation for their generous support of CONAHEC and for their recognition of the importance of policy studies in North American higher education. WICHE and CONAHEC also acknowledge the trinational team of authors of this working paper, who freely gave of their time to share their expertise with others. The authors eagerly worked through language barriers, cultural differences and logistical obstacles, in the spirit of true cross-border cooperation and exchange, which should characterize a project of this nature. We hope their cooperative efforts will inspire other researchers to pursue future binational and trinational collaboration.

This working paper was written to serve as a basis for the discussions of CONAHEC's October 27-29, 1999 Annual North American Higher Education Conference, hosted by the Universidad Veracruzana. The conference is entitled "*Academic and Professional Mobility in North America and Beyond: Fulfilling the Promise.*" We would also like to take this opportunity to thank the members of the 1999 Planning Committee for their many insights that helped form this paper. They include Don Alper, Víctor Arredondo, Franck Biancheri, Sally Brown, Jocelyne Gacel, Augie Gallego, Madeleine Green, Jaime Gutiérrez, Olga Hernández-Limón, Stella Hryniuk, Dewayne Matthews, Ricardo Mercado, Dolores Sánchez Soler, Walter Uegama, and Thomas Wood.

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INTRODUCTION

“The times they are a’ changing” sang the American folk singer Bob Dylan in the early 1960s. Young people in Canada, Mexico and the United States who listened to this song (in English, French and Spanish) accepted that society was changing. From the early 1960s to the present day, the times have changed in very dramatic ways, in many areas, in all three nations.

January 1999 marked the fifth anniversary of the North American Free Trade Agreement signed by representatives of Canada, Mexico and the United States. Free trade was designed to allow goods and services to flow with few restrictions from places where they are produced to places where they are needed, often crossing international borders. In the modern world, goods and services are produced, to a great degree, by human capital, and human capital is produced, to a significant extent, by institutions of post-secondary education. This paper reports about changes in demography and post-secondary education in Canada, Mexico and the United States. Changes in demographic characteristics set the stage for considering changes in access to post-secondary education.

In the broadest sense, the percentage of high school graduates entering college has been a crude indicator of access. Perhaps it is no longer serviceable; access may require a more complicated measure. We must include those potential students who did not complete the required secondary school credentials. Now, we may also be talking about access to meaningful economic opportunity. What is the metric for that?

Could access to higher education be broader and more comprehensive than it is in Canada, Mexico and the United States today? To answer this question, and to develop an accurate and informative picture of where we are, it is necessary to look briefly at where we have been. We need to look at the evolution of access to higher education, the purposes pursued by both individuals and society through higher education (and how those purposes have changed over time), the barriers to access and the extent to which they have been lowered or eliminated. Demographics are the necessary foundation for discussing those issues.

THE DEMOGRAPHIC CONTEXT

To understand the future character of post-secondary access and its challenges, we need to know the demographic patterns and comprehend the changes that have taken place and will take place. The following is a brief review of the major trends.

CANADA

- The growth of Canada's population has slowed in recent years, decreasing to an annual rate of 1 percent in the '90s with a birthrate less than replacement. Growth in the '50s had been nearly 30 percent. Population now is about 30 million.
- An increasing number of immigrants have entered Canada since the end of World War II.
- Immigrants' countries of origin have changed, from predominately European to predominately Asian and South and Central American.
- The Aboriginal population has grown and is currently about 2.8 percent of the Canadian population, unevenly distributed among the provinces.
- Urbanization has increased and the farm population has decreased; now, 76 percent of Canadians live in metropolitan areas.
- The age and gender distribution of Canadians has changed during the past 30 years, and is likely to continue changing during the next 30 years. Life expectancy has increased, and a growing number of the older population are women. This trend is expected to continue, and perhaps intensify, leading to an increasingly aging population.

Demographers at the United Nations Population Division and other organizations predict that during the next 30 to 40 years the world's population will probably peak and then decline, a trend that is contrary to earlier projections (Eberstadt 1997). If this happens, the population of Canada probably will peak by 2036 and then begin to decline. Undoubtedly, these demographic trends will have major effects on many aspects of Canadian society, including post-secondary education (Beaujot 1991, 209-234; Foot and Stoffman 1996).

MEXICO

- Population growth has slowed in Mexico, although it is still growing and at a faster rate compared to Canada and the U.S. By 1995, the country's population was 91.3 million people. The estimate for 2000, at a growth rate of 2 percent, is 106.6 million.
- In 1995, the 15- to 19-year-old population was 10.1 million. This same year, there were 9.4 million in the 20- to 24-year-old age group, the group most likely to pursue a higher education degree. Mexico's population is considerably younger than the Canadian and U.S. populations. Based on the current age-related composition of the

population, we can expect that the pressures for access to higher education within Mexico will be exacerbated in the near future.

- Mexico's population has shifted from rural to urban, particularly in the past 50 years; by 1995, 73.5 percent of Mexicans lived in urban communities.
- Mexico's population includes more than 5 million people from language-different ethnic groups, including 535,000 in the 20- to 24-year-old age group. There are no data about ethnic population enrollment in higher education in Mexico. Nonetheless, since most ethnic people live in rural areas, few have access to higher levels of education. The barriers of poverty and distance intensify those of language and culture.

THE UNITED STATES

- The U.S. population is growing but there is considerable variation where that growth occurs, both geographically and ethnically. For example the 1998 population was estimated to be 270 million and 13 percent Black, 11 percent Hispanic, 4 percent Asian, 1 percent Native American.
- In recent years, the population has diversified rapidly. In some states there is now, or will be shortly, no racial or ethnic majority: These are "majority minority" states.
- Continuing immigration and different birth rates among ethnic groups are adding to the nation's ethnic diversity. The population's "center of gravity" has been moving west. In 1900, only 3 percent of the nation's population lived in western states; by 1990, 21 percent did.
- The population is aging.
- The U.S. family structure is changing.

Of particular relevance to post-secondary education, of course, are the growing numbers of high school graduates and their rapid geographic and ethnic diversification. Exhibit 1 shows the regional and state-by-state population growth patterns for high school graduates, and Exhibit 2 shows the extent to which the increases will be greater among ethnic and racial minority groups.

A PROFILE OF POST-SECONDARY EDUCATION IN THE THREE COUNTRIES

CANADA

Canada is a federated state with certain similarities and some differences from other federated states in the world. Under Canada's Constitution Act, education is a provincial responsibility. Consequently, there are 10 provincial and three territorial systems of education. This decentralization of Canadian education, including post-secondary education, makes it difficult to produce valid generalizations about education at the national level.

This makes Canadian education unique (Bezeau 1989, 17; Manzer 1994; Young and Levin 1998, 33-40). Canada is perhaps the only country without a national office of education; all other nations, including all other federated nations, have national offices of education that coordinate and/or administer various aspects of their education systems.

In the late 1800s, the link between an individual's education level and his or her productivity was weak. Essentially, education was not seen as contributing to the development of human capital; education was an agent for developing citizenship and indoctrinating religious values (Manzer 1994, 51-67). The link between the education of the population and the productivity of the country was also weak. Better educated people were not, in general, more productive than less educated people. Consequently, a national system of education was not considered necessary at that time.

More recently, however, education — particularly post-secondary education — has become much more important for both the productivity of nations and individual success (See Ashton and Green 1997; Manzer 1994, 212; Newton, de Broucher, McDougall, McMullen, Schweitzer and Siedule 1992, 3-4). Countries with better-educated citizens are often more prosperous than countries with less-educated citizens, and better-educated workers earn more than less-educated workers. From a national perspective, this trend is particularly important because Canada, Mexico and the United States have recently reduced tariffs and other restrictions on trade and commerce, which has created greater competition within North America.

Canadian elementary and secondary education is generally 13 years, from kindergarten to grade 12; post-secondary education includes community colleges, universities and private colleges. In 1992, there were an estimated 206 community colleges, 75 universities (Jones 1997, 5), and 2,400 private vocational colleges (Grenier 1995) in Canada.

MEXICO

In Mexico as in many other countries, higher education is provided by institutions that possess, as Ana Hirsch (1996, 88) describes, the following attributes: "They are centered in knowledge. They are organized professionally, and have specific forms of work division, evaluation and authority. They are highly differentiated, plural, with relative autonomy — however, they serve the public and are highly vulnerable when social context is involved — they have abstract goals and troublesome technology." It is evident that society is giving these institutions more responsibility, especially in their role to train the human resources needed for the Mexico's growth.

In contrast to Canada and to a great degree the U.S., education in Mexico is a federal responsibility. The Mexican Ministry of Education (la Secretaría de Educación Pública — SEP) plays a central role in establishing educational policy and in providing funding for public education.

The higher education system in Mexico is comprised of a diverse classification of institutions. The most common classification includes three large groups: public autonomous universities; universities dependent on the government funding that include technological institutes, the National Pedagogic University (UPN) and normal institutes; and private institutions. To operate, private institutes must be granted an official authorization to grant degrees.

In 1995, Mexico's higher education system had 795 institutions. Thirty-nine public institutions and 49 private ones formed the university system. The technological systems had 110 technological institutes, plus the National Polytechnic Institute. Finally, 346 public schools — 68 decentralized units of the UPN and 162 private ones — formed the normal education system.

Other classification systems exist, too. Jaime Castrejón Díaz (Hirsh 1992, 18), for example, provides this classification: the market-driven private institutions similar to the universities in the United States; the government system with institutions such as the Instituto Politécnico Nacional and the UPN; and the academic system that integrates institutions such as the Universidad Nacional Autónoma de México and the state public universities.

According to the 1997-98 Mexican Ministry of Education Report, higher education enrollment reached 1.7 million students, with an estimated growth of 106,000 students for the 1998-1999 academic year. The total number includes 81.8 percent in higher education programs (undergraduate studies); 12 percent in normal education; and, 6.2 percent in post-graduate studies. (SEP 1998, 153).

Public and private higher education institutions have developed in Mexico over the past 50 years. The public system has been organized, financed and regulated — academically and administratively — by the federal government. Although in the case of *autonomous universities*, federal control has been exercised more indirectly, protecting those universities' autonomous status. *Autonomy* is a constitutionally-granted status which allows the autonomous universities self-governance, freedom to develop their own academic programs, and discretion to spend their federally-funded budget in the manner that they deem best suits their institutional needs. The autonomous status was created to counterbalance what could potentially have developed into excessive government intervention, given the important role that centralization plays in Mexican higher education. In contrast, the private university system has been centered on particular institutions that are strongly linked to private interests in industry, commerce and finance.

Over the past five to 10 years, financing and growth trends show that the federal government is reducing its participation in higher education. But state governments are not participating more to make up for this. Centralization is growing weak and there is no system or global agreement, regionally or state based, to replace it. Simultaneously the private sector is growing and getting stronger, particularly in terms of its enrollment capacity and its geographic coverage, but it is not a coordinated system.

THE UNITED STATES

Because education is not specifically mentioned in the U.S. Constitution, it is assumed to be the responsibility of the states. The federal government does not exercise direct control over colleges and universities, but, by statute and because of its fiscal relationships with colleges and universities, has a significant regulatory function.

Currently, observers identify 11 different types of post-secondary institutions, most of which contain both public and private members. These include research and doctoral institutions, masters, baccalaureate- and associate- degree-level institutions, specialized institutions and Tribal colleges (Carnegie Foundation for the Advancement of Teaching 1994). Almost 36 percent of all U.S. students are enrolled in community colleges which are associate degree-granting institutions. Although more than half of all 3,600 or so U.S. institutions are private, about 77 percent of all students are enrolled in public institutions (Chronicle of Higher Education 1999). Private institutions enroll the majority of students in major research and baccalaureate degree institutions.

This variety of institutions is matched by a variety of governance arrangements. Private colleges and universities are independent but not entirely free of some federal or state regulation. Most public institutions fall under state authority, but no two states are identical in the way that authority is exercised. In recent years, the proprietary sector has grown increasingly important in terms of numbers of institutions and share of post-secondary enrollment.

The decentralization of U.S. higher education is reinforced by the sources of funding. In the private (non-profit) institutions, 43 percent of revenue comes from tuition, another 14 percent from gifts and endowment income, and 9 percent from grants and contracts. Public institutions receive about the same percentage of their income from grants and contracts, but 33 percent comes from state appropriations, and only 19 percent comes from tuition. (Chronicle of Higher Education, 1999.) The decline in the state appropriation portion has necessitated an increase in the tuition revenue portion, which has brought about a significant access challenge.

ACCESS TO POST-SECONDARY EDUCATION

CANADA

The first post-secondary institutions were created in the colonies before Canada became a confederated state. In fact, at the time of confederation in 1867, there were already 18 degree-granting institutions in Canada (Jones 1997). These institutions, however, remained relatively small, supported by religious organizations and enrolling few students.

Post-secondary institutions became much more important in Canada following the 1951 Massey Commission Report which set the stage for partial funding of universities from the federal government (Cameron 1997, 11-12). As a result, additional post-secondary institutions were built and enrollment began to increase, but at various rates, in the provinces. Subsequent policies, such as federal subsidies for student residences in 1960, facilitated the further expansion of universities and colleges (Cameron 1997, 12).

WORLD WAR II — AN ACCESS WATERSHED

In summarizing the development of post-secondary education in Canada, Skolnik (1997, 329) says: “It is clear ... that the immediate aftermath of World War II was an important watershed in the evolution of Canadian higher education. The precise dates varied [by province and territory, commencing anywhere from the (late) 50s to the early 60s...]”

THE COST OF EDUCATION HAS INCREASED

The cost of education has been increasing substantially during the past three decades. In 1960, the cost (in current dollars) of public elementary, secondary and post-secondary education was approximately \$1.7 billion; by 1970, the cost had increased to approximately \$7.7 billion; by 1980 the cost had increased to \$22.3 billion; by 1990 the cost had increased to \$48.7 billion; and by 1995-96, the cost reached almost \$60 billion (Wotherspoon 1998, 70). The total cost of education has increased from 4.4 percent of GNP in 1960 to 8.1 percent in 1992, which is very high by international standards. In fact, by the 1990s Canada spent a greater proportion of its GNP on education than any other G-7 nation — more than France, Germany, Italy, Japan, the United Kingdom or the United States (Statistics Canada 1997, 99).

FINANCIAL AID TO STUDENTS

For public institutions, tuition has generally fallen as a percentage of operating funds from the early 1950s (when it represented between 30 percent and 45 percent of total operating costs) to the early 1990s (when it represented between 8 percent and 20 percent of operating costs) (West 1993, 34). In other words, more than 80 percent of the operating costs of public post-secondary institutions are provided by grants from provincial governments. Even though tuition has dropped substantially during the past 50 years, it has increased during the past decade as the Canadian post-secondary education system entered fiscal crisis (Finnie and Schwartz 1996, 3).

One of the most important arguments for lowering tuition at public institutions is to improve access for disadvantaged students. More specifically, both governments (federal, provincial and territorial) and post-secondary institutions (community colleges and universities) have generally argued that post-secondary education is not only an individual good that benefits the individual with access to higher paying jobs and a better life, but it is also a public good that benefits society as a whole with more highly qualified workers who produce a higher GNP (Finnie and Schwartz 1996, 3). Low tuition helps those who are academically advantaged but financially disadvantaged to obtain advanced education (West 1993). In turn, this increases their individual opportunities as well as the proportion of Canadians who have the skills and knowledge to function effectively in a modern technological economy.

