

Chapter 5

A Thematic Comparison of Federal Policies in Canada, Mexico and the U.S.

Six themes emerged from the three nation comparative study. These were: equal opportunity, accountability and quality improvement, marketization, labor force development, research and development, and globalization. The purpose of this chapter is to illustrate how context and rules in use varied among the three nations for each of the six themes. The chapter concludes with a discussion of similarities in trends across the three nations and of the convergence that increasingly characterizes strategies for coping with the trends. Finally, we consider the degree to which each nation demonstrated the capacity to change rules that did not seem to be aligned with desired priorities. We suggest that globalization is a major factor in convergence and that nations improve capacity to change rules in ways that improve desired outcomes by balancing authority between federal, state/provincial and institutional authority in ways that encourage collaboration and prevent any single group from dominating or vetoing practices and priorities.

Equal Opportunity

All three nations have exhibited concern about expanding opportunities for higher education and reducing the role of personal income as a barrier to participation. The earliest and most extensive federal response occurred in the U.S. where a history of legal exclusion from colleges and universities led during the 1960s and '70s to extensive mandates first forbidding the use of race and ethnicity as admission or employment criteria and later requiring affirmative-action to achieve diversity both in student enrollments and in staff. Civil rights safeguards and affirmative action requirements were later bolstered by an extensive federal program of need-based student grants and competitive institutional grants to support outreach and student support services.

Equal opportunity in the Canadian context has primarily involved providing provinces with comparable resources to use as they saw fit. The Canadian federal government has been a relatively distant partner to the provinces in expanding higher education opportunities. In 1967, a system of grants to universities that began in the 1950s was replaced by a system of transfer payments to provincial governments to support institutional operating costs. This arrangement was changed later to unconditional block funding where the federal responsibility for postsecondary education became increasingly invisible in political debates. Lack of visibility has helped to cloak declining federal support for postsecondary education both as a share of governmental appropriations and in the proportion of actual higher education expenditures that such appropriations cover. The 1982 Canadian charter of rights and freedoms has been used to try to insure that higher education employers do not discriminate on the grounds of gender, age, ethnicity, or disability; but has not been extended to postsecondary admission practices. Canada has also established at the federal level a system of loans, scholarships, and fellowships with attention both to need and merit.

Final Paper

In Mexico where postsecondary education unlike the U.S. and Canada is constitutionally a federal responsibility (except for the fact that public universities are chartered by state governments), the government has been for most of the 20th-century preoccupied with increasing access to primary education. Since the Mexican Revolution, there has been strong concern with improving educational opportunity as a vehicle for reducing social inequities. Charging no tuition or fees, a principal established for basic education, became the principal access strategy for higher education as well. Free higher education was essentially untouchable until the 1990's with direct aid to students occurring only by exception.

Expansion of higher education was first seriously considered after the 1968 student movement brought to the surface the growing disjuncture between the numbers of secondary school leavers and an elitist system of access. During the 1970s and '80s, the federal government took the lead in expanding existing universities, creating new ones and widening a network of technical institutes. Efforts to expand public higher education ended abruptly with the financial crisis of the 1980s.

In the 1990s, increased access was left to the expansion of the private sector and the public two and four-year technical institutes. This policy in the absence of government information about costs or quality has made equity issues less visible as a political issue, but has had an adverse impact on equity indicators. Private sector expansion has absorbed students with the fee paying capacity of middle and mostly upper social strata. To the extent that the large number of new two and four-year technical institutes are established in low income areas that were previously devoid of post-secondary education, they have had a positive equity effect. However, since they enroll a relatively small proportion of students, their overall impact on increased access for low income students is not significant.

While the constitutional role of the federal government is strongest in Mexico and weakest in Canada, states/provinces have important higher education roles in all three countries. In Canada, the constitutional role was fully recognized with the passage of the 1977 Established Programs Fund, which for the first time provided a system of unconditional block transfers for postsecondary education and health. While guidelines were provided for the amount that should be allocated for postsecondary education, the authority granted to the provinces was clear. Between passage of this act and its termination in 1996, the federal government became increasingly concerned about the lack of accountability for the transfers at the provincial level. Canada restored some of the balance between federal and provincial authority through the Social Union Framework Agreement of 1999, an historic acknowledgement by the majority of the provinces that federal intervention is a legitimate and necessary element of the Canadian federal compromise. Since this agreement, the proportion of federal funding provided in the form of unconditional transfers has gradually given way to greater emphasis on targeted funding that reflects federal research priorities.

Unlike Canada, there is a long history of federal intervention in U.S. higher education focused primarily on institutions and individuals. Despite occasional attempts to

influence state arrangements for planning and quality control, the federal government has generally shown little interest in long term programs that channel federal funds through state governments. The period of greatest state/federal cooperation occurred during the 1960s and 70s when the federal government provided funding for facilities and student aid during a period when most state higher education systems were being reconfigured and expanded. Both federal and state policy makers shared the goal of expanding higher education opportunity. More recently, the expectation has been that state policies will be adjusted to take into account federal priorities and implementation strategies which over the past decade have increasingly focused on quality, costs, and institutional accountability. Collecting and disseminating information for policy makers and consumers has been one of the most important federal roles. Both the problems caused by unequal access and the nation's progress in overcoming them have been documented in this way. Currently, there is a controversial federal thrust to collect tracking data on individual students, an approach that many states have considered and most have rejected.

In Mexico until very recently, a strong federal executive branch has relegated both federal and state legislatures to a minor role in regulating higher education, apart from annual funding allocations. Now, state governments play a growing role as initiators of higher education policy. This is in marked contrast to the dominance of the federal government during the 70s when the expansion of state universities became too costly for states to fund on their own. In some states, governors have created offices and commissions for planning and regulation as well as for science and technology with the view of increasing university-industry relationships. Federal officials seek out governors in the process of creating new state-run institutions and in authorizing new private colleges and institutes. State legislatures also have a new role in the approval of funding for public technical institutes. Entrance and professional qualifying examinations as well as external evaluations of undergraduate and postgraduate program are administered by organizations not affiliated with universities. Admissions policy is oriented toward merit rather than toward need.

All of these changes have taken place without reform of the Mexican federal legal framework for public higher education, unchanged since its promulgation in 1982. For the most part policy changes have been developed by federal officials and then negotiated with the rector's association, which receives a significant subsidy from the federal government and is thus more a buffer organization than an independent body. One significant outcome is an increased federal influence over rectors and directors. Rectors now rarely develop their own programs, but rather implement federal programs in response to fiscal incentives.

Even though the constitutional responsibility of the U.S. federal government for higher education is not the strongest among the three nations, the largest number of institutional equal opportunity regulations and incentives have been implemented there. In 1970's and '80s, affirmative action policies aimed at broadening access initially focused on admissions and participation. Later, they were extended to include graduation rates. Executive orders and legislation aimed at institutional practices were buttressed by a

federal information and accountability system that kept track of progress by race and ethnicity. Federal courts enforced statutory and constitutional rights of minority citizens and monitored progress within states that had previously maintained dual systems of higher education. Along with regulations and monitoring came federal incentive grants to support student preparation and academic achievement for underserved populations. Since the criteria for these programs were educational disadvantage and low income, they have been less affected by the declining legal and political support for affirmative action targeted on race, ethnicity, and gender that came to characterize the years immediately before and after the turn-of-the-century. Student and staff diversity remains a federal goal and the focus of federal institutional and individual interventions

Until fiscal constraints intervened, federal efforts for equal education opportunity in Mexico focused on expanding enrollments in the public sector. When this strategy was no longer fiscally feasible, the policy shifted to unregulated expansion of the private sector and increasing the number of low-cost technical institutes in low income areas. When the problems of this approach became evident, the federal government began its more recent strategies of increasing state involvement in higher education, monitoring quality, and establishing an independent agency to administer admissions qualifying exams. In effect, the strong constitutional status of the Mexican federal government had in the past been to a degree trumped by the autonomous tradition of Mexican universities and the political salience of no tuition or fees. Federal strategies aimed at influencing institutional behaviors through the resource allocation process have arguably had greater impact on quality than on opportunity. Most recently the Mexican government has embarked on the strategy of changing the rules informally to give federal officials more clout in getting universities to pay attention to federal priorities.

Perhaps not surprisingly, Canada, which has the weakest federal constitutional arrangements for higher education, has also made very few direct federal attempts to influence institutional behaviors. In Canada, all postsecondary institutions are authorized and regulated by the individual provinces. There is no significant private sector in most provinces. Postsecondary institutions have been influenced primarily by funding policies aimed at individual students and administered in the form of targeted transfers to the provinces. The federal government does provide major support to the First Nations University of Canada, which is dedicated to Aboriginal education.

The trend for federal funding in Canada has since the mid 1990s been away from funding institutions in favor of funding individuals through targeted programs. Between 1991 and 2003, the federal government's expenditure as a proportion of total student assistance has increased from 39 to 57 percent. Student assistance programs in Canada date to the 1930s and have, until very recently, required cost sharing with the provinces. They remain reserved for students demonstrating some combination of merit and need. The Canada Student Loans Program was established in 1964 and, like the earlier programs allowed provinces to opt out in favor of receiving an equivalent appropriation for their own programs. The Province of Quebec has consistently embraced this option. In 1998, the Canadian federal government through negotiated agreements with the provinces created the Millennium Scholarship Fund with an endowment of \$2.5 billion available to all post

secondary participants including part-time students. Other targeted attempts to help students meet the costs of higher postsecondary adopted during this era included Education Savings Grants and Study Grants. There are also fellowships and scholarships for graduate students across the whole range of disciplines. The Canadian Graduate Scholarship program was introduced in 2003. These awards are distributed on the basis of student enrollment by discipline, a change that has been especially beneficial to the humanities and social sciences. The federal government has also funded Indian and Inuit students since the beginning of the twentieth century, yet there is general agreement that these awards do not meet the increasing demand from the Aboriginal population. Despite the fact that 60 percent of all student assistance awards in Canada go to students in lower-income families, the system is viewed by many as unfair to independent students and a windfall subsidy to upper income Canadians.

Similar concerns have been directed toward U.S. federal efforts to provide student assistance. When established in the early 1970s, the major U.S. student assistance programs emphasized need-based grants that covered a substantial proportion of the costs of attending higher education institutions. Over time, the rules have changed with less emphasis on need-based grants and more on subsidized loans. Tax credits, for which students and families must have substantial income to benefit, have further shifted the focus away from helping low income students toward widening the choices of the middle class.

In Mexico, where increased access was left during the 90s primarily to expansion of the private sector, it became clear that specific financial aid was required to assist needy students in finishing their studies. In response, the Fox administration in 2001 created a national grant program for low-income students already enrolled in public two- and four-year institutions. Funding for the program is supported both by the federal and state governments and has increased significantly during the past five years. While the program is aimed primarily at improving completion rates, it seems also to serve as an incentive for increased participation in postsecondary education by low income secondary school leavers.

In all three countries, tuition and fees increases have outpaced available financial aid. Institutions, often in collaboration with firms and professional associations, have tried to close the gap by offering their own programs of financial assistance. In some U.S. states and Canadian provinces, governments have required a set-aside from tuition revenues in public institutions to be used to offset the adverse impact of such increases on access. The amount of aid made available through institutional efforts and the rules under which this aid is administered are poorly documented in all three countries. In the U.S., there are concerns that competition for the best prepared students may be more important than need. And in the U.S. and to a lesser extent in Canada, student debt has become an increasingly important part of the access equation.