At present, tuition accounts for about 20 percent of the operating funds for public colleges and universities, an increase from about 16 percent since the beginning of the 1990s (Levin 1990, 52; and West 1993). There are relatively small differences in tuition among the various public institutions and the various programs within institutions, even though some programs cost substantially more (dentistry and medicine, for example) than others (arts and sciences) (Levin 1990, 53). There are, however, great differences in tuition charged by public and private institutions. Private institutions (rather, private *colleges*, since there are no private universities as such) do not receive government grants so they charge students the full cost of their programs.

The direct cost of post-secondary education for prospective students has been offset, to a certain degree, by the Canadian Student Loan Program (CSLP), which began in 1964. Since 1964, CSLP has provided more than \$15 billion for financial assistance to more than 2.7 million students at public institutions. In 1990-91, for example, the value of students' loans was \$640 million, representing an average of \$2,900 for each qualified student (West 1993, 19). At present, redesigning the CSLP is an emerging debate in the politics of post-secondary education (See Finnie and Schwartz 1996; Thomas, 1994). More recently, this debate has been stimulated — at least in part — because almost 50,000 former students defaulted on almost \$400 million worth of federal loans between 1990 and 1996 (National Post 1999). The most recent proposal involves establishing income-contingent loans for students (National Post 1999).

ACCESS TO COMMUNITY COLLEGE AND UNIVERSITY EDUCATION HAS IMPROVED

Canadian officials have been consistently preoccupied with access to post-secondary education since the late 1950s. In 1998, approximately two-thirds of the post-secondary students in Canada were enrolled in universities, and the remaining one-third were enrolled in colleges. Participation rates, however, differ among provinces and territories, with Quebec having the highest participation rate in colleges. Exhibit 3 reports the proportion of the relevant population cohorts attending community colleges and universities. From 1961 to 1979, Statistics Canada published participation ratios that were calculated by dividing the total enrollment (all ages) by the relevant population cohort: 18- to 21-year-olds for both colleges and undergraduate university programs and 22- to 24-year-olds for graduate programs. Since 1980, however, enrollment proportions for three different population cohorts have been reported for community college, undergraduate, and graduate programs. These changes make it difficult to discern specific trends.

In general, Exhibit 3 illustrates that the percentage of students attending public post-secondary institutions has increased substantially (See Goodall 1994; Lynd 1994). For colleges, the participation ratio increased from 5 percent in 1961 to 13.3 percent in 1979. From 1980 to 1995, the proportion of 18- to 21-year-olds enrolled in colleges increased from 8.7 percent to 13.4 percent. During the

same period, participation increased from 5.5 percent to 8.7 percent for 17-year-olds, and from 1.5 percent to 4.4 percent for the 22- to 24-year-olds.

In 1980, 10.7 percent of the 18- to 21-year-old cohort, 6.1 percent of the 22- to 24-year-old cohort, and 1.4 percent of the 25- to 29-year-old cohort were enrolled in undergraduate university programs. By 1995, these percentages had increased to 17.3 percent of the 18- to 21-year-olds, 11.0 percent of the 22- to 24-year-olds, and 2.1 percent of the 25- to 29-year-olds. The participation ratios are, of course, much lower for graduate programs.

FEMALES ARE GAINING ACCESS TO COMMUNITY COLLEGE AND UNIVERSITY EDUCATION AT A HIGHER RATE THAN MALES

Exhibit 4 reports the participation ratios for males and females in public post-secondary institutions between 1980 and 1995 (Goodall 1994, 42 and Lynd 1994, 13). In community colleges, for the two younger cohorts, a greater proportion of females than males has been enrolled. In 1980, 4.9 percent of the 17-year-old males and 6.1 percent of the 17-year-old females were enrolled, and in 1995, 7.2 percent of the males and 10.3 percent of the females were enrolled. For the 22- to 24-year-old cohort, however, slightly more males than females were enrolled in community colleges.

For undergraduate university programs, similar proportions of males and females in the 18- to 21-year-old cohort were enrolled in the early 1980s, but the proportion of females increased substantially, in comparison with males, from the mid- 1980s to 1995. In 1980, 10.8 percent of the 17- year-old male cohort and 10.7 percent of the female cohort were enrolled. By 1995, 14.5 percent of the males (18 to 21 years old) and 20.3 percent of the females were enrolled in undergraduate programs. For the 22- to 24-year-old and 25- to 29-year-old cohorts, the participation ratios are more similar.

THE PERCENTAGE OF PART-TIME STUDENTS AT UNIVERSITIES HAS INCREASED

Exhibit 5 reports the number of students enrolled in universities classified by the students' sex and whether they are enrolled as full-time or part-time students. There has been an approximately five-fold increase in the number of full-time students enrolled in universities between 1961 and 1995, from approximately 114,000 students to 573,000 students. For full-time students, many fewer females than males were enrolled until 1988, when the proportions were approximately equal at 250,000 for each gender. From 1988 to 1995, the number of females increased at a substantially higher rate than the number of males. By 1995, there were 265,000 males and 308,000 females enrolled as full-time students in Canadian universities. Females represented approximately 54 percent of the full-time students in universities.

Among part-time students, more males than females were enrolled from 1963 to 1974; after that, more females than males were enrolled in universities. By 1995, 61 percent of part-time students were female.

The number of graduates from community colleges and universities is reported in Exhibit 6. For college graduates, there was more than a fourfold increase, from 22,000 in 1961 to 97,000 in 1995. University graduates with bachelor's degrees increased from 20,000 in 1960 to 127,000 in 1995. Also, during the same period the number of master's degrees increased from 2,000 in 1960 to 21,000 in 1995; and the number of doctoral degrees increased from 306 awarded in 1960 to 3,716 awarded in 1995.

ATTRITION IS A PROBLEM FOR UNIVERSITIES

In the Report of the Commission of Inquiry on Canadian University Education, Commissioner Stuart Smith (1991) acknowledges that “universities (and provincial governments) have no real idea of their [universities] attrition rates.” He used crude data to report that about 42 percent of full-time university students who began working toward a degree in 1985 failed to graduate by 1990 (Smith, 1991, 105). During the past few years, the Canadian news magazine Maclean’s has examined attrition at Canadian universities and reported that the percentage of full-time second-year undergraduates who complete degrees within one year of the expected graduation date ranges from about 50 percent to 93 percent (Maclean’s 1998, 48). These statistics, however, do not account for the attrition of part-time students, and they discount the attrition of first-year students. At the University of Manitoba, for example, Maclean’s reports that 82 percent of full-time second-year students graduate within one year of their expected graduation date. The Office of Institutional Analysis (1998, 49) for the University of Manitoba however, reported that 29.2 percent of entering students receive a three-year degree in four years and 54.3 percent receive a degree in six years. In other words, almost 45 percent of entering students fail to receive a three-year degree in six years. The university also reports that a higher percentage of females than males receive degrees during the six-year period. It has been acknowledged, in many cases reluctantly, that some students drop out of post-secondary institutions because they have not been adequately prepared in basic literary and numeracy. As a consequence, many universities and colleges are implementing remedial programs to help students acquire basic skills before they begin demanding programs.

AN INCREASING NUMBER OF WOMEN ARE GRADUATING

In 1961, 7.9 percent of college graduates were female, and this increased to 59.3 percent by 1990. The number of women getting bachelor’s degree has increased from 27.4 percent in 1961 to 57.2 percent in 1993. At the graduate level, there have been even more substantial increases: the proportion of women getting master’s degrees increased from 17 percent in 1961 to 48.6 percent in 1993, and the proportion getting doctoral degrees increased from 8.1 percent in 1961 to 32.5 percent in 1993.

AN INCREASING NUMBER OF ABORIGINALS ARE PARTICIPATING IN POST-SECONDARY EDUCATION

There has been considerable progress in the education of Aboriginal Canadians in recent years. Specifically between 1986 and 1991, the percentage of Aboriginal people who had completed some post-secondary education increased from 34.4 percent to 38.8 percent. Nonetheless, recent research acknowledges that Aboriginal people are still not participating in post-secondary education at a level similar to other Canadians. For example, in 1991, 3 percent of the Aboriginal population and 15 percent of the general population had university degrees (Baker 1995).

Other information also shows that Aboriginal people are increasingly participating in post-secondary education. For example, data published on the Indian Affairs and Northern Development web site show that in 1983-84, about 8,000 Aboriginal students were enrolled in post-secondary institutions, and in 1994-95 nearly 27,000 students were enrolled. In addition, this web site illustrates that in 1994-95 approximately twice as many Aboriginal women as men were enrolled in post-secondary education and about 3,500 students graduated with degrees and diplomas.

PRIVATE VOCATIONAL COLLEGES EDUCATE A SIGNIFICANT NUMBER OF STUDENTS

Vocational education is offered at private colleges in a range of courses and programs with flexible scheduling. Private colleges generally offer short courses that respond to the specific needs of the labor market (Sweet 1993). Unlike community college certificates, the certificates and diplomas awarded by these colleges are not usually recognized by provincial departments of education, though they are recognized by private businesses. Nevertheless, these colleges often guarantee that their graduates will receive offers for jobs (Grenier 1995, 50).

Statistics Canada has not recorded enrollment trends in private colleges, but in 1992 it surveyed private vocational colleges. Approximately 77 percent of these colleges specialized in a single field of study, such as business and commerce, technology and trades, personal care, hospitality and tourism, and community services.

(Grenier 1995, 50) In 1992, there were approximately 2,440 private vocational colleges in Canada with an enrollment of almost 1.2 million. It is not clear how many students were represented by this enrollment figure because students often enroll in more than one program.

In 1992, 43 percent of the private vocational college enrollment was in business and commerce, 29 percent was in community services, 12 percent was in technology and trades, 4 percent was in hospitality and tourism, and 12 percent was in other programs (Grenier 1995).

UNEMPLOYMENT RATES ARE STRONGLY CORRELATED TO EDUCATION LEVEL

Canadian young people with more education have, on average, lower unemployment rates and higher incomes than those with less education (Gilbert, Barr, Clark, Blue, and Sunter 1993; Goodall 1994, 49; Lafleur 1992; Paju 1997, 13). In fact, for Canadian citizens, the difference in incomes based on differences in education is increasing (Lynch 1997, 32). Exhibit 7 reports the unemployment rate for people with various levels of education. It shows that the unemployment rate for university graduates is approximately half the rate for secondary school graduates. Moreover, the unemployment rates vary by year, probably as a result of variation in the economic conditions in the country.

MORE PROGRAMS ARE BEING OFFERED IN NON-TRADITIONAL WAYS

In 1960, most post-secondary education took place in self-contained classrooms with students and teachers facing each other. With the advent of information technology, post-secondary education is changing in dramatic ways. Learning is becoming a lifelong process that is not limited to young people sitting in formal classrooms (Tapscott 1996, 197-216).

As a consequence of the speed at which information is changing, education beyond the secondary level is shifting away from formal classrooms in universities and colleges. As already noted, in Canada a substantial number of people — many of whom already have university degrees — attend private colleges. In fact, more than 1.2 million people are registered in these colleges today. In addition, an untold number of people are participating in post-secondary education delivered by private businesses as in-house post-secondary programs. Many people have heard of some of these institutions: Hamburger University (McDonald's), Motorola University, and Hewlett-Packard University.

Most public universities are trying to compete with these new institutions. Unfortunately, as Tapscott (1996, 201) notes, progress in public universities is slow compared with private colleges and in-house programs. Nevertheless, in Canada, virtually all universities have large distance-education programs that deliver courses in non-traditional ways. Many of these programs are growing. In addition, a number of non-traditional universities that specialize in distance education are being developed. Athabasca University in Northern Alberta is a well-known Canadian example. In the spring of 1999, 160 graduates traveled to the Athabasca campus 150 km north of Edmonton to receive their degrees. Some graduates came from communities a few miles away while others came from Hong Kong and Singapore. Virtually none of the students had ever met more than a handful of other students before lining up for convocation. All of the students had taken their degrees by distance education.

CANADA BEYOND 2000

There are several implications of these data for the future of Canadian society and post-secondary education. The demographic data suggest that Canadian society generally has become less socially integrated. Fewer people are marrying, those that do marry later in life, and fewer people are having children. The most dramatic demographic trend, and the one that will have the greatest effect on post-secondary education is the increasing proportion of the population that is 65 years old and older. In 1960 7.6 percent of the population was older than 65. In 1991 that group accounted for 11.6 percent of the population, and in 2025 it will account for about 25 percent.

At present, the 11.6 percent of the population that is older than 65 years of age is consuming approximately 50 percent of the health care budget. Older people use health care more than younger people do, and their health care costs are generally higher. During the next 25 years as the proportion of people older than 65 increases, the proportion of the provincial budgets that are used by the health system is likely to increase substantially. More money is going to be needed to serve the cohort of older Canadians. Given that Canadians are already highly taxed compared with Mexico and the United States, additional money will not likely come from increased taxes. Most of the money will come from increased efficiency in the health care system, and after that, the money will be diverted from the education system.

Why will that money be transferred from education to health care? First, older people are voters while children (particularly those in elementary and secondary schools) are not, and money will follow votes. Second, in the future an increasing proportion of students will be the children of recent immigrants. These students will have fewer advocates, parents, aunts, uncles, and grandparents who grew up in Canada and who supported the development of the education system. Finally, the education system has expanded dramatically, consuming an increasingly larger proportion of provincial budgets, and this is difficult to justify with a leveling-off or a decrease in the number of students. Full-time university enrollment, for example, has dropped by about 40,000 during the past five years.

MEXICO

THE DEVELOPMENT OF CONTEMPORARY HIGHER EDUCATION AND LIMITED HISTORICAL DATA

Although higher education institutions have existed in Mexico since the 16th century, the current national higher education structure is relatively new. Until the 1950s, there were few higher education institutions in the country. Most of them were in Mexico City, Guadalajara and Monterrey, and the

majority of them were founded in the 1940s. For example, the Instituto Politécnico Nacional which is now the second largest higher education institution in Mexico, was created in 1937 under the Lázaro Cárdenas government. In 1944 the *institutos tecnológicos* were created in several states, among them Jalisco (1944), Durango (1948) and Chihuahua (1949). But most public universities were created between 1940 and 1960.

The 1950s marked a time of many additional significant developments in higher education. The main campus of the National Autonomous University of Mexico (UNAM) was inaugurated in 1953. In 1950, ANUIES, the National Association of Universities and Higher Education Institutions, was funded as “an organization dedicated to conduct research and analysis intended to foster the development of national higher education” (Pallan 1995, 17).

During the first years of the Mexican higher education system as we know it today, systematically compiled statistics on access to higher education were practically nil. Nonetheless, using existing enrollment and census data, we do know that by 1950, 1.3 percent of the population in the 20-to-24-year age range (about 29,900 of approximately 2.3 million people) were enrolled in some higher education institution. That figure represented 0.93 percent of the total enrollment in the Mexican educational system, or 3.2 million students (Rodriguez 1998; Censo General de Población y Vivienda).

A decade later, the same age range had grown to 2.9 million people. The enrollment in higher education for 1960 fell slightly to 28,100 students, representing only 0.47 percent of the 5.9 million national enrollment in education. Higher education enrollment declined in 20-24 age range, from 1.3 percent to 0.95 percent in only ten years.

We are constrained to using data for this period which may not be fully reliable, and this could explain why the enrollment figures for the 1950s showed significant fluctuations. For example, in 1957 an enrollment of more than 47,000 students was reported. A year later, it decreased by 20,000 students and then stabilized over the next two years. These variations and particularly the decline in enrollment are even more surprising when we are reminded that a relatively large number of higher education institutions were founded during that same period.

Even though significant progress has been made in the gathering, analysis and reporting of higher education data, there are still important gaps in some aspects. Examples of gaps include historical or current information regarding ethnic groups’ access to higher education. Similar problems exist with the limited information about student mobility among different states and socio-economic differences among students in the higher education system.