Accountability and Quality Improvement

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In all three countries accountability and quality improvement has been an important government priority over the past two decades. However the development of accountability has followed different paths in each nation.

In the US, independent accrediting organizations date back to the early 20th century and have developed into a varied set of regional organizations and as well as organizations that accredit professional programs. They currently form part of an umbrella organization, the Council for Higher Education Accreditation. The principal role of these organizations has been to rate the institutions' competency in meeting their respective mandates or missions and to inform the public. This mode of development for accountability through independent organizations is clearly associated with the existence of a highly diversified set of institutions, both public and private, that have historically operated in a decentralized and market-like environment in the US.

Over the past three decades, the federal government has altered its concept of accountability as a priority. Initially, accreditation became the mechanism for establishing eligibility for federal student aid programs, in both public and private institutions. By the late '80s federal officials began to focus more on high student loan default rates. Thus institutional performance became an issue, and federal officials began to search for better and more information. As the information capabilities of the federal government were progressively strengthened, data collection on all types of institutions acquired a central role in determining their responsiveness to public priorities.

It is reasonable to expect that transparency and accountability initiatives will continue to develop in the US federal policy, because federal funds have transformed the higher education landscape into a quasi-market, thus making quality assurance and informed consumer choices essential elements in the effective use of public resources. Institutions and their lobbies can also be expected to resist such initiatives, but the overall drift of the recent recommendations by the Department of Education will be difficult to ignore. They include recommendations such as: urging states to measure student learning, improving data collection on institutional income and expenditures, developing a national student units record system on retention, graduation rates and net tuition prices; creating an internet portal to supply students and families with information; reforming accreditation practices by stressing student learning and increasing transparency of accrediting agencies to the public

In Canada, where the ten provincial systems of higher education have developed along diverse historical and structural paths, accountability has emerged much more recently. Different provincial systems have at their disposal different regulating mechanisms and governments of different parties place varying emphasis on different aspects of accountability. But they have all been moving in the direction of demanding greater financial transparency and improved quality as well as a growing stress on diffusing information to inform public choice. The governments of all three provinces considered in this study have shown commitment to making the connections between educational spending and useful outcomes more transparent. The federal government has encouraged

accountability at the level of provincial governments targeted in particular on research funding and grants and loans to students.

Québec has the longest tradition of government regulation of its higher education system. In the 1970s, the Ministry of Education created the CREPUQ committee charged with evaluating the quality of degree programs. In the following decade, institutions were required to submit 'success plans' and annual reports to the Ministry. Since the early 1990s, universities have been required to do internal evaluations monitored by the provincial government. Establishing an accountability system for all institutions has been a government priority in Ontario, where the system is less centrally planned. There accountability was tied to audits required of institutional governing bodies beginning in the early 1990s. Later in the decade, quality was identified as an additional major thrust of audit policy and all colleges and universities were required to account for the use of public funds in terms of demonstrated achievements on a set of Key Performance Indicators (KPIs) for each program. In British Columbia, a push for accountability that lasted from the middle of the 1990s until 2003 placed emphasis on gathering and disseminating data on labor market demand and higher education supply, especially for the non-university sector. As of 2003 those initiatives were superseded by the creation of a Quality Assurance Board that releases information on quality to inform public choice.

In Mexico, public universities have traditionally been autonomous by law and technical institutes closely regulated by the central government. In such a system, transparency and responsibility for outcomes at the institutional level tended not to emerge in a natural way but were rather values that seemed atypical. All of this changed profoundly in the early 1990s when policy makers realized the need for making institutions publicly accountable for expenditures as well as for academic performance and introduced an all-inclusive quality agenda. Institutions that had suffered extreme financial stringencies in the 1980s were initially brought around to this agenda against their will, by the offer to increase funding on the basis of evaluation. Out of this process, accreditation developed as a means of coordinating an increasingly diverse system of institutions and informing the public.

In the 90s, institutions came to accept such quality assurance mechanisms as national entrance exams, institutional evaluation, program peer review, and assessment of professors and research productivity. In 1994 the federal government created Interinstitutional Committees for the Evaluation of Higher Education (CIIES) which later became an independent organization charged with external peer review of undergraduate programs. CIIES has now visited programs covering about 70% of the undergraduate enrollments in public institutions and shifted from confidential recommendations for program improvement to publishing results and rating programs on a three point scale.

Concurrently, enrollment caps placed by policy on public institutions in the face of growing demand led to the rapid expansion of low quality and low cost private institutions. Accountability concerns both by policy makers and the older more established private universities led to the transformation of the Federation of Mexican Private Institutions of Higher Education (FIMPES) from a lobbying group into an

accrediting association to address lax licensing requirements for new private institutions. By 2006 FIMPES had accredited 32 private universities. As universities in the private sector spearheaded accreditation as a means of differentiating themselves from the new “demand absorbing” establishments, quality improvement in the public sector gradually gave way to a policy of quality assurance.

Private and public sector movements converged in the late 1990s with the creation of a new Council for the Accreditation of Higher Education (COPAES) which has since recognized 23 professional accrediting associations. Jointly, these associations have now accredited a total of 1,003 undergraduate programs, in 86 public and 39 private institutions out of a national total of more than 1,800. (www.copaes.org.mx).

The issue of transparency became highly visible on the national agenda, as the federal administration of Fox (2000-2006) promoted legislation to ensure that any citizen may demand access to information on any government agency at the federal level. By 2006 almost all states had also approved similar legislation for government agencies at the state level. These changes had a significant impact on financial auditing in public institutions of higher education and placed the question of transparency very clearly in the public eye.