Despite the limited reliability of historical data, it is possible to outline some of the major trends which are described in the following sections.

EXPLOSIVE GROWTH, BEGINNING IN THE 1960s

From 1960 to 1980, the most recurrent influence on higher education enrollment was national economic growth and progressive urbanization. As a consequence, a new, growing middle-class began to emerge. As David Lorey (1993, 138) indicates “middle classes grew rapidly in two periods of time, between 1940 and 1950, 42.9 percent; and between 1960 and 1970, 32.9 percent.” The growth of the middle-class, particularly in big cities, and its interest in taking advantage of higher education as a means of social advancement also played a significant role.

In 1961, in just one year, the number of higher education students soared from 28,100 to 83,000. During the 1960s, the growth rate was constant, reaching 252,200 students in the 1970-1971 academic year. This figure represented 2.19 percent of the total enrollment in the Mexican education system (all levels), estimated at 11,538,900 students (Rodríguez 1998).

At the end of the 1960s, the population in the 20- to 24-year-old age range had reached 4 million people — 36.8 percent more than in 1960. And the enrollment in higher education had increased 203.8 percent, reaching a total of 252,200 students (6.25 percent of the 20-24 age range).

IN THE 1970s GROWTH OF THE PRIVATE SECTOR

The growth in the number of students enrolled in higher education programs continued in the 1970s, with an important new factor: the increase in the number of private institutions of higher education and especially those concentrated in Mexico City. As Osborn (1998) indicates, private universities grew during the 1970s at a faster rate (255 percent) than the public universities (222 percent). This trend continued over the next two decades. Enrollment in private higher education institutions increased at an annual rate of 20.8 percent. Twenty-one of the 47 private institutions in Mexico were located within Mexico City.

The population census of 1980 indicates there were 6.4 million people in the 20- to 24-year-old age range. During 1979-1980, 827,600 students were enrolled, 13 percent of the 20- to 24-year-old age range.¹ Of this enrollment, 227,800 students were first-time undergraduate students. Ten years later, first-time undergraduate enrollment had grown by 18 percent to 269,000 students. Based in the figures provided by ANUIES (1998), in 1990 the total enrollment in undergraduate studies (for all ages) was 1.2 million students. From 1979 to 1997, the average annual growth rate of national higher education enrollment was 4.8 percent. The number of freshman undergraduate students grew by 3.9 percent. During the same period, the female population in undergraduate studies (public and private) grew at a rate of 10.1 percent annually as compared to a rate of 2.3 percent for the male population.

Nevertheless, most researchers agree that the 1980s were a slow-growth period, compared with the previous 20 years. Hirsch (1992, 170), referring to these facts and citing Muñoz Izquierdo, states: “the decision (of the government) is to stop the growth of the enrollment, even though one of every eight students between 20 and 24 years of age was left out of higher education in the previous period.” It was estimated that in 1992 the population in the 20- to 24-year-old age group was 8.7 million and that enrollment in undergraduate studies for that group was 1.14 million (13 percent) (SEP-ANUIES 1995, 15).

The most important change in these past years, with regard to access, was the diversification of educational options, particularly the opening of flexible, non-traditional programs, as well as the consolidation and growth of the two-year higher education track known as the technological universities. This change was foreseen and encouraged by the Mexican federal government as mandated by the Program for Educational Development 1995-2000. This program projected that by

¹ Two points should be clarified here. First, not necessarily all the people enrolled were part of the 20-to-24 age range. Second, there are differences in the data provided by the different authors, which could be due to the fact that each author may include in different components in their figures (e.g. graduate students, technological education, etc.). For the purposes of this document, from the 1980s to the present, we only consider data provided by ANUIES (ANUIES 1998).

the 2000-2001 academic year there would be nearly 1.8 million students enrolled in higher education (including graduate students) which would require opening up enrollment to 400,000 new students.

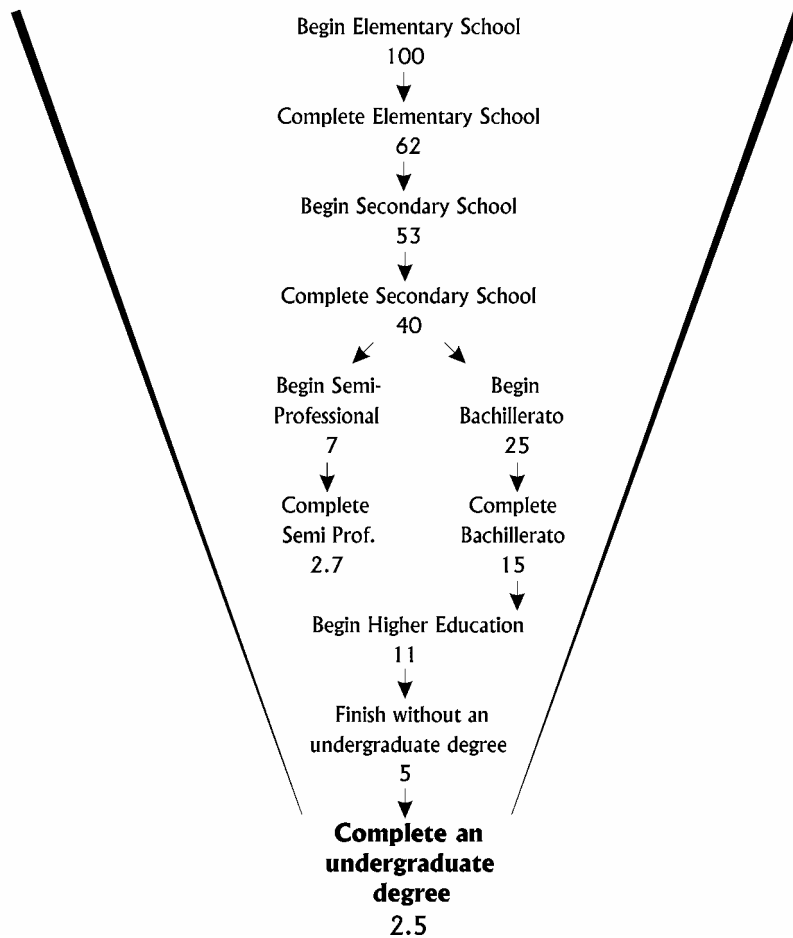
THE RELATIONSHIP BETWEEN ACCESS AND GRADUATION RATES

As can be seen from the previously mentioned figures, the access rate to higher education as a percentage of the 20- to 24-year-old age range has evolved from 1.3 percent in 1950 to 0.95 percent in 1960, then to 6.2 percent in 1970, 12.9 percent in 1980 and 13.1 percent in 1992. Following the substantial growth in the access rate from the 1950s to 1980, the rate continues to grow but at a slower rate. In comparison, gross enrollment rate in Latin America and the Caribbean for tertiary education was 18.4 percent for 1996. The rate for developing countries was 9.6 percent, and the rate for the less-developed countries was 3.1 percent. In contrast, the rate for developed countries was 50.5 percent. The worldwide rate was 16.7 percent (UNESCO 1998).

It is rather alarming if we examine access to higher education in the context of the completion rates of students over the span of the educational system from the primary level to the final graduate level. The small number of students who begin primary school and are awarded a final higher education degree is very low. According to figures for 1976-1992, the following illustration shows that of every 100 students who were enrolled in primary education, only 15 finished secondary education. Of those 15 students, only 11 enrolled in higher education and only 2.5 from the original 100 concluded their studies and obtained a degree (OCDE 1995, 54).

**COMPLETION RATES IN THE MEXICAN EDUCATIONAL SYSTEM
From 1976 to 1992**

(Elementary through Higher Education)



Source: OCDE, 1995

The illustration shows that the access to higher education from the previous education level (*bachillerato* or *preparatoria* which is for all practical purposes equivalent to high school) is relatively high (about 73 percent). The real problem begins at the transition from secondary school to the *bachillerato* level, where only 62.5 percent of those completing their secondary studies continue on to the *bachillerato* which until very recently has been the gateway to higher education.

Thus, in analyzing the problem from two different angles (age range and efficiency), we obtain similar conclusions. In recent years fewer than 15 of every 100 people in the 20- to 24-year-old age range enroll in higher education. Regarding the general efficiency of the educational system, of every 100 students who began elementary school in 1976, fewer than 15 enrolled in a higher education institution by 1992.

This is an indication that in recent years, enrollment in higher education is at a standstill or is on a downturn. This conclusion is confirmed by López Zárata (1996, 22) when he says “of the different educational levels, those with a significant increase in enrollment from 1970 have been *profesional medio*

(technical and vocational studies) — a 14-fold increase, and *bachillerato* (high school) — a 7.36-fold increase. In contrast, higher education enrollment grew only 4.23-fold in the same period. Higher education has grown, but at a slower rate than high school.”

ACCESS AND FINANCING

In 1980, the Mexican federal government allocated 0.68 percent of its GNP to higher education. In contrast, in 1994 it allocated 0.57 percent of its GNP (López Zárate 1996, 124). These figures reinforce the fact that access to higher education has been reduced at the same rate as public financing for higher education. We could also hypothesize that per capita income is not increasing at a sufficient rate to compensate access through means of private education.

Reduced financing not only limits access, but also impacts quality, especially considering that higher education requires a substantial investment. As a reference, in 1996, Mexico invested \$545 USD per university student, while Venezuela invested \$1,903 USD and the United States invested \$2,044 USD (Osborn 1998).

Seen from another point of view, as Pablo Latapí has said referring to the early 1980s, “each higher education student sacrifices access for ten elementary school students” (Hirsch, 1992, 159). Following the same analogy today, six elementary students sacrifice their access for every one higher education student. In 1998-1999, the federal expenditure per student for higher education was 28,389 pesos. During that same term, the federal expenditure per student was 4,826 pesos for elementary education, 6,928 pesos for secondary education, and 14,079 pesos for high school education (SEP 1997-1998, 242, 299).

At this time, there is no indication that the problem of ever-diminishing access to higher education brought about by the reduction in public financing will be solved in the near future.

Given that Mexico’s access problem that is exacerbated by a greater scarcity of resources, one solution might be to increase tuition at public colleges and universities while creating financial aid systems for both public and private institutions. But this approach would encounter several obstacles. From a political perspective, considering the 1999 Universidad Nacional Autónoma de México (UNAM) conflict², it is unlikely that the federal or state governments or even the institutions would favor major tuition increases in public institutions, especially if the quality of the services remains unchanged. Most likely any increases would initially be funneled into generating greater access and not toward increasing quality.

To solve this problem, some have suggested creating a financial aid system that could provide subsidies to students who wanted to enroll in private institutions. But financial aid for those institutions will not work until there is a reliable evaluation system in place to differentiate quality levels. Under the current political climate, it is unlikely that fiscal resources would ever be channeled to private institutions in order to compensate for public institutions’ limited capacity to accommodate growth.

² After a University Council decision to increase tuition and fees from the previous almost free level, a group of students began a strike, which obligated university authorities to reverse the increase and to make it voluntary. At the time this paper is being published (October 1999), five months after the strike first began, students continue to strike and are now demanding additional changes at the university.

MEXICO BEYOND 2000

Even if population will not grow in the coming years, the demand for higher education will. Recent studies have made this estimate based on the decrease in the dropout rates in secondary education and the increase in enrollment at the high school level (López Zarate 1996, 21).

The 1997-1998 Ministry of Education report predicted approximately 1.833 million higher education students in the year 2000. This figure takes into account all subsystems in post-secondary education, not only *bachillerato* and higher education. However, this document does not substantiate this particular figure. We consider this figure to be on the conservative side due to the fact that, if enrollment increases in absolute terms, demand is growing at an even faster rate because of the reasons mentioned above. Access to education is becoming limited.

Rubio (1998) proposes a more realistic scenario. First, he assumes a population of 112 million in 2010. Then, he states, "the population will undergo relative aging, with a growth in the youth and adult sector and a decrease in the children's sector. It is expected that this demand for higher education will be covered." In an optimistic scenario, Rubio calculates that by 2010, Mexico will have a total enrollment of 2.8 million students in different university, technological and teaching undergraduate programs. This assumes a 1 percent annual increase in high school graduates and in the undergraduate enrollment rate. If true, this would mean enrolling 29 percent of the population between the ages of 20 and 24, a 90 percent increase over 1997 numbers.

In a more conservative scenario with an annual *bachillerato* increase of 0.5 percent the graduation rate and undergraduate enrollment rate, the national higher education enrollment will reach 2.6 million students. This increase would involve a participation rate of 26 percent of the 20- to 24-year-old age group, representing a 73.5 percent increase over the 1997 numbers (Rubio 1998).

This scenario (which is supported by several studies) differs from the position taken by the Mexican Ministry of Education (SEP). The Ministry maintains that the population between the 18 to 22 age group of future higher education learners grew in decreasing rates of 0.85 percent annually. "This sector will stop growing by the year 2006 or 2007. At that point, it will begin to progressively decrease" (*La Jornada*, May 3, 1999, 23).

In other words, for the government the access problem does seem to be a critical one, based on the assumption that demand is actually decreasing, at a faster rate. On the other hand, independent analysts say that demand is increasing, because dropout rates are diminishing and the population continues to grow. Additional postsecondary capacity will be required and almost no one is devising a plan for Mexico to respond to this need for access. Nonetheless, it is widely recognized that the system in its present organizational form will not be able to cope with the demand.

UNSOLVED CHALLENGES

There are at least four unsolved issues which need to be addressed regarding access to higher education in Mexico. First, institutions are currently unable to carry out a more sustained planning process that will allow them to anticipate the demand for educational services beyond the immediate future. This is a major stumbling block in effectively planning for access. Compounding the problem, higher education lacks the vision of a real integrated system that is more closely linked with a networked structure in contrast to the current centralized and vertically integrated educational structure.

Second, there is a risk that the Mexican government's strategy to increase access to higher education will be insufficient over the mid-term. The current focus on the two-year technological university model, the lack of support in integrating a real higher education system, and the tendency for centralized control and excessive government scrutinization are not factors which are conducive to developing new educational models that will enable access at the institutional level.

Third, the lack of a comprehensive educational model that is better linked to national and regional economic needs has oriented higher education demand and offerings toward certain academic programs. This has led to a concentrated demand for higher education options in a limited number of professions, especially in the service areas. We can infer that access to higher education is limited because these professional majors are saturated, while enrollments in other less popular majors are declining because they are not adequately integrated with the national and regional economic and social needs.

This limited linkage between education and business is not a new phenomenon, as Lorey demonstrates in his historical analysis of Mexican higher education (Lorey 1993, 43). One could also argue that a stronger or weaker link between education and the economy is not really the issue, but rather the fact that paradoxically the economic environment substantially influences the professional market's likelihood of developing an effective link between education and the economy.

Finally, there has been very limited development in the use of new technologies for higher education, particularly with the purpose of expanding the educational offerings through non-traditional distance education programs. Rubio (1998) points out that it will be extremely difficult to cope with the large projected higher education demand based on the current traditional educational system. He states: "In order to increase access, we must not limit ourselves to just thinking about a decentralized system and more flexible academic programs. We must also expand and diversify the offerings of distance and semi-distance education programs by using the most modern and advanced technology available." Nowadays, the use of new technologies to cope with demand is talked about everywhere, but implementation is not that simple. Resources for equipment and communications are expensive. An even greater problem is in organizational and institutional cultures. The training of people, change in teachers' attitudes, and acknowledging that something has to be fundamentally examined and possibly changed is foreign for institutions that are largely accustomed to receiving subsidies without having to undertake change. The real challenge is to develop a competitive culture in which change can take place, not because the government instructs the institutions to do so, but because the institutions understand and appreciate the need to do so.