Marketization

Marketization describes steering policies that combine the principles of market primacy, free trade, deregulation and privatization with a reduced managerial role for government designed to make higher education systems more responsive and accountable to the needs of society (Shanahan, 2002). These steering policies, which are apparent during the past two decades both in Europe and North America include: increasing institutional autonomy, encouraging competition among institutions, using quality assurance measures, and introducing or increasing user fees (Vossensteyn and Dobson 1999).

The U.S. with probably the largest private sector in higher education of any of the OECD countries has been heavily influenced by market values. Historically, the freedom to choose between public and private institutions has meant that higher education has been regarded as simultaneously both a ‘public’ and a ‘private good’. While state policies in the U.S. vary, federal policies incorporate a strong market orientation through practices that: 1) reduce reliance on funding that comes from government sources; 2) encourage greater autonomy for public institutions in setting fees and spending funds from any source, 3) accommodate the development of private institutions, 4) provide subsidies in the form of student aid rather than institutional support, and 5) emphasize loans rather than grants. (Hauptman 2002)

While historically Mexico has had a substantial private sector, the general orientation up to the 1990s has been to regard higher education as a public service, offered by universities and technical institutes supported by government funds. In Canada, higher education continues to be primarily a public enterprise. The State historically and currently for the most part defines higher education as an important ‘public good’. Yet

set against this background we have seen a substantial shift during the 1990s as both levels of government in all three countries have adopted policies designed to move their higher education systems closer to the market. The boundary separating public and private sector higher education systems has over the last decade become more complex and more porous. At the policy level this is particularly true for Canada.

This policy priority is reflected right across social policy in Canada through retrenchment measures which began with the federal government (Progressive Conservative party) in the late 1980s and continued into the 1990s (with the federal Liberal government). The federal measures had provincial consequences and resulted in cuts, restructuring, the introduction of performance based funding and reinvestment through targeted initiatives. The boundary changes have occurred primarily as a response to declining federal transfers, the dominance of market ideology, and, the emergence of the knowledge economy. Further, given that the constitutional responsibility for education is assigned to the provinces, it is not surprising that changes in the ideological perspective of provincial governments have had a substantial impact on higher education policy. In succession, we have seen the election of free-market, neo-liberal governments in Ontario (1995-2003), British Columbia (2001-cont.) and Québec (2003-cont.).

The neo-liberal commitment to market ideology and to the reduction in the size of the public sector has lead governments in both Ontario and BC to create a policy environment that is favours the establishment of quasi-markets (Marginson, 1997; Marginson & Consadine, 2000). The higher education systems in these two provinces have experienced the re-regulation of tuition fees, the use of matching funds from the privates sector (student aid, research and development, and the encouragement of specific fields like computing and engineering), and the introduction of legislation that opens up post-secondary systems of education to the market. While a handful of private universities have been established in these provinces we have yet to see any major expansion of degree-granting institutions. The real change has occurred in the private college sector whose numbers from the early 1990s to 2003/04 doubled in Ontario and trebled in BC.

Of the three provinces Québec has seen the least impact of marketization. The traditions of strong public sector unions and an independent and at times radical student body have combined to resist attempts by the current government to create quasi-markets. Since taking power the liberals and their leader has been one of the most unpopular governments in Canadian history. This recent history must also be set within the long-standing attempts to make Québec a separate nation.

Marketization has become much more prevalent in Mexico during the 1990s. The system as a whole has undoubtedly become more market oriented, and the growth of the private sector has moved it in that direction. Public policy has also utilized market-like mechanisms to steer public institutions. But at the same time, in its stance toward these institutions government is today more interventionist and more intent on incisive planning than before. For its part, the private sector operates in an almost unregulated environment.

Using many of the same policy instruments as those used in the Canadian setting, the federal government has had a direct impact on the public sector. These instruments include raising or introducing student fees, establishing quality assessment, increasing competition for research and institutional development funds, promoting university-industry cooperation, and introducing partial merit pay for professors. The rationale seems to be the need to induce public universities to become more adaptive and efficient. Federal rules in use support the inclusion of private institutions of higher education as part of a national strategy for maintaining diversity in student choice and achieving market efficiencies in the tax dollars required for support of the higher education enterprise. The rules also support the inclusion and proliferation of private, for-profit degree granting institutions in the marketplace. A major outcome has been the rapid growth of both the non-profit and for-profit segments of the private sector.

The US policy environment in higher education takes marketization for granted as a basic principle. Since the federal role in higher education in the U.S. is limited by the constitution, central planning and regulation has never been an option for federal policy. Even so, federal policies since the early 1970s encouraging privatization have intensified the trend toward regarding higher education as primarily a 'private good'. Higher education is increasingly perceived as a personal or family investment not dissimilar from real estate or stock markets and resembles other personal service industries. Products are sold in a market marked by intensifying competition for the best qualified students who are described as consumers or customers to be attracted and satisfied. Beyond shifting costs to states, federal public policy provides disincentives for state spending on higher education. States that spend less and allow tuitions to rise receive more federal funding because more students qualify for higher federal grants and loans. In contrast, states that spend more on health care receive more federal funding. (Ehrenberg 2006)

In all three countries, marketization has increasingly defined higher education as a commodity and students as consumers. As both federal and state governments have reduced public investment in relation to student numbers, the use of student fees has shifted responsibility for financing the cost of higher education from federal and state governments to individuals and their families. While the creation of quasi-markets has been rationalized on the grounds that it will make institutions more adaptable and efficient, there is concern in all three nations that such gains may be achieved at the expense of equity for lower income populations.