As a consequence of government policies that reflect a control-oriented approach (as opposed to an approach which would emphasize innovation), public higher education institutions have little incentive to explore technology-based solutions. It is also possible that private higher education institutions have been more inclined to develop technology-based alternatives since expanding their "client base" is in their best financial interest.

THE UNITED STATES

Measured in terms of the percent of high school graduates enrolling in college, "access" to higher education has reached a high point in the United States. In 1997, 67 percent of that year's high school graduates enrolled in college; that percentage has risen continuously since 1960, when it was 45 percent (U.S. Department of Labor and Bureau of the Census, College Enrollment of High School Graduates, various years). More than 15 million men and women are enrolled in colleges and

universities in the United States at public, private, and proprietary (profit-making) schools, research universities, comprehensive universities with undergraduate and graduate programs, baccalaureate institutions, community colleges offering two-year degrees, university transfer and programs of shorter duration (or, for many students, a course or two for specific purposes), specialized professional and technical schools, and religious institutions and corporations offering degree programs (Chronicle of Higher Education 1999).

**U.S. POPULATION, NUMBER OF INSTITUTIONS, ENROLLMENT
AND DEGREES AWARDED, SELECTED YEARS**

Year	Population	Institutions	Enrollment	Degrees Awarded
1700	250,000	2	150	15
1790	3,929,214	11	1,000	240
1870	39,818,447	250	63,000	9,372
1945	139,924,000	1,768	1,667,000	157,349
1975	215,465,000	3,026	11,185,000	1,665,553
1995	262,775,000	3,706	14,262,000	2,246,300

Source: Arthur Cohen, Shaping American Higher Education, 1998.

As the table above shows, the higher education enterprise in the United States grew slowly from the establishment of a few sectarian colleges founded in colonial times, up to the mid-1880s, when two events accelerated that development: the Morrill Land Grant Act and the university movement.

THE MORRILL LAND GRANT ACT (1862) AND THE UNIVERSITY MOVEMENT (1870)

These two events had enormous impact on access. The Land Grant Act expanded access by broadening the functions of the institutions to include the “practical arts” of agriculture and engineering, and the university movement added great energy to the enterprise by elevating the importance of research and graduate study.

The Land Grant Act also spurred the development of public systems of higher education, which gradually overtook and surpassed private higher education in total enrollment and today account for more than three-fourths of post-secondary enrollment. (See Exhibit 8.)

In the emerging industrial economy, a college education came to be seen as helpful training in skills that were increasingly in demand in that society. At the same time, the enterprise of higher education expanded under the impetus of federal incentives, state policies and the entrepreneurialism of religious groups and individual academic leaders. The growth of the public schools and secondary-school attendance also contributed to the growth of college enrollments. In sum, access expanded in response to the expansion of the system, and the system expanded in response to the demand for access.

UNIVERSAL ACCESS GETS A SECOND GREAT PUSH FROM THE “GI BILL”

By 1945, 1.7 million students were enrolled in 1,768 U.S. colleges and universities. By 1975, these numbers had grown to 11.2 million students in 3,026 institutions, and by 1995, 14.2 million students in 3,706 institutions.

The biggest factor in the expansion of access to higher education in the United States came in the Servicemen’s Readjustment Act, popularly known as the GI Bill, which provided financial support to World War II Veterans. Those servicemen sought education for economic advancement and the government provided the money at a time when the job market couldn’t absorb all of them anyway. Institutions grew and multiplied to absorb this new clientele. Many former “teachers colleges” became comprehensive institutions. Although some community colleges were established early in the

century, during the post-War period they become a major factor in the American higher education enterprise.

THE 1960s: U.S. HIGHER EDUCATION EXPANDS BEYOND YOUNG WHITE-MALE FULL-TIME STUDENTS

By the late 1960s, the character of college enrollments was changing. Increasing numbers of adults were entering or re-entering college, pushed by the job market's demand for more skills and attracted by institutions such as community colleges which began offering more accommodating and flexible programs. More women were attending college and 56 percent of *today's* college students are women. The civil-rights movement promoted college opportunity, too, as an entitlement for many minority students who had been shamefully underrepresented in the ranks of college students and college graduates. Exhibit 9 illustrates the dramatic rise in higher education enrollments since 1960.

AT THE MILLENNIUM

In 1997, 15.4 million students were enrolled in 3,842 colleges and universities (eight times the number enrolled in 1945). Of those institutions, 1,633 were private and 1,037 were public two-year institutions. In 1976, 83 percent of the total enrollments consisted of white, non-Hispanic students from the United States. By 1996 that percentage had dropped to 71 percent and then dropped further as a result of changing demographics (Chronicle of Higher Education 1999).

SEPARATE AND UNEQUAL "PIPELINES"

Exhibits 10 and 11 show the extent of minority and low-income student underrepresentation in U.S. higher education. These and other data show that:

- The greatest "leakage" in the college access pipeline is among African-American, Hispanic and Native American students. They fail to finish high school in the largest proportions (though African American students' experience has improved in this regard), attend college in smaller proportions (though there has been some progress among all groups), and graduate from college in still smaller proportions.
- Although minority students are underrepresented in college enrollments (with the exception of Asians) compared with their proportion in the college-age population, they represent an increasing share of total enrollments because of the growth of the total minority population. Consequently, racial and ethnic minorities have grown from 15.4 percent of all college enrollments in 1976 to 25.2 percent in 1996. Those percentages are higher in public two-year colleges (30.4 percent) and lower in four-year institutions, both public (22.9 percent) and private (20.5 percent).
- The picture for minority students is repeated for students from low-income families. Students with higher family incomes are much more likely to attend college than are students from middle- and low-income groups (See Exhibit 12). This remains true even when comparing only high-ability students (McPherson and Schapiro 1999).

There is currently a national debate around the issue of affirmative action, a government policy that has for some 30 years required, encouraged and helped institutions enroll minority students. That policy has recently been prohibited by popular vote in two states, California and Washington,

and found unconstitutional by the federal courts in Texas and Louisiana. But while this debate rages, the numbers of minority students approaching college age continue to grow, making inevitable their increasing presence on college and university campuses

READINESS FOR COLLEGE AND PERSISTENCE TO A DEGREE VARY AMONG DIFFERENT GROUPS OF STUDENTS

Students who have not had a strong preparatory education, or who possess weaker skills or training, are required to repeat earlier education at the post-secondary level through remedial or developmental education. Such remedial education has always been a feature of higher education, even in elite institutions. But, with the enormous expansion of the college population and the broadening of the socio-economic and preparatory base of that population, remediation has become a controversial political as well as educational issue. In the fall of 1995, two-fifths of all freshmen at public two-year institutions were enrolled in such courses, as were nearly one-fifth of those in four-year institutions (NCES 1999).

While selective institutions boast high retention rates (in some cases graduating as many as 90 percent of the students who enter), for most institutions the record is not good, and for some it's abysmal. Of students who entered post-secondary education in 1989-90, about one-quarter received bachelor's degrees by spring of 1994.

SPIRALING TUITION AND LAGGING GRANT AID MAKE FINANCIAL AID A CRITICAL STATE AND A FEDERAL POLICY ISSUE

College tuition in the United States has spiraled upward since the mid-1980s. In the public sector, this has been attributed to diminished state support, which has been offset by shifting the costs to the student. But the fact is that both public and private tuition have increased significantly. In 1997-98, average tuition and fees in public two-year institutions stood at \$1,576. In the public four-year institutions, that figure was \$3,111, and in private four-year schools, \$13,785. In constant dollars, those figures represented a doubling of tuition during 10 years in the public institutions, and 40 percent in the private ones (The College Board 1998, 8). Tuition has increased faster than the cost of living, and even faster in relation to family income, especially for low-income families. Steep increases in tuition undermine the college aspirations of low-income students to a much greater extent than those of their more affluent classmates. Exhibits 13 and 14 show these trends over a 10-year period. Note that tuition is only part of the total "cost of attendance," covering about 40 percent at public four-year institutions and 70 percent at private four-year institutions.

Scholarships provided by institutions, religious organizations and private sources have always ameliorated the cost of tuition for poor and deserving students. But the Servicemen's Readjustment Act of 1944 (the "GI Bill") established a precedent of federal support and an underlying assumption that higher education and college graduates were good for society. The GI Bill extended higher education opportunity to thousands of ex-servicemen in the 1940s and 1950s. New federal financial aid programs in the 1950s and 1960s involving grants, loans, "work-study" and other forms of support reflected a new federal commitment to equalize college opportunities for low-income students. Those commitments were expanded through the next three decades. In constant dollars, total available student financial aid increased from \$2.9 billion in 1963-64 to \$60.5 billion in 1997-98. The largest increases occurred in the mid-1970s and mid-1990s, and by 1997-98 more than 70 percent of those dollars were from federal programs (The College Board 1998, 15).

Most states eventually got into the act, in some cases because of federal incentives, making support for students attending college a matter of state interest. The heart of these policies was, implicitly, the concept of “relative affordability.” That is, high tuition at both public and private institutions was to be offset by government-sponsored financial aid to bring down the net cost of tuition and the total cost of attending college. These programs were need-based, so that for the poorest students the net cost of attending college might be brought to zero.

Federal and state levels have to some degree shifted away from targeting the most needy students to a broader audience, including increasing numbers of middle-class, middle-income students. The Middle Income Student Assistance Act of 1978 provided a strong thrust in that direction. “This shift has diluted the federal emphasis on subsidies for low-income students and led to the predominance of loans in the mix of available aid.” (Gladieux 1995) And the new programs of the Clinton Administration — the Hope Tax Credit and Lifelong Learning Tax Credit programs — have continued and strengthened that thrust, because these programs do not benefit low-income students at all. Although the original intention was a fair balance between grants and loans, loans have become the largest part of the federal student aid package, and this is true even for the lowest-income students. The total volume of loans to students and parents has continued to rise steeply over the past 40 years, but especially in the past decade. Negative consequences of these policies include debt burdens that rest more heavily on poor than affluent students.

With respect to access policy, these trends are troubling. While the total package of aid available to students has increased greatly since the 1960s (when institutions accounted for nearly half of all aid awarded), the character of that aid has shifted from grants to loans, and institutional aid has increasingly been targeted to middle-income students. By 1997-98, 80 percent of available federal aid was in the form of loans; 20 years earlier it had been 22 percent. (Exhibit 15 illustrates some of these trends.) Merit Scholarships awarded often without reference to need, have shifted the emphasis of financial aid policy from equalizing access for the poorest students to easing the financial burden for more affluent students and their families.

BEYOND FINANCIAL BARRIERS

Money is not the only barrier to access. Students from affluent homes attend college in much larger proportions than those from poor homes, not only because they are better prepared financially but also because they are better prepared academically and socially. They are more likely to attend schools that stress preparation for college and come from families that stress education and provide the encouragement and role models to make college a part of their children’s view of the world.

Access initiatives have recognized this, and a great deal of emphasis has been placed on “early interventions” to put students on the track to college. These interventions include information about pre-college requirements and early college counseling. Success achieved by such programs has helped to give these interventions visibility. The assault on affirmative action, mentioned above, has also re-energized efforts to focus on early intervention and strengthening college preparation, especially for low-income students.

POST-SECONDARY EDUCATION WILL BECOME MORE IMPORTANT FOR ECONOMIC SUCCESS

It is high noon in the information age. High-level skills are needed for economic success and they probably call for some training beyond high school. Thus, there is a growing gap between the well-

educated and poorly educated in U.S. society. We already see some effects of the information-age economy and the necessity for high-level skills in the slipping fortunes of the poorly educated in our society. (See Exhibit 16.) But the fact is that being poor is predictive of low educational attainment to begin with. So poverty and limited education are factors that work together to perpetuate both in our society. Thus, the widening income gap between the affluent and the poor in U.S. society will be self-perpetuating as it contributes to the educational gap and is intensified by it.

SOME SIDE ISSUES

- The increasing currency of the word post-secondary signals a shift from the old balance between liberal arts or general education and vocational education in favor of more vocational objectives.
- Is market expansion exclusively attributable to demand factors in the economy, government policy and society, or is it a function of the expansion of the supply system and increasingly aggressive efforts to market that system?
- The strength of the private, non-profit sector means that it has an important role in providing access. Federal and many state financial aid programs have helped ensure that the role of these institutions is not relegated to the periphery by basing aid awards on total costs, whether of private or public institutions.
- Proprietary schools, that is, profit-making colleges and universities, have played a role in U.S. post-secondary education for decades. But the past 20 years have seen the rapid growth of these institutions, including some large, nationwide enterprises such as the University of Phoenix that have made post-secondary education profitable by carefully targeting their market and carefully designing their educational approach to that market (part-time adult learners seeking professional advancement).

TECHNOLOGY — THE WILD CARD

Since the advent of radio, technological innovation has been predicted to revolutionize higher education. But not until the marriage of computers and telecommunications and the development of computer networks on a worldwide basis through the Internet have the elements of a real revolution existed.

The Internet permits delivery everywhere of educational services that use voice, video and data. Near-ubiquitous access to the Internet, especially on college campuses and among those who use them, is an educational tidal wave. Entrepreneurial institutions have seen the possibilities here to deliver a full range of courses through these means, and, in the past five years, numerous versions of “virtual universities” have been launched.

These initiatives are still in their infancy (though some of the virtual university endeavors are tied to institutions or organizations that have been using computers and telecommunications intensively in their programs for some years). Thus it is too early to assess them, either as great successes (though there has been much hype around some of these ventures), or as failures (although many faculty members have expressed outrage over the substitution of these mechanical and impersonal approaches for the intense experience of classroom instruction). Will they reach currently underserved populations (rural learners, minorities, low-income students), or will they principally

serve populations currently well served, with services that appear more effective, more convenient, of higher quality or less cost? It is far too early to tell.

THE UNITED STATES BEYOND 2000

The saga of higher education in the United States is clearly a story of increasing access to college, driven by the expanding role post-secondary education plays in the economy, as well as the increasing expansion and marketing of the entire system of post-secondary education. The present environment is one characterized by enormous diversity in the supply of educational opportunities beyond high school: great variety in the kinds of institutions and agencies that can deliver the educational services sought by students.

What does seem fairly clear about the future of access to post-secondary education in the United States is that the enterprise will grow and diversify even more. The private sector is increasingly aware of the potential profitability of post-secondary education. More federal dollars are now flowing into post-secondary education, most notably in the new federal financial aid programs. And the resources of students (especially from more affluent families) seem to have kept pace, perhaps based mostly upon students' willingness to take on future debt to pay for current services. The states, too, have increased their appropriations to post-secondary education during the boom of the last half of the 1990s.

A greater proportion of minority students is becoming qualified to enter college, and more are doing so, though not enough to bring minority representation up to national averages. These indicators seem to be positive.

Other indicators are negative. The absolute affordability of post-secondary education has declined as tuition continues to increase faster than the cost of living, disposable income and grant-based financial aid. More troublesome is that the effort to improve affordability for the middle classes (generally, making more expensive options available to them) may be coming at the expense of lower-income students, for whom financial aid increases have not been as significant. The lowest-income students get no benefit, for example, from the new federal Hope Scholarship programs. And merit scholarships or awards made to students irrespective of need go largely to students in upper income levels.

How these trends play out in the next 10 or 20 years will depend on many factors, not the least of which will be state and federal policies that respond — or fail to respond — to these indicators one way or another.