Labor Force Development

In the interests of stimulating economic development and remaining competitive in a global economy, all three countries have supported labor force development with particular emphasis on vocational and skills training to help workers cope with changes in the organization of work, new technologies, and the demand for increased productivity. While the approaches vary as a function of context, all three countries have adopted strategies that make extensive use of two-year institutions.

During the 1960s and 1970s in Canada, the federal government adopted a 'grand design', the essence of which was the development of 'manpower'. This policy translated into extensive federal direct involvement in vocational education and training. The massive infusion of funds enabled many provinces to expand their adult training systems and was the foundation upon which provinces built their community college systems. Through into the 1980s, the federal government purchased training courses or seats from provincial training institutes for its clients, mainly unemployed persons. Federal support for these programs reached a highpoint in the late 1980s. Recent agreements have largely placed this activity in the hands of the provinces

The introduction of the Canadian Jobs Strategy (CJS) in 1985 served notice to provinces that the federal government planned to reduce institutional training purchases in coming years and to redirect these funds to private and voluntary sectors. The federal government directed more funds toward employer-sponsored training and attempted to have the private sector play a greater role in decision-making on federal training priorities. This led to reduced funding through federal-provincial training agreements in the late 1980s, and a phasing out of such agreements by the early 1990s. This retreat from direct involvement and the transfer of jurisdiction meant the federal government gave up a direct line of influence on the national economy. Some interest has recently been expressed in expanding the federal role with the introduction of the Innovation Strategy which also includes a new emphasis on apprenticeship training.

Provincial policies were designed to adapt the structure of the economy, modernize companies, and develop value-added light industry in technology sectors. The emphasis has been placed on training quality human resources in the belief that post-secondary education systems must ensure both initial training and upgrading to help people adapt to these changes. This goal entails collaboration with business and the forging of partnerships so that market requirements can be properly met.

The labor market in Mexico is a very different from the US and Canada. It is highly segmented between: 1) large (mostly multi-national) firms and medium and small firms (which account for the vast majority of workers in Mexico); and 2) a vast informal sector (up to 35% of the employed population) as well as several million migrant workers in the U.S.

Labor force preparation was traditionally considered a province of technical high schools, not tertiary institutions. Several federal systems of technical education at the secondary level have existed since the 1970s. The emphasis of these programs was typically on upgrading the vast numbers of small and family firms. Most graduates went into the labor force. Public technical institutes were created in the 1990s to train workers for mid-level posts and entry posts to small firms and the local economy. They have become receiving institutions for those graduates of the secondary-level technical institutes who continue.

One higher education initiative that was expressly set up to favor the insertion of mid-level technical personnel in small and medium firms was the creation of two-year technical institutes (UT) in 1991. These institutes are governed by a board incorporating

representatives from local business communities and their curriculum is designed to adjust continually to local needs. More than fifty such institutes have been established throughout the country. Also in the 1990s, Mexico created a number of World Bank programs setting up on-the-job certification systems for re-entry into middle and higher education by workers who had left schooling to work.

Since the early 70s federal efforts to support labor force development in the U.S. have increasingly focused on the unemployed, underemployed, and those needing retraining as a result of the loss of jobs in traditional industries. The principal federal programs aimed specifically at work force development include: 1) grants that help state and local schools offer programs to develop the academic, vocational and technical skills of students; 2) GEAR UP, a program of six-year discretionary grants for state and community partnerships in a high poverty middle and high schools. The partnerships work with a cohort of students beginning no later than the seventh grade and follow them through high school and into college where federal funds are also available for scholarships; 3) discretionary, competitive grants for “Tech-Prep” vocational education programs that combine at least two years of high school education with two years of postsecondary education leading to an associates degree that leads either to high skill-high wage employment or further college; and 4) state grants for basic skills training for out of school adults over the age of 16, who lack a high school diploma or the basic skills to function effectively as parents, workers and citizens. Community colleges are the primary postsecondary institutions involved in all of these programs.

The U.S. Department of Labor also funds the planning and implementation of one-stop career centers designed to provide a combination of employment and training services in central locations for all 50 states. These centers are developed in collaboration with local communities to provide access to a range of job placement and employment services including initial assessment of skills and abilities, information about skill requirements for various occupations, consumer information on the performance of local training providers, and information about the labor market. Information about programs provided by postsecondary institutions are part of the services provided by the One-Stop Centers. Programs identified as focused on labor force development include both general education, and occupation or industry-specific programs.

Research and Development

Spurred by concerns about economic development and global competitiveness, all three nations have invested substantially in scientific research. One goal of these policies in each nation has been strengthening the link between academic research and business, industry, and technology.

In Canada a series of commissions and reports dating to the 1970s created a science and technology policy aimed at housing the national knowledge production effort in the commercial marketplace. The research funding going to universities has increased especially during the last decade as non-accountable transfers going directly to the provinces have given way to direct grants for faculty, for capital funding on a shared

basis for infrastructure awarded on a competitive basis by federal agencies. The impact of these policies has been the emergence of ten to fifteen research-intensive universities which account for approximately 80 per cent of the total research income going to universities. Funds have flowed most prominently to the fields of natural, applied and health sciences. In 1999, the federal government set aside \$900 million to fund 2000 faculty chairs between 2000 and 2005. For the first time, federal funds were used directly to pay for institutional positions and the institutions had to submit their research plans to the federal government for approval as part of the application process. The effect of these rule changes has been to redefine the federal/provincial relationship with regard to higher education and to skew university policy toward targeted fields and disciplines.