Access to post-secondary education in the United States has expanded significantly in the past 50 years. The goal of universal access has not been reached, and may never be. How close we come is now being written in a myriad of choices being made by consumers, providers and state and federal governments.

CONCLUDING OBSERVATIONS

If NAFTA promotes policies that more closely align the economies of Canada, Mexico and the United States, the disparities among their post-secondary education systems will become increasingly obvious and dissonant. But there is no forum for discussion of the issues at stake here or the cooperative measures that could be taken to address them. Such a forum is badly needed. Trilateral organizations such as CONAHEC could provide an avenue for such discussions.

The intensity of competition engendered by NAFTA should not be overlooked, nor should the plain fact that such competition exists among the systems of post-secondary education in our three countries. Concern about the “brain drain,” especially toward the United States and away from Mexico and Canada, is one example of that competition. Another is the competition for the global post-secondary marketplace brought into being by technology. That technology can be a problem to be addressed, but it can also be an aid to collaboration.

There is insufficient mobility among the students, faculty and administrators from the three countries — not enough collaboration, not enough interchange, not enough mutual cultural awareness. For example, the United States and Canada are badly lagging in efforts to recognize the growing importance of Spanish as an international language in our hemisphere that is part of the cultural “glue” that should be facilitating commercial, educational and cultural relations.

SOME COMPARATIVE STATISTICS ON POST-SECONDARY EDUCATION CANADA, MEXICO AND THE UNITED STATES

	CANADA	MEXICO	UNITED STATES
Average Expenditures Per Student (1995)	\$11,471 (US)	\$5,090 (US)	\$16,262 (US)
Post-secondary education enrollment, ages 18-21, 1995	40.5%	6.6%	34.6%
Post-secondary education enrollment, ages 22-25, 1995	21.9%	6.1%	21.5%
Post-secondary education enrollment, ages 26-29, 1995	9.1%	2.0%	11.1%

Source: Education at a Glance: OECD Indicators. Centre for Educational Research and Innovation, OECD, 1998.

The table above reveals one great difference among the three countries. Not only are the higher percentages of all age groups in post-secondary education in Canada and the United States, but older students are continuing to attend higher education institutions in those two countries. Continuing and recurrent education is an important feature of countries moving rapidly into the information age, and it will continue to be a requirement for economic competitiveness.

As described earlier, the growth of national systems seems inevitable. In all three countries, the development of vigorous private and proprietary (profit-making) sectors of post-secondary education will become more important factors in providing access. Will that provide a net increase in post-secondary opportunity or simply shift more affluent consumers from more traditional institutions?

Of greater concern than the internal competition among post-secondary sectors is the competition for tax resources from other public services. This paper has noted the competition with elementary-secondary education in Mexico and health care in Canada. Similarly in the U.S., most likely education soon will be competing with health care and other social and welfare services used by its aging population.

It is clear that the people of Canada, Mexico and the United States place a high value on access to post-secondary education. Those national attitudes have been supported by federal, state and provincial policy in all three countries, with the economies of the United States and Canada being able to provide ample resources to adequately support those policies. The economy of Mexico, particularly weak in recent years, has made access to post-secondary education in Mexico a more elusive goal, as this paper has indicated. For the United States, the “way out” of the resource bind has been the path of higher tuition, made possible by a mountain of loans. Perhaps Canada will move more in this direction. It seems a dilemma for Mexico’s public sector, where even proposing small tuition increases meets with enormous political opposition.

If access to post-secondary education is a priority for citizens of the three countries and their governments, it is also true that economic growth necessitates the expansion of that access. There are significant challenges that require the most careful thought and planning on the part of policy-makers in both higher education and government. Governance, resources and political will in the three countries — each vastly different one from another — will combine to address those challenges in coming years.

Higher education is both a consumption and investment good. It is an irony that, at least in the United States, those institutions that lavish the most resources on their students — major universities, expensive private liberal arts colleges — are also the institutions where students are most eager to obtain the consumption benefits: recreation, entertainment and socialization. The irony here, at least in the United States, is that society itself seems to have shifted priorities from investment to consumption. Discussions about this issue are also taking place in Canada. Obtaining consumable goods and spending rather than saving have characterized the behavior of the populace in recent years. Voters and their representatives have been more eager to limit taxes than invest in education and other services that will benefit future generations. An example is the recent emphasis, again in the United States, on adding subsidies that benefit middle-class students already enrolled or likely to enroll in college rather than add subsidies for lower-income students to support their enrollments. At the risk of oversimplifying this trade-off, the former subsidizes consumption, the latter, investment.

On the contrary, in Mexico’s case it seems that society is shifting from viewing education generally as a way of obtaining social status to viewing it as a specific investment with specific purposes. This is probably due to the increasing social costs of education. Families are devoting more and more resources to send their children to higher education institutions, mainly in maintenance expenses, transport, etc.

However, if this analysis is accurate, it is clear that the citizens of those countries and their political and educational leaders must reestablish and reinvigorate long-term commitments held by previous generations. Strengthening access depends upon this renewed commitment, and so does the health of education and society in general.

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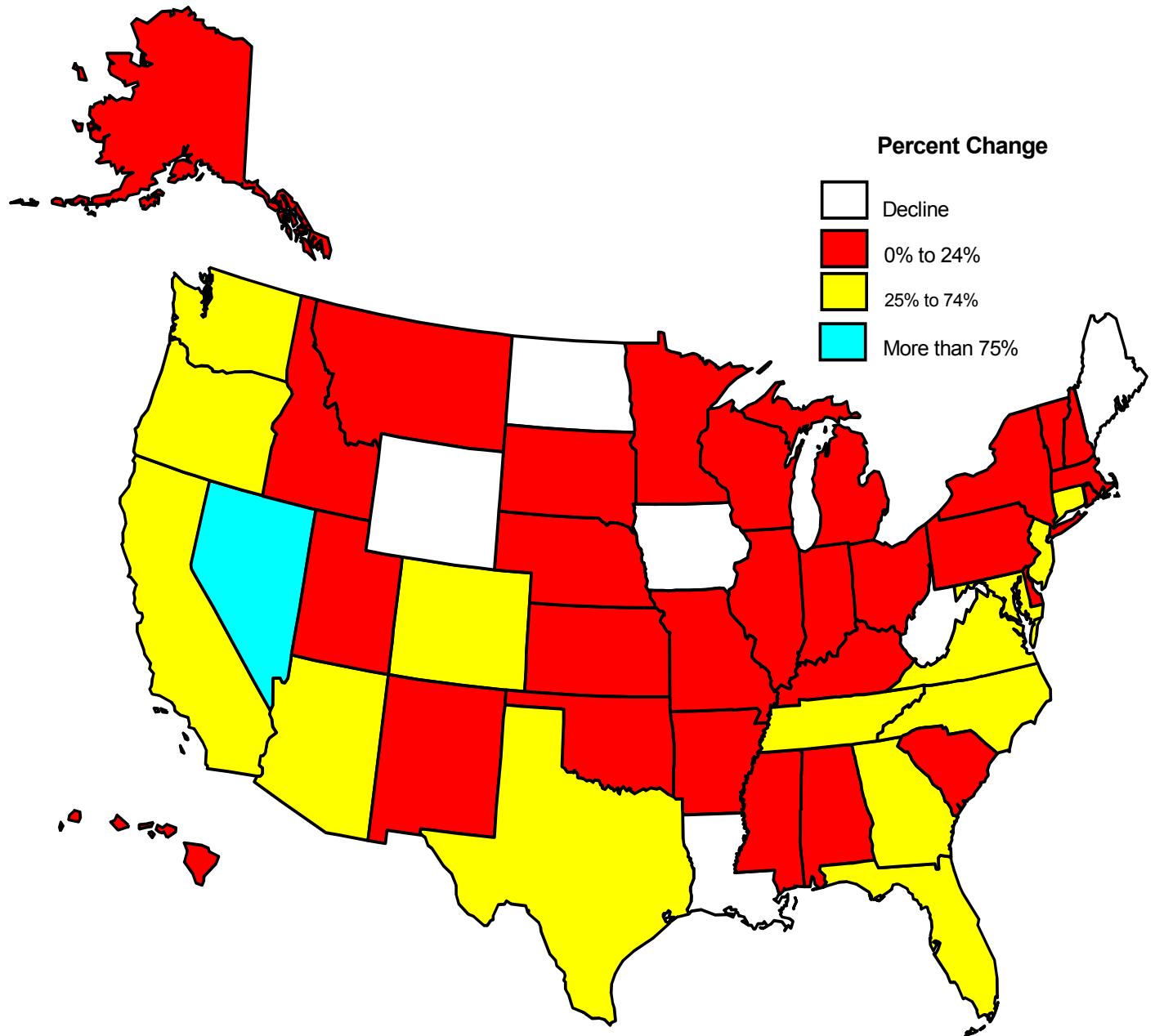
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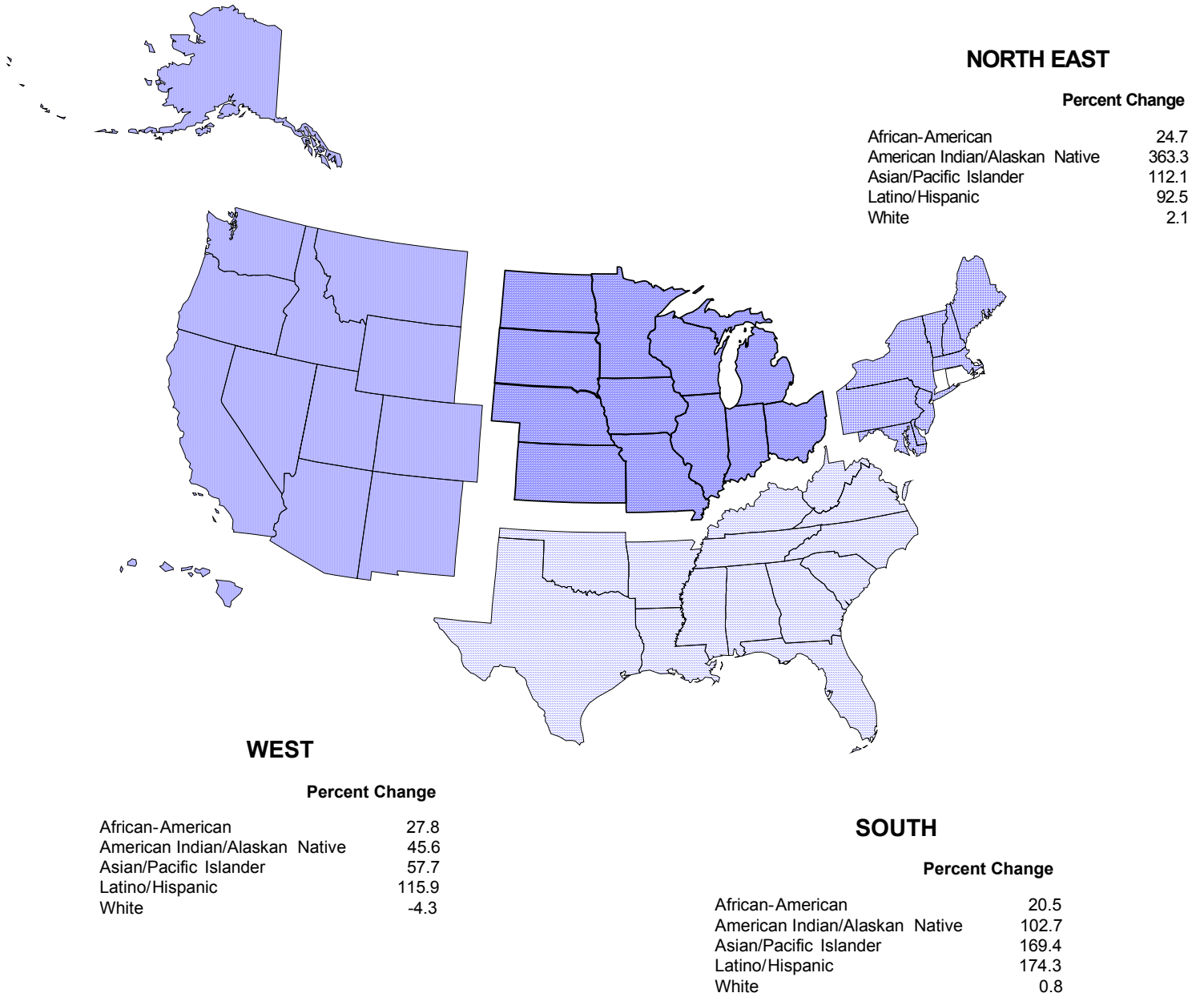
Exhibit 1
USA: Number of High School Graduates
Percent Change 1995-96 to 2011-12



Source: Western Interstate Commission for Higher Education, 1998. *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012.*

Exhibit 2

USA: Percent Change in Number of High School Graduates by Race/Ethnicity Between 1995-96 and 2011-12



Source: Western Interstate Commission for Higher Education, 1998. *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012.*

Exhibit 3

Canada: Total Enrollment in Community Colleges and Universities, by Age, as a Proportion of the Relevant Population Cohorts, Selected Years

Year	Community College(1)			University					
	17 years (2)	18-21 years	22-24 years	Undergraduate(1)			Graduate(1)		
				18-21 years	22-24 years	25-29 years	22-24 years	25-29 years	30-34 years
1961		5.0		10.8			0.9		
1962		5.2		12.0			1.1		
1963		5.2		12.5			1.2		
1964		5.5		13.2			1.5		
1965		5.5		13.9			1.8		
1966		5.4		15.2			2.2		
1967		5.8		15.7			2.4		
1968		6.6		17.0			2.7		
1969		7.0		18.3			2.7		
1970		7.0		19.8			3.0		
1971		7.6		20.7			3.1		
1974		8.0		21.5			3.3		
1975		12.3		18.0			3.2		
1976		12.5		18.7			3.3		
1977		12.6		18.6			3.3		
1978		13.2		18.2			3.1		
1979		13.3		17.5			3.1		
1980	5.5	8.7	1.5	10.7	6.1	1.4	0.8	0.8	0.4
1981	5.4	8.9	1.6	10.9	6.1	1.4	0.8	0.9	0.4
1982	5.7	9.2	1.6	11.3	6.3	1.5	0.8	0.9	0.5
1983	6.4	9.8	1.8	11.8	6.6	1.5	0.8	0.9	0.5
1984	4.3	11.5	2.3	12.4	7.1	1.6	0.9	1.0	0.5
1985	8.5	11.8	2.6	13.1	7.4	1.7	0.9	1.0	0.5
1986	8.8	12.0	2.8	13.8	7.8	1.7	0.8	1.0	0.5
1987	9.2	12.2	3.0	14.4	8.2	1.8	0.9	1.0	0.6
1988	8.4	12.4	3.0	15.4	8.3	1.8	0.9	1.0	0.6
1989	8.2	12.5	3.1	16.1	8.7	1.8	0.9	1.0	0.6
1990	8.6	12.4	3.1	16.7	9.2	1.8	0.9	1.0	0.6
1991	8.7	11.8	3.1	16.3	9.0	1.7	0.8	1.1	0.5
1992	9.0	12.5	3.7	16.9	9.9	1.9	0.9	1.1	0.6
1993	9.1	12.8	4.1	17.2	10.6	2.0	1.0	1.1	0.6
1994	8.5	12.0	3.8	17.2	10.8	2.0	1.1	1.1	0.6
1995	8.7	13.4	4.4	17.3	11.0	2.1	1.1	1.2	0.6

Source: *Statistics Canada, Education in Canada: A Statistical Review*, Cat. 81-229.