Available evidence suggests Canadian efforts to drive science to the market have been successful. The matching funding policy between government and industry, along with the focus on the production of intellectual property, has resulted in a drop of almost 20 percent in the proportion of research funded by governmental sources over a 20 year. During this same period, the federal investment in research increased substantially in constant dollars. A review of total federal spending on research and student assistance suggests the extent to which the federal government has taken the initiative in setting postsecondary education policy. Between 1988/89 and 2003/04, federal expenditures for these two areas increased by almost 15 percent in constant 1988 dollars.

The market has been equally important in U.S. academic research, 60 percent of which is funded by the federal government through competitive, incentive grants related to federal priorities. As in Canada, health and human services account for the largest share of all research and development funding for higher education, about 66 percent. And also like Canada, federal funding is concentrated in a relatively small number of institutions (80) that receive 71 percent of the total funding. Between 1996 and 2002, federal funding for research increased by 67 percent in current dollars. The patent and trademark act amendments of 1988 authorized universities to retain ownership of innovations developed under federally awarded research. Universities were expected to file patents on inventions they owned and to collaborate with commercial firms in the use of such inventions.

Scientific research as a federal priority in Mexico dates to 1970 and the founding of the National Council For Science And Technology (CONAYCT) to support research and development in universities. For most of the 1980s, research policies succumbed to the intensive financial stringencies resulting from prolonged economic crisis. There was one bright spot among concerns within the scientific community about the widespread dismantling of the country's science base and the loss of scientists. A national system of researchers (SNI) was created in 1984 to oversee a program of peer reviewed individual grants to researchers from both public and private institutions. The program grew from 3000 researchers at its inception to about 12,000 in 2005. The number of SNI researchers employed by a program or institution soon became an important indicator of quality.

After 1990, science policy took on new life with the aid of a World Bank loan contracted by the federal government and aimed at restructuring CONAYCT. New programs

emerged for the repatriation of scientists lost in the '80s and for strengthening university-industry ties. Several non-university research and postgraduate centers of excellence were established throughout the country with a focus on technology development rather than basic science. And for the first time in 2000, the Fox administration broke the hallowed tradition of looking to the university scientific community for leadership by appointing a technologist from industry to head CONAYCT. Emphasis has subsequently been placed on links between science and industry using tax breaks and other incentives. Funding also increased during the Fox administration but not as much as promised.

The balance between federal and provincial influence in setting postsecondary education policy in Canada has clearly moved toward a more even balance as a result of federal research initiatives. The provinces have varied considerably both in their response and in their success in attracting federal dollars. Several have invested specifically in infrastructure to enhance competitiveness of their research institutions. Provincial governments have also created science and technology councils and provided tax credits as incentives for business/industry participation. Quebec has been a leading example of these activities even to the extent of restructuring its own grant and incentive programs along federal lines.

U.S. states have also engaged in widely varying practices to increase the competitiveness of their institutions for federal dollars. Some state governments, viewing major research universities as economic engines, have created centers of excellence and faculty chairs similar to those created by the federal and Ontarian governments in Canada. State policy has also favored the development of collaborations between networks of universities and business and industry. Perhaps the biggest difference in state responses to the growing importance of research involves the degree of central coordination. State oversight of institutional strategies has been very high in New York and New Jersey, but largely left to individual institutions or segments in New Mexico and California.

States have also been active in Mexico cooperating with federal efforts and establishing science and technology councils to encourage closer cooperation between business/industry and academic researchers. Although universities house the majority of research groups, an increasing proportion of Mexico's research capacity is being created outside universities. The capacity that does exist in the academic sector is concentrated in a small number of national universities and the larger state universities. Under these circumstances, it is perhaps not surprising that Mexico does not compare well on such international indicators as Ph.D. graduates, scientific publications, and patenting with nations like Brazil Argentina Korea and the Czech Republic.

Globalization

The many conceptual and ideological meanings of globalization make clarity in discussions a considerable challenge. The term *globalization* here is used to denote the rapid movement of capital, labor and information across borders. It also is used to describe the swift development and convergence of new technologies, especially in the fields of communications and information but also transportation, weapons,

pharmaceuticals and other goods and services. Globalization may be used to describe international inequities, exclusion and conflict among nations, regions or ethnic groups. In political science it is often referred to as a force that weakens the nation state but paradoxically strengthens power groups at the local level and mobilizes citizens outside formal political institutions (through cyberspace). In the cultural sphere globalization is often referred to as a force for homogenization and commercialization of local cultures and, in the opposite sense, as a force for increasing communication and cultural contact for marginal groups. For some analysts globalization is a very recent phenomenon, but for others the globalization of markets has been going on for several centuries. The word "globalization" means many things and each meaning carries varied political and ideological connotations.

In order to use it meaningfully in a comparative discussion of higher education, it is necessary to delimit the concept and identify its relevance to higher education. We shall talk of globalization as a *context and a set of forces* that are inescapable for any national system of higher education today although different nations and different educational systems are placed in structurally diverse places in that context and respond differently to it. This will be an *institutionalist* definition (DiMaggio 1991) that focuses primarily on the *changing relationship between states, markets and institutional environments* in which systems of higher education operate. These relationships and environments can be seen as patterns of interactions, ideas and practices that structure the rules of the game for higher education.

It is possible then to talk about a global policy environment. It simultaneously enables and constrains what states/provinces are able to do as they in turn develop their own policies for higher education. While we discuss the federal context in relation to the grouping of rules we are at the same time aware that within the context of globalization some nation states are stronger than others. Immanuel Wallerstein assigned countries to core, semi-peripheral, or peripheral status, while Susan Strange defined state strength in terms of both structural and relational strength (Volgy & Bailin, 2003). Structural strength refers to a state's capacity to create rules and norms for engaging with other states, while relational strength signified that a state could deter or minimize challenges from others. According to Volgy & Bailin, a strong nation-state is able to write and re-write the rules of the game. Using these definitions and concepts, it appears obvious that the US remains a strong-and indeed the strongest-nation state in the world, while other Western OECD countries retain some strength although not always able to "write the rules of the game".