- (1) From 1961-1979, the figures represent total enrollment (all ages) divided by the age group indicated. From 1980-1995, the figures represent the number of cohort members enrolled divided by the total cohort population.
- (2) From 1980-1984, 16 year olds were included in the 17 year old enrollment totals for community colleges.

Exhibit 4

Canada: Enrollment in Community Colleges and Universities, by Age and Gender,
as a Proportion of the Relevant Population Cohorts

Year	Community College			University					
	17 years(1)	18-21 years	22-24 years	Undergraduate			Graduate		
				18-21 years	22-24 years	25-29 years	22-24 years	25-29 years	30-34 years
Males									
1980	4.9	8.5	1.7	10.8	7.6	1.8	1.0	1.1	0.5
1981	4.8	8.8	1.8	11.0	7.5	1.7	1.0	1.2	0.6
1982	5.0	9.0	1.9	11.2	7.6	1.8	1.0	1.2	0.6
1983	5.5	9.5	2.2	11.7	7.9	1.9	1.0	1.3	0.6
1984	3.6	11.0	2.7	12.0	8.4	2.0	1.0	1.3	0.7
1985	7.2	11.4	3.1	12.6	8.6	2.0	1.0	1.3	0.7
1986	7.4	11.4	3.3	13.0	8.9	2.1	1.0	1.2	0.7
1987	7.8	11.4	3.3	13.4	9.2	2.1	1.0	1.2	0.7
1988	7.1	11.4	3.3	14.0	9.2	2.1	1.0	1.2	0.7
1989	6.9	11.4	3.2	14.4	9.4	2.1	0.9	1.3	0.7
1990	7.1	11.2	3.2	14.8	9.7	2.1	0.9	1.3	0.7
1991	7.2	10.7	3.2	14.2	9.3	1.9	0.9	1.2	0.7
1992	7.5	11.5	3.9	14.5	10.1	2.0	1.0	1.3	0.7
1993	7.5	11.7	4.3	14.6	10.6	2.1	1.1	1.3	0.7
1994	6.9	10.9	4.0	14.4	10.6	2.2	1.1	1.3	0.8
1995	7.2	12.2	4.6	14.5	10.7	2.3	1.1	1.4	0.7
Females									
1980	6.1	8.5	1.2	10.7	4.6	1.0	0.6	0.5	0.3
1981	6.1	9.1	1.3	10.9	4.7	1.0	0.6	0.6	0.3
1982	6.5	9.5	1.4	11.3	5.0	1.1	0.7	0.6	0.3
1983	7.3	10.2	1.5	12.0	5.3	1.2	0.7	0.6	0.3
1984	4.9	12.0	1.9	11.9	5.8	1.2	0.7	0.7	0.3
1985	9.8	12.3	2.2	13.7	6.2	1.3	0.7	0.7	0.4
1986	10.2	12.5	2.4	14.6	6.6	1.4	0.7	0.7	0.4
1987	10.6	13.0	2.6	15.4	7.2	1.5	0.7	0.7	0.4
1988	9.8	13.4	2.8	16.8	7.5	1.5	0.8	0.7	0.4
1989	9.6	13.7	2.9	17.8	7.9	1.6	0.8	0.7	0.4
1990	10.2	13.6	3.0	18.7	8.6	1.7	0.8	0.8	0.4
1991	10.2	12.8	3.0	18.4	8.8	1.6	0.8	0.7	0.4
1992	10.6	13.6	3.6	19.4	9.7	1.7	0.9	0.8	0.4
1993	10.7	14.0	3.9	19.9	10.6	1.8	1.0	0.9	0.4
1994	10.1	13.1	3.6	20.1	11.0	1.8	1.1	1.0	0.4
1995	10.3	14.6	4.2	20.3	11.3	2.0	1.1	1.0	0.5

Source: *Statistics Canada, Education in Canada: A Statistical Review*, Cat. 81-229.

(1) From 1980-1984, 16-year-olds were included in the 17-year-old enrollment totals for community colleges.

Exhibit 5

Canada: Total Full-Time and Part-Time University Enrollment by Gender

Year	Full-Time			Part-Time			Total Enrollment
	Men	Women	Total	Men	Women	Total	
1961	86,226	27,638	113,864				
1962	95,771	33,123	128,894				
1963	103,157	38,231	141,388	27,192	16,856	44,048	185,436
1964	113,625	44,763	158,388	36,227	20,816	57,043	215,431
1965	125,223	53,015	178,238	39,392	24,432	63,824	242,062
1966	140,908	64,980	205,888	45,061	28,881	73,942	279,830
1967	157,146	75,526	232,672	50,932	34,882	85,814	318,486
1968	175,361	85,846	261,207	58,910	40,073	98,983	368,308
1969	193,101	100,269	293,370	64,596	42,505	107,101	400,471
1970	213,829	116,252	330,081	73,882	51,444	125,326	455,407
1971	200,710	108,759	309,469	92,841	63,735	156,576	466,045
1972	206,626	116,400	323,026	86,209	69,178	155,387	478,413
1973	203,548	118,856	322,404	77,684	75,297	152,981	475,385
1974	205,698	126,426	332,124	80,454	80,710	161,164	493,288
1975	209,771	137,585	347,356	80,421	86,828	167,249	514,605
1976	219,157	151,905	371,062	90,946	94,079	185,025	562,019
1977	217,346	159,160	376,506	89,720	101,237	190,957	567,463
1978	213,150	161,035	374,185	95,624	116,068	211,692	585,877
1979	207,424	160,549	367,973	96,431	119,911	216,342	584,315
1980	206,767	164,592	371,359	100,080	129,786	229,866	601,225
1981	210,944	171,673	382,617	104,660	140,468	245,128	627,745
1982	218,794	183,117	401,911	107,176	144,699	251,875	653,786
1983	231,414	194,975	426,389	111,021	155,365	266,386	692,775
1984	242,086	208,422	450,508	116,265	162,444	278,709	729,217
1985	244,280	216,912	461,192	114,976	162,850	277,826	739,018
1986	243,863	223,424	467,287	115,976	169,013	284,989	752,276
1987	247,165	238,844	486,009	113,322	181,140	294,462	780,471
1988	250,462	249,058	499,520	114,655	187,491	302,146	801,666
1989	254,036	260,989	515,025	114,332	190,175	304,507	824,222
1990	259,266	272,865	532,131	116,637	192,560	309,197	841,328
1991	267,645	286,308	553,953	118,700	194,628	313,328	867,281
1992	273,024	296,456	569,480	121,287	194,878	316,165	885,645
1993	272,648	301,672	574,320	116,999	189,285	306,284	880,604
1994	270,061	305,643	575,704	110,301	172,951	283,252	858,956
1995	265,432	307,753	573,185	105,637	167,588	273,225	846,410

Source: *Statistics Canada, Education in Canada: A Statistical Review*, Cat. 81-229.

Exhibit 6

Canada: Total Secondary, College and University Graduates

Year	Secondary Grades 7-12	University			
		College	Bachelor's	Master's	Ph. D.
1960	-	-	19,704	2,212	306
1961	73,734	22,329	22,788	2,433	321
1962	80,403	18,935	24,910	2,756	421
1963	95,574	21,299	28,602	3,140	481
1964	113,552	21,562	33,126	3,584	569
1965	134,226	21,996	37,694	4,472	697
1966	142,876	25,041	42,716	5,256	780
1967	153,264	27,417	49,056	5,742	1,006
1968	172,799	36,146	54,318	7,044	1,108
1969	191,633	40,394	60,453	8,461	1,375
1970	227,369	43,336	67,200	9,638	1,625
1971	232,901	49,545	72,564	10,257	1,725
1972	239,258	53,349	70,695	10,629	1,929
1973	250,068	57,146	74,851	10,196	1,896
1974	255,010	51,741	80,737	11,068	1,840
1975	266,445	54,119	83,276	11,555	1,693
1976	288,193	54,060	87,356	12,375	1,702
1977	294,246	62,443	89,282	12,637	1,819
1978	292,013	67,883	87,130	12,351	1,803
1979	296,138	64,485	86,243	12,432	1,738
1980	304,112	68,751	84,926	12,903	1,816
1981	305,933	71,910	87,106	13,110	1,715
1982	289,078	74,131	89,782	13,925	1,821
1983	290,128	83,534	92,816	14,572	1,878
1984	277,755	84,453	97,474	15,194	2,001
1985	276,948	81,755	101,668	15,948	2,218
1986	268,252	82,326	103,070	15,978	2,384
1987	257,800	80,058	103,784	16,242	2,415
1988	259,890	82,122	106,073	16,685	2,569
1989	261,409	82,487	109,814	17,618	2,672
1990	260,507	83,180	114,861	17,989	2,673
1991	260,668	83,824	114,820	18,033	2,947
1992	272,918	85,286	120,745	19,435	3,136
1993	281,350	92,515	123,202	20,818	3,356
1994	-	95,296	126,538	21,292	3,552
1995	295,333	97,211	127,331	21,356	3,716

Source: *Statistics Canada, Education in Canada: A Statistical Review*, Cat. 81-229.

Exhibit 7

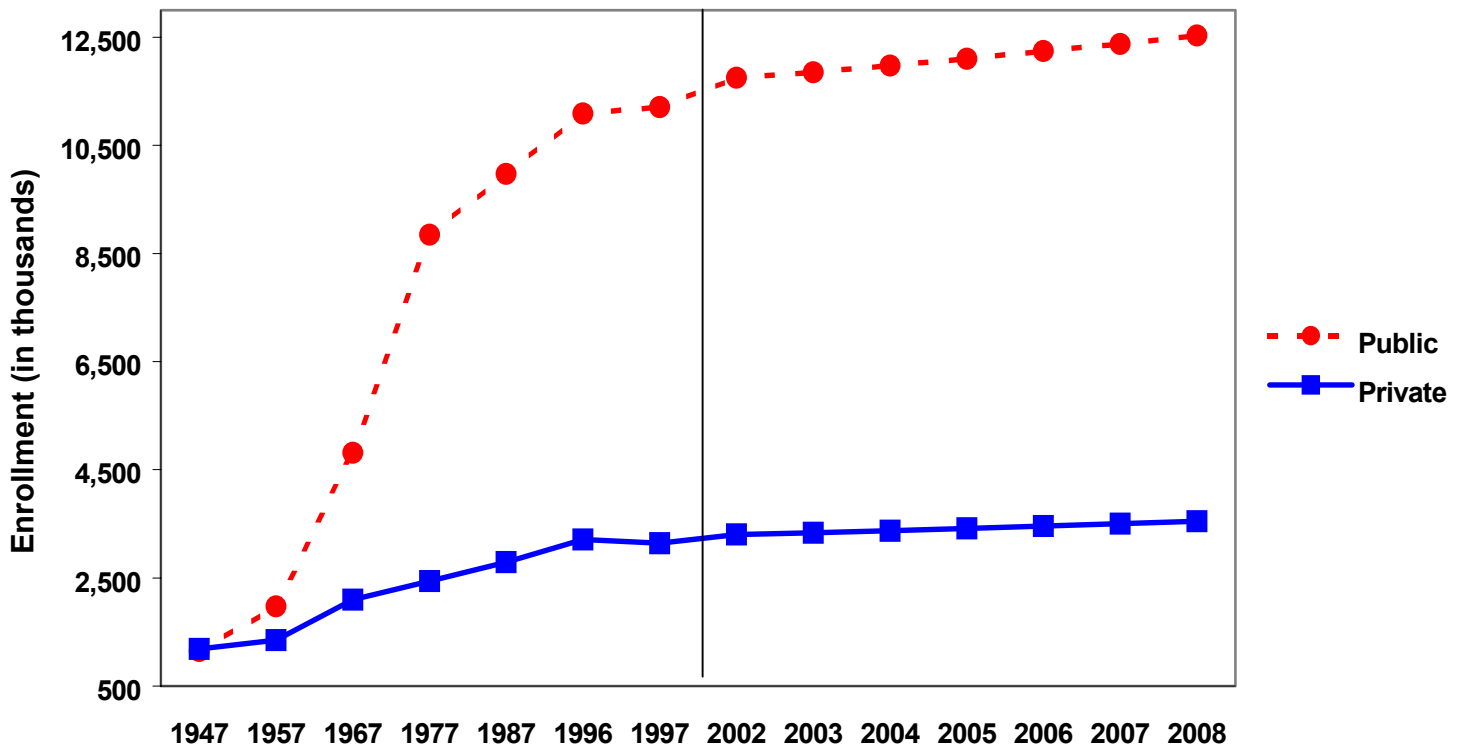
Canada: Unemployment Rate among Secondary, College, and University Graduates, by Sex

Year	Secondary Grades 7-12		Certificate/Diploma		University	
	Males	Females	Males	Females	Males	Females
1975	7.2	9.1	3.6	5.2	2.2	4.9
1976	7.3	9.4	4.5	6.0	2.3	5.4
1977	8.4	10.6	4.3	6.4	2.7	5.1
1978	8.7	10.6	4.6	7.2	2.9	5.8
1979	7.5	9.7	4.2	6.1	2.4	5.1
1980	8.0	9.3	4.4	5.6	2.2	4.8
1981	8.2	9.4	4.2	5.7	2.4	4.7
1982	13.0	12.2	7.5	7.5	4.0	6.6
1983	14.3	13.4	9.2	8.6	4.7	5.9
1984	13.0	13.0	8.3	8.3	4.6	6.4
1985	12.2	12.4	7.4	7.6	4.4	5.8
1986	11.1	11.5	6.5	6.6	3.9	5.7
1987	10.1	10.9	5.6	6.4	3.4	5.5
1988	8.7	9.7	5.1	5.8	3.4	4.8
1989	8.6	9.2	4.7	5.7	3.4	4.2
1990	7.7	7.7	6.4	6.3	3.4	4.2
1991	11.1	9.5	8.8	7.5	4.5	5.5
1992	11.6	10.2	10.4	8.2	5.6	5.4
1993	17.7	11.0	10.3	8.6	5.4	6.1
1994	16.7	9.7	9.3	8.4	5.3	5.4

Source: *Statistics Canada, Labour Force Annual Averages*, Cat. 71-529.

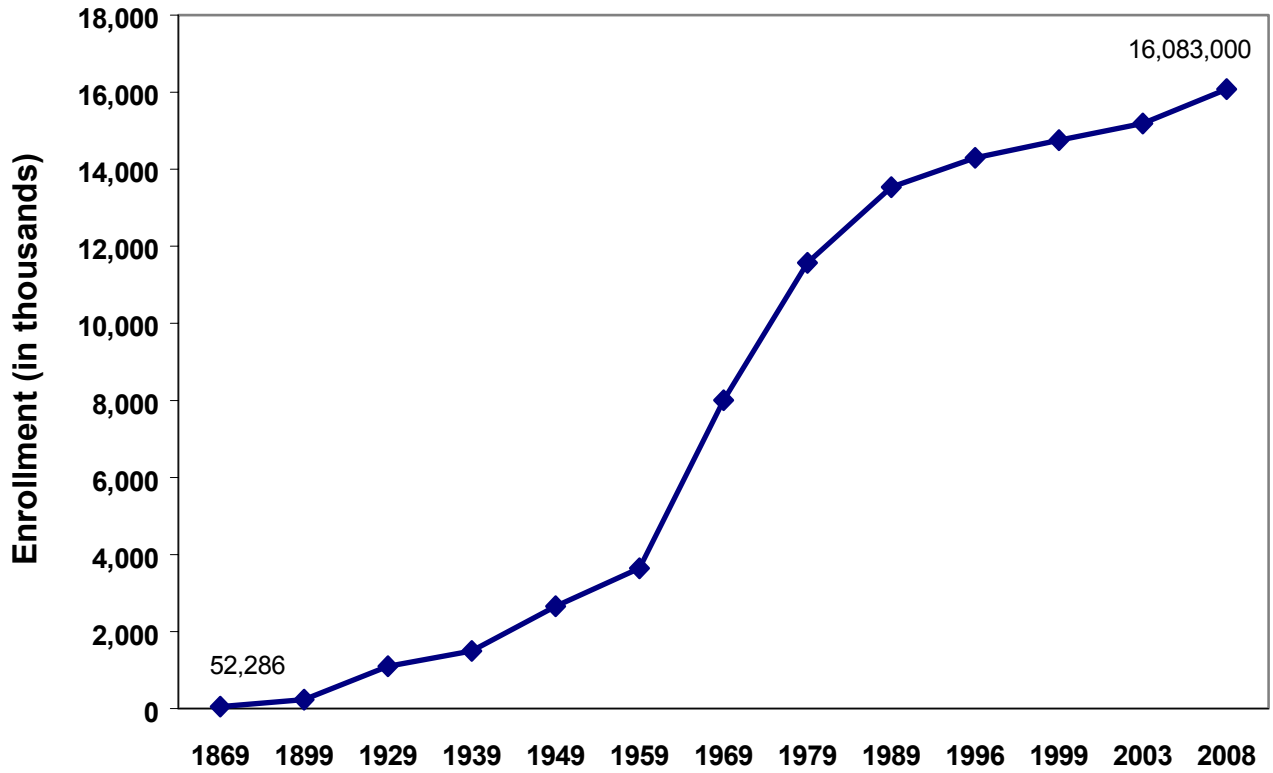
Exhibit 8

USA: Historical Summary of Enrollment for Public and Private Institutions of Higher Education 1947 to 2008 (Projected)



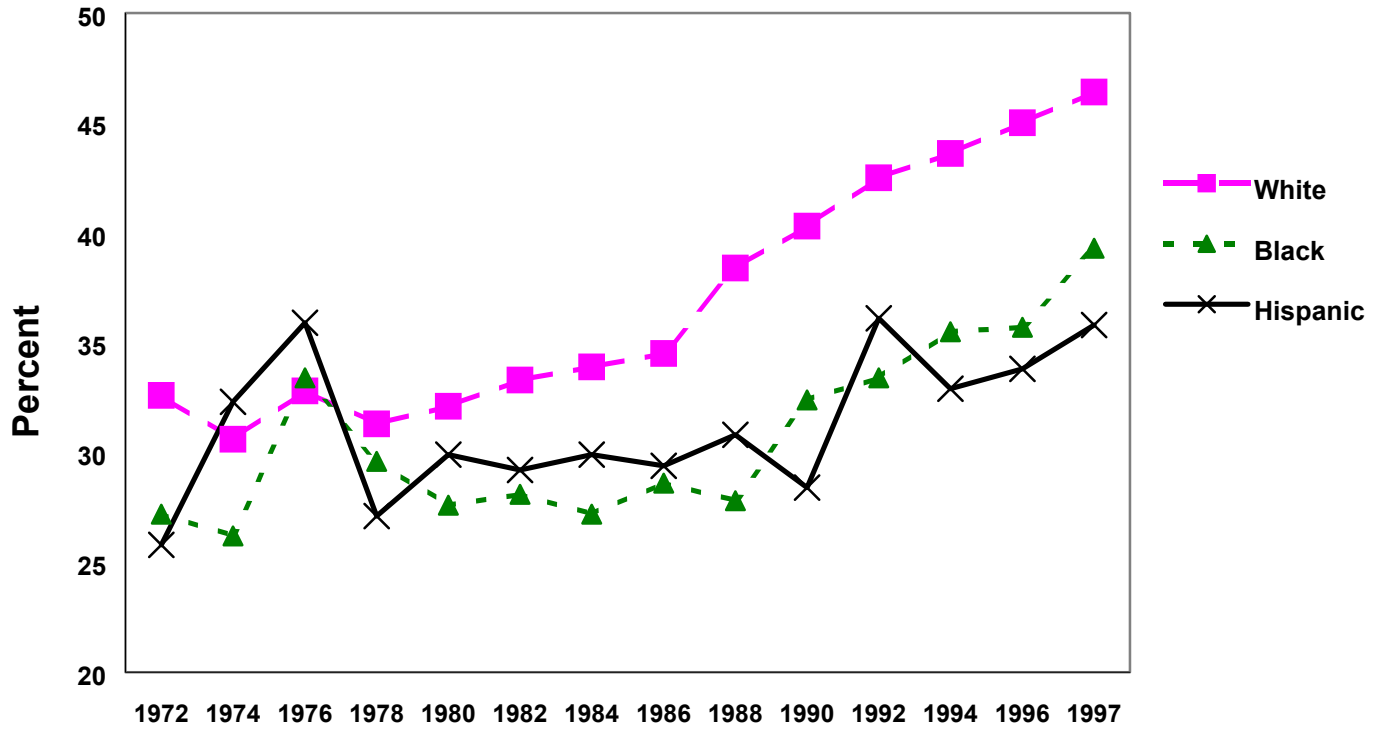
Source: National Center for Education Statistics, 1998. *Digest of Education Statistics* and National Center for Education Statistics, 1998. *Projections of Education Statistics to 2008*.

Exhibit 9
USA: Total Enrollment in All Higher Education Institutions,
1869 to 2008 (Projected)



Source: National Center for Education Statistics, 1998. *Digest of Education Statistics* and National Center for Education Statistics, 1998. *Projections of Education Statistics to 2008*.

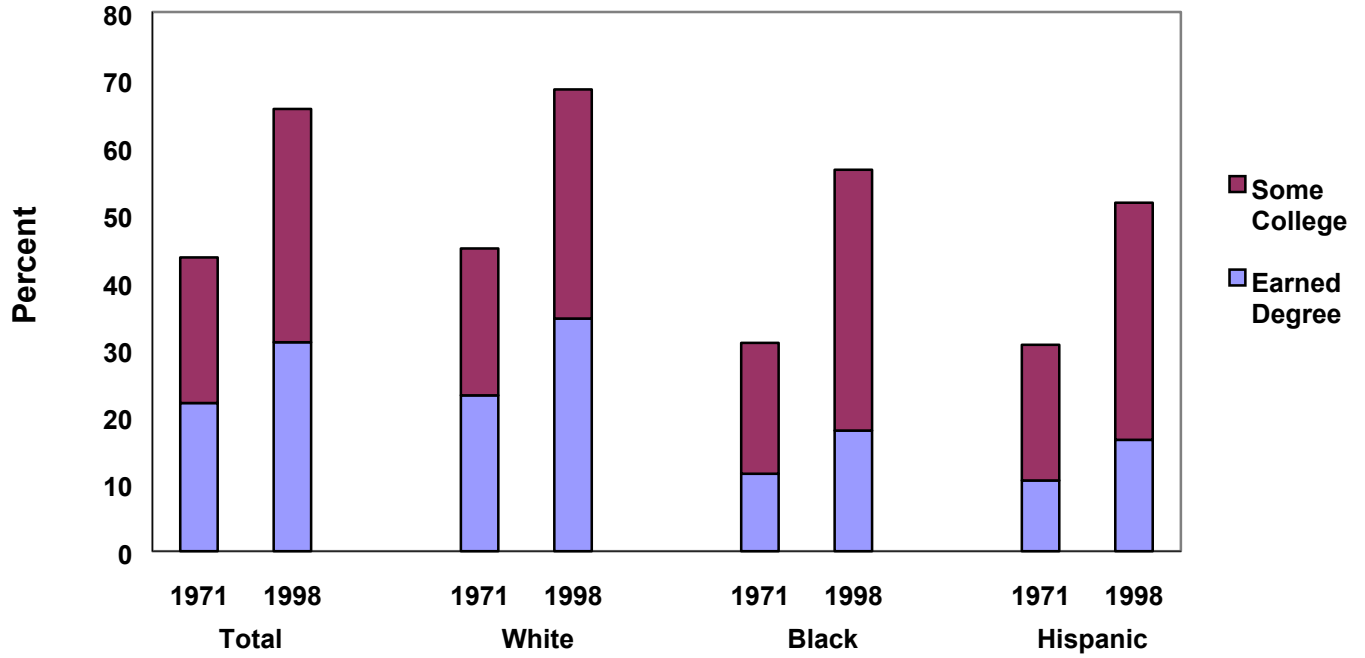
Exhibit 10
USA: Percent of High School Completers Ages 18-24
Enrolled in College, by Race/Ethnicity
1972 to 1997



Source: National Center for Education Statistics, 1999. *Condition of Education*.

Exhibit 11

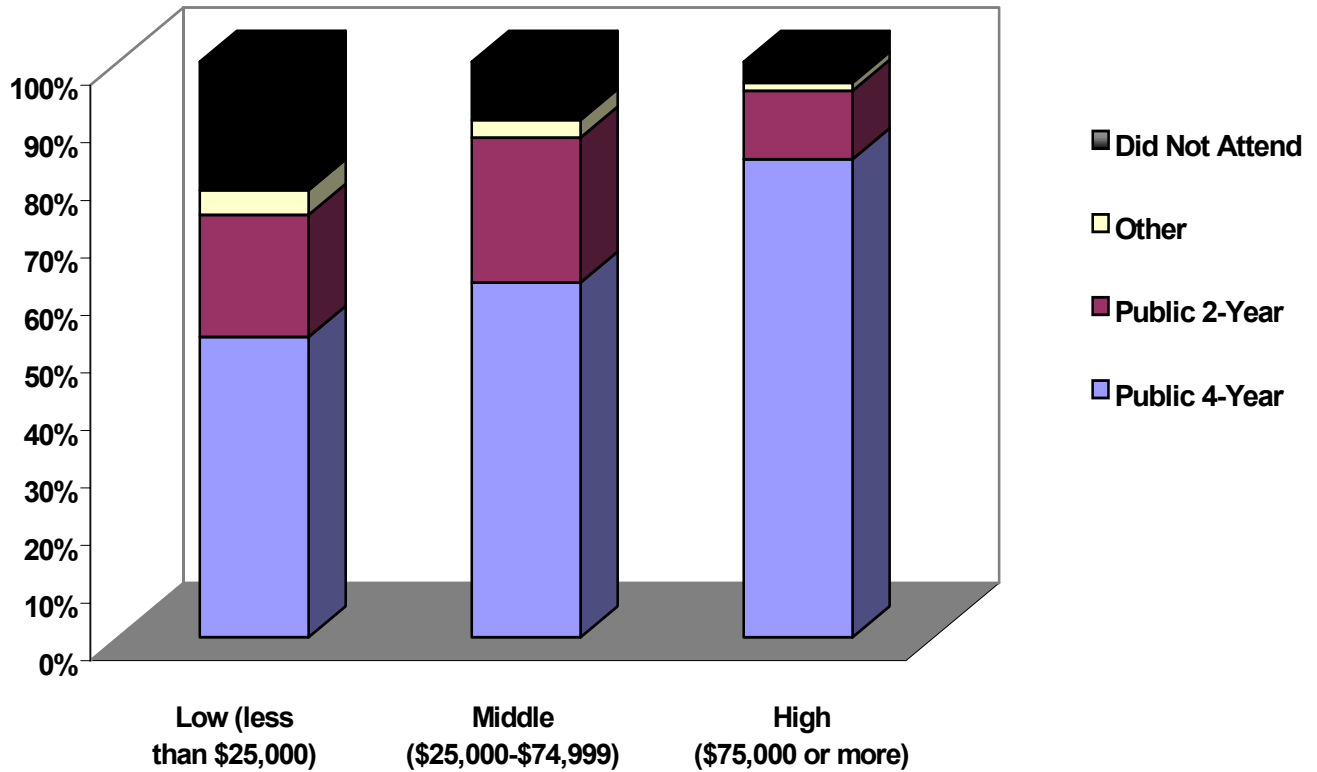
USA: Percent of High School Completers with Some College or Earned Bachelor's Degree or Higher, by Race, 1971 and 1998



Source: National Center for Education Statistics, 1999. *Condition of Education*.

Exhibit 12

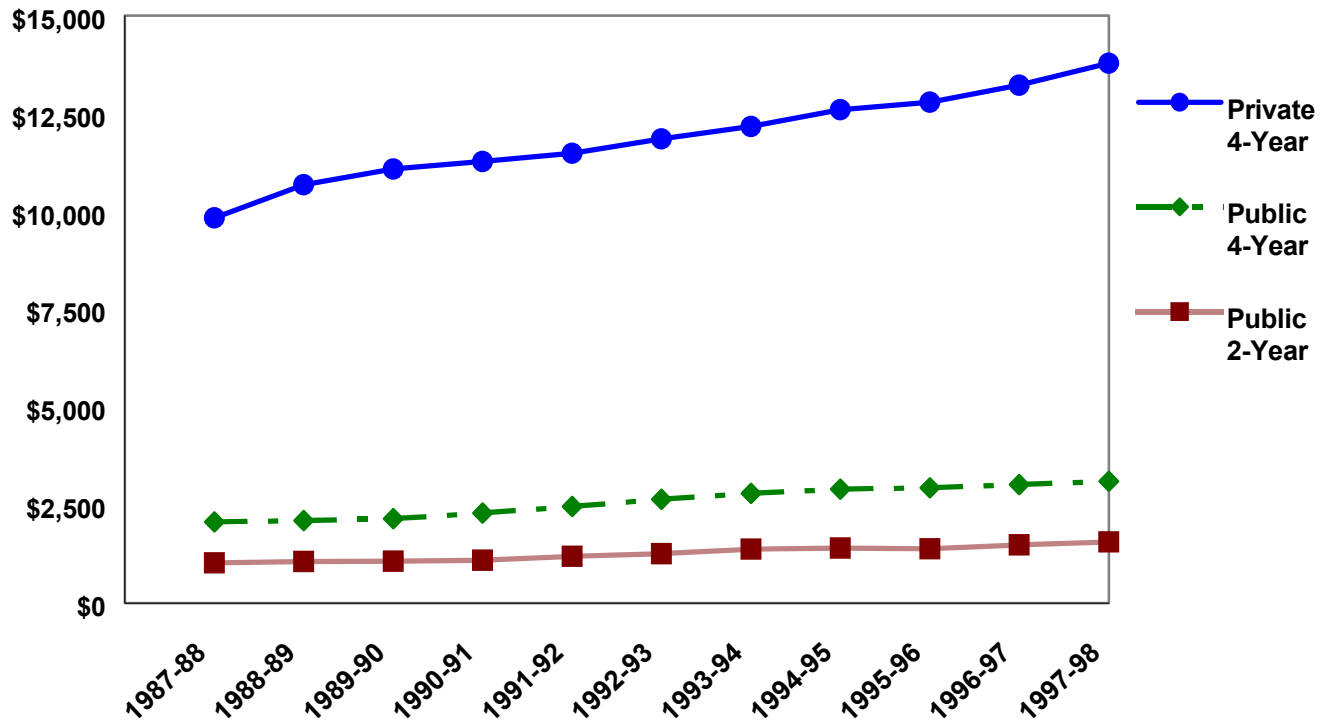
USA: Higher Education Attendance Among College Qualified Applicants by Family Income 1994



Note: Data are for college-qualified 1992 high school graduates who expected to earn a bachelor's degree, planned to attend a four-year institution, took steps toward admission, and were accepted at a four-year institution.