Policy discussions and public discourse have clearly incorporated the idea that higher education is an important factor in international competitiveness. The link that public discourse everywhere has established between higher education and economic and technical development has been institutionalized locally in all three countries. Increasingly, though, higher education is being asked to resolve or to contribute to resolving other national problems, such as cultural integration or environmental issues.

In order to respond to global challenges, such as trade agreements and cooperation, higher education policy is forced to develop a coherent perspective on the system and therefore poses new issues of coordination, planning and priorities. Thus policy is moving away from an approach segmented by sectors to an integrated view of all higher education institutions. In the same vein, questions that were not issues previously are now being asked about steering and specifically about the proper mix of regulatory and market approaches. This traditional dichotomy is proving to be simplistic, and consequently the use of independently set standards is increasingly being regarded as a policy approach in coordinating a complex system (Ahme & Brunsson, 2003). This in turn poses new concerns over the relationships between federal and state levels of government. The emerging formats for steering higher education systems as a whole, measuring their performance, and comparing them internationally constitute trends that become significant in the context of a global institutional environment.

Since the mid-1990s a certain number of foreign (mainly US) educational corporations have taken hold in Mexican higher education. The best known is Apollo Corporation (formerly called Sylvan Learning Systems), which bought up a long standing private university and since expanded its operations with campuses in various states. Less well known but quite dynamic is the sale of diplomas over the internet by US based institutions that are not registered in Mexico. The extent of these activities is not known but these organizations market their product very widely in the media. Its significance has two implications. The first is the fact that the sale of educational services (or diplomas) rapidly became socially accepted, in contrast to the long standing public character of higher education. The image of US higher education as a model to be followed is never far away and is used to argue for the benefits of a large private sector. In second place, its import for policy ties in with the growing concern over the rapid spread of *demand absorbing* establishments in the private sector, which in turn was an important factor in the creation of an accreditation system.

All three countries are without a comprehensive national policy that links international education to the national needs created by globalization. Through the Department of Foreign Affairs and International Trade (DFAIT), and other government agencies, the Canadian government provides education and technical assistance to other countries, assist international students in their search for higher education in Canada, and, funds education exchange and work-abroad programs. Green and Knight (2003) and Evans (2005), characterize decisions in this area as ad hoc and lacking principles or strategy. The absence of a national strategy creates inconsistencies between provinces and between the two levels of government.

With the signing of NAFTA and the entry of Mexico into the OECD in 1994 higher education came under international scrutiny using international standards. This had a clear policy impact in Mexico as shown in the creation of the National Institute for Educational Assessment, for K-9 schooling, and the introduction of ISO standards to management in higher education by federal policy makers. It is interesting to note that under the promotion of the federal Commerce Secretary Mexico participated in the design of ISO standards for education in 1993. The use of international standards for

evaluation in science was also intensified and applied in federal funding for research. Additionally, strategic management was introduced by the federal government for all public institutions of higher education in 2001. It is clear that these standards and procedures introduced from the global arena are non-trivial for the actual operation of the higher education system and have been incorporated into the rules of the game. (Brunsson 2000)

The key development in Canada is the growth of the international student body. All three provinces have set fees for these students at a much higher level than for domestic students. The Association of Universities and Colleges in Canada (AUCC) (1993 and 1999) addressed the motivations of degree granting institutions involved in internationalization activities and found that economic factors, such as revenue generation for the institution, were highly ranked. From 1980 to 2001, the number of international students increased almost fourfold, while the number of Canadian students studying abroad in 1999 was only a quarter of those international students studying in Canada (Green and Knight, 2003, p. 20).

Since the late 1950s, the U.S. has used legislation to create opportunities in international education when they funded 19 national resource centers to focus on area and international studies in addition to creating modern foreign language fellowships, international research and studies, and language institutes. During the 1960s, Congress passed the Fulbright-Hays Act of 1961 aimed at strengthening non-West European language and area expertise. The Act provided focused opportunities for overseas study in four categories: doctoral dissertation research, faculty research, group projects, and foreign curriculum consultants. (US. Department of Education, 2005)

The Fund for The Improvement of Postsecondary Education (FIPSE) established by the Higher Education Amendments of 1972 within the DOE with an extremely broad mandate to encourage reform and innovation in higher education provides a modest program of competitive seed grants. During the 1980s and 90s FIPSE initiated a number of special focus competitions on international and cross-cultural perspectives, global education, and international education. Between 1995 and 2004, FIPSE funded 226 consortia involving 196 institutions in 20 countries. Following the events of September 11th, 2001 Congress provided the first significant increases to the Title VI and Fulbright-Hays funding since the 1960s. (U.S. Department of Education 2005) The majority of foreign institutional partners have been in Europe, however, the North American program has funded consortia in Canada, the U.S. and Mexico aimed at creating curricula and enhancing student mobility. A similar initiative has linked the U.S. and Brazil. (U.S. Department of Education 2005)

Both Canada and the United States fund programs to increase their exposure abroad. In the 1970s and 1980s, this resulted in federal resources being allocated to the Canada Studies Program for educational programs and curricula that focus on elevating student awareness of Canada at home and abroad. This work is mostly directed toward Canadian studies programs in other countries. The U.S. Department of Education oversees 14 international education programs. Domestic programs are designed to strengthen the

capacity of American education in foreign languages and in area and international studies. Overseas programs aim at improving secondary and postsecondary teaching and research in other cultures and languages, supporting the training of specialists, and enhancing the public's general understanding of other nations and cultures. (International Education Programs Service 2005; U.S. Department of Education 2005) Furthermore, in the 1990s, Congress created the Institute for International Public Policy to increase diversity in the international service professions. Congress also established American overseas research centers formed by consortia of U.S. institutions to help students and faculty conduct area studies-related research abroad. Following the events of September 11th, 2001 Congress provided the first significant increases to the Title VI and Fulbright-Hays funding since the 1960s. (U.S. Department of Education 2005)