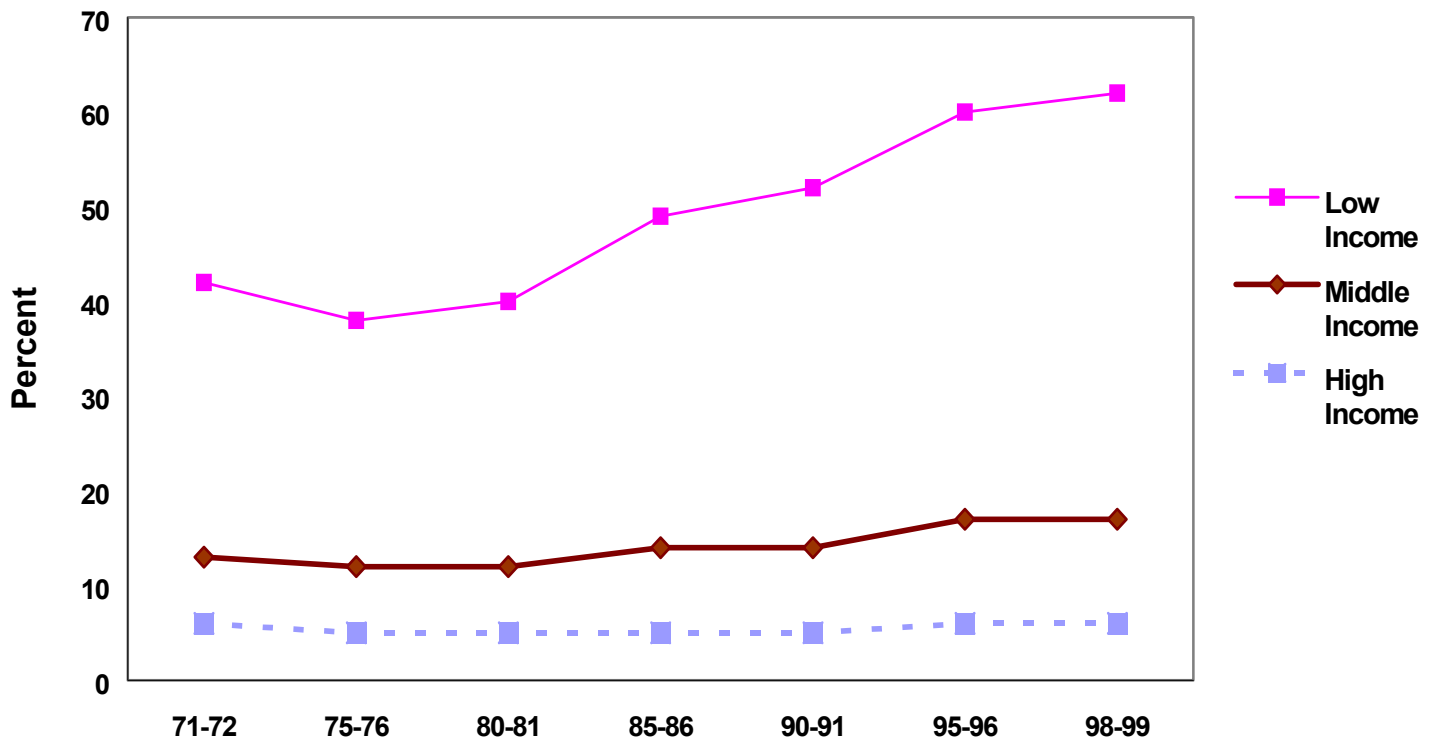
Source: National Center for Education Statistics, 1998. *The Condition of Education*.

Exhibit 13
USA: Average Tuition and Fee Charges
(Constant Dollars)
1987-88 to 1997-98



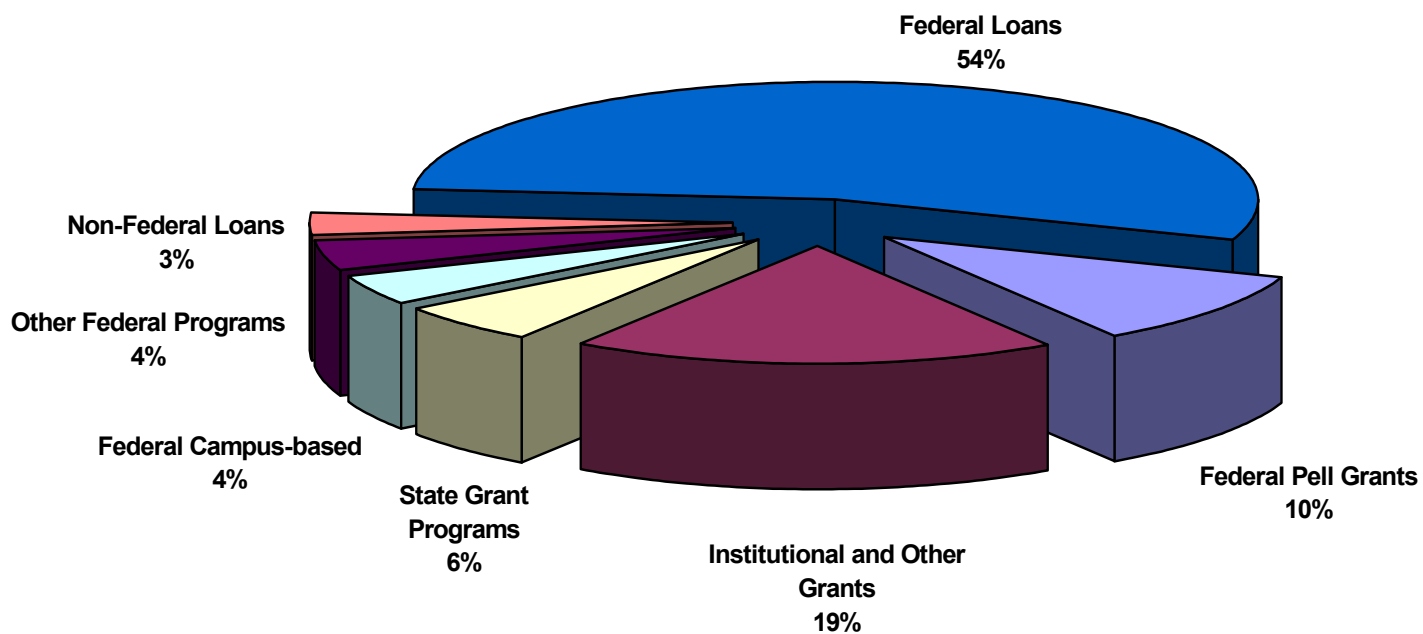
Source: The College Board, 1998. *Trends in Student Aid*.

Exhibit 14
USA: Cost of Attendance at Four-Year Public Institutions
as a Percentage Share of Family Income
(in Constant Dollars)
1971-72 to 1998-99



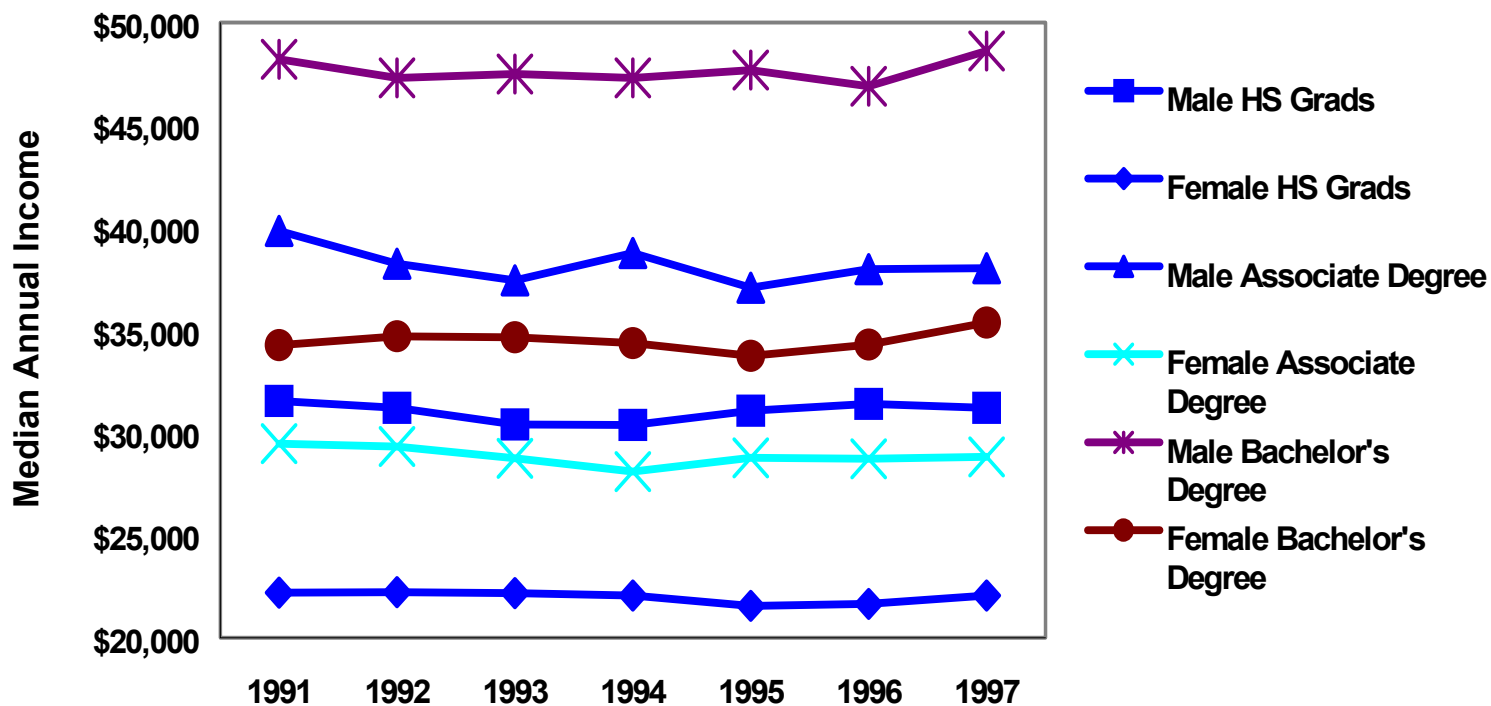
Source: The College Board, 1998. *Trends in Student Aid*.

Exhibit 15
USA: Student Financial Aid by Source
1997-98 (Estimated)



Source: The College Board, 1998. *Trends in Student Aid*.

Exhibit 16
USA: Median Annual Income of Year-Round Full-Time Workers
25 Years Old and Over,
by Level of Education Completed and Gender
1991 to 1997



Source: National Center for Education Statistics, 1998. *Digest of Education Statistics.*

Commonly Used Acronyms in North American Higher Education

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### Listado de Siglas

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Abréviations couramment utilisées dans l'enseignement supérieur nord-américain

	English	español	français
ABET	Accreditation Board for Engineering and Technology	Consejo Estadounidense para la Acreditación de Programas de Ingeniería y Tecnología	Conseil pour l'accréditation pour les programmes en génie et en technologie
ACCC	Association of Canadian Community Colleges	Asociación Canadiense de Colegios Comunitarios	Association des collèges communautaires du Canada
ACE	American Council on Education	Consejo Estadounidense de la Educación Superior	Conseil américain pour l'enseignement supérieur
ALENA	North American Free Trade Agreement	Tratado Trilateral de Libre Comercio de América del Norte	Accord de libre-échange nord-américain
ALO	Association Liaison Office	Oficina Estadounidense de Coordinación de las Asociaciones de la Educación Superior	Association pour la Coordination de l'enseignement supérieur
AMPEI	Mexican Association for International Education	Asociación Mexicana para la Educación Internacional	Association mexicaine pour l'éducation internationale
ANUIES	Mexican National Association of Higher Education Institutions	Asociación Nacional de Universidades e Instituciones de Educación Superior	Association nationale des universités et des établissements d'enseignement supérieur
AUCC	Association of Universities and Colleges of Canada	Asociación de Colegios y Universidades de Canadá	Association des Universités et Collèges du Canada
BORDER PACT	Border Partners in Action	Pacto Fronterizo: Red de Universidades de la Frontera México Estados- Unidos	Réseau d'universités de la frontière mexicano-américaine
CACEI	Mexican Commission for Accreditation of Schools of Engineering	Comisión para la Acreditación de Escuelas de Ingeniería	Commission d'agrément des écoles d'ingénieurs
CBIE/BCEI	Canadian Bureau for International Education	Oficina Canadiense para la Educación Internacional	Bureau canadien de l'éducation internationale
CENEVAL	Mexican Center for Evaluation of Higher Education	Centro Nacional para la Evaluación de la Educación Superior	Centre national d'évaluation de l'enseignement supérieur
COMPI	Mexican Committees for the International Practice of Professions	Comité Mexicano para la Práctica Internacional	Comité mexicain de la pratique internationale
CONACYT	Mexican National Council on Science and Technology	Consejo Nacional de Ciencia y Tecnología	Conseil national de la science et de la technologie
CONAEVA	Mexican National Commission for the Evaluation of Higher Education	Comisión Nacional para la Evaluación de la Educación Superior	Commission nationale pour l'évaluation de l'enseignement supérieur

	English	español	français
CONAHEC	Consortium for North American Higher Education Collaboration	Consortio para la Colaboración de la Educación Superior en América del Norte	Consortium pour la collaboration dans l'enseignement supérieur en Amérique du Nord
CONOCER	Mexican Council for the Normalization and Certification of Work Competencies	Consejo para la Normalización y Certificación de Competencias Laborales	Conseil de normalisation et de certification des compétences professionnelles
CREPUQ	Conference of Rectors and Principals of Quebec Universities	Asociación de Rectores de Universidades de Quebec	Conférence des recteurs et des principaux des universités du Québec
DFAIT/ MAECI	Canadian Department of Foreign Affairs and International Trade	Ministerio Canadiense de Asuntos Exteriores y Comercio Internacional	Ministère des Affaires étrangères et du Commerce international
EUMC	World University Services of Canada	Servicios Universitarios Mundiales de Canadá	Entraide universitaire mondiale du Canada
FIMPES	Mexican Federation of Private Institutions of Higher Education	Federación de Instituciones Mexicanas Particulares de Educación Superior	Fédération des établissements privés mexicains d'enseignement supérieur
ICEED	International Consortium for Educational and Economic Development	Consortio Internacional para la Educación y el Desarrollo Economico	Consortium international pour l'éducation et le développement économique
IIE	Institute for International Education	Instituto Internacional para la Educación	Institut pour l'éducation internationale
IMHEP	International Mobility in Higher Education Program (Canada)	Programa de Movilidad de Estudiantes de América del Norte	Programme de mobilité internationale en éducation supérieure
NAFTA	North American Free Trade Agreement	Tratado Trilateral de Libre Comercio de América del Norte	Accord de libre-échange nord-américain
NAMP	North American Mobility Program	Programa de Movilidad de Estudiantes de América del Norte	Programme de mobilité nord-américaine en éducation supérieure
PMIES	International Mobility in Higher Education Program (Canada)	Programa de Movilidad de Estudiantes de América del Norte	Programme de mobilité internationale en éducation supérieure
PROMESAN	North American Mobility Program	Programa de Movilidad de Estudiantes de América del Norte	Programme de mobilité nord-américaine en éducation supérieure
SEP	Mexican Ministry of Public Education	Secretaría de Educación Pública	Ministère mexicain de l'Éducation
TLC	North American Free Trade Agreement	Tratado Trilateral de Libre Comercio de América del Norte	Accord de libre-échange nord-américain
WUSC	World University Services of Canada	Servicios Universitarios Mundiales de Canadá	Entraide universitaire mondiale du Canada