Internationalization has taken hold slowly in Mexico. Although since the 1960s UNAM and certain private institutions, such as the Technical Institute of Monterrey, have attracted numerous students from Central America and some South American nations, this was not due to an actual policy decision. It was CONACYT, the national science council, that initiated a scholarship program for training PhD students abroad as of the late 1970s, a policy that was responsible for training thousands of young scientists that are staffing research centers today. The brain drain, however, is a constant concern in CONACYT that has made continuous efforts to reincorporate Mexican scientists working abroad (without great success). Mexico faces the paradox of having trained a widespread diaspora of the most highly qualified Mexican students, in contrast to the US and Canada which are receptor countries.

It is only since the late 1990s that internationalization was placed on the policy agenda for undergraduate students, but responses to it are highly differentiated and seem to depend on the initiatives taken by institutions themselves. Nonetheless, a growing number of institutions have taken steps to strengthen language training at the undergraduate level and to normalize credits and academic standards with a view to facilitating student exchange. This may also be called the "Bologna effect", inasmuch as the integration of European higher education is closely watched in Mexico and talks have been initiated with other Latin American nations to explore a 3-2-3 diploma structure. University departments have been established for supporting student and academic exchange (Castillo 2005). Institutions are increasingly paying attention to opportunities for exchange and study abroad offered by other countries. In Mexico the most prominent of these are the United States and Spain, which has intensified its outreach programs to all Latin America.

Conclusion

We began the cross national analysis with an assumption that differences arising from unique histories, economies, governmental structures, and rules-in-use would predominate and that finding enough similarities to justify the considerable effort involved in an international comparison would be a substantial challenge. We end with the surprising (for us) conclusion that similarities abound and appear far more consequential than the differences. What possible explanation can account for the degree

of convergence observed among the three nations in the themes we report? And how can we understand convergence in light of the apparent differences in the rules-in-use identified at an earlier stage of our work?

We believe that globalization is the critical element creating convergence across national boundaries in the ways that higher education systems are designed and governed, planned and prioritized, and funded. Globalization is also the major influence on the rapid development of increasingly sophisticated information systems, similar strategies for promoting student access and achievement, and comparable policies for research and development. There is a global trend at work to institutionalize similar concepts, strategies and indicators for higher education systems in different nations. We believe the root of the convergence for these three North American countries can be traced to the influence of NAFTA and similar agreements aimed at hemispheric hegemony and development. The impact of such global influences as information technology, free trade agreements and the internationalization of capital markets gives no nation the luxury of ignoring the performance of its higher education system if it is to remain competitive.

In the remainder of this conclusion we return to the six categories for rules-in-use defined in chapter 1. For each category we show how the relevant theme from this chapter causes convergence among strategies and thereby reduces the importance and effects of differences in rules-in-use. We end with a brief assessment of the capacity of Canadian, U.S. and Mexican governments to change rules in use even when such changes are resisted by academic institutions and the array of organizations that surround them influence them.

System Design and Governance: From very different starting points all three nations have struggled to find the appropriate balance of power between federal, state/provincial, and institutional authority. All three have adopted policies aimed at changing and fine tuning that balance. The Canadian government first conceded authority to provinces and then moved toward increased federal influence over priorities important to national aspirations. In Mexico, policy leaders discovered the need to strengthen the role of state governments and to set boundaries around the definition of university autonomy in order to make the system more responsive and to permit the pursuit of national priorities within the constraints of available resources. In the U.S., where relationships between states and the federal government have always been somewhat uneasy, the trend has been toward a stronger federal role. But the U.S. trend, as in Canada, consists of advances and retreats. Federal influence, especially in the information age, has often intruded on institutional autonomy. We conclude from these patterns that achieving desired performance from higher education systems depends upon the balance among federal, state/provincial, and institutional authority. Additionally, the importance of third parties, such as accreditation and assessment organizations and others, is revealed by the comparison between the Mexican experience and that of Canada and the U.S. Institutions in all three nations are increasingly called upon to respond to a variety of governmental and non-governmental agencies in their decisions. Failure to achieve the correct balance inevitably favors the interests of some at the expense of others, a recipe for political instability and/or under-performance. Since the correct balance for any given priority may be different from

others and will also vary as the environment in which it is pursued changes, the correct balance is always a work in progress. This is why the ability to change rules at federal and state levels is so critical.

Planning and Priorities: Properly speaking, federal governments committed to market principles do not plan in the sense that this term might be used in nations where leaders are not susceptible to being turned out of office in the next general election. But they do have priorities and they adopt policies aimed at achieving them. All three nations have adopted quality assurance as one of their highest priorities and all have emphasized accountability and transparency as key strategies for achieving this priority. Accountability is pursued in all three nations through some combination of governmental agencies and peer review. Canada has relied heavily on provincial oversight, but has hedged its bets through federal funding policies and national peer review schemes, especially for graduate education and research. The U.S. has relied primarily on voluntary crediting agencies organized both nationally and regionally. Recently, however, federal policymakers have applied increasing levels of oversight aimed at pressuring the "foxes who guard the henhouse" into more emphasis on transparency, consumer information, and the measurement of learning outcomes. As in Canada, peer review is the central strategy for the award of research funds. After a late start because of university autonomy and national regulation of the non-university sector, Mexico has developed accreditation structures that resemble those in the U.S., including a national coordinating organization that oversees and recognizes accreditors. Mexico has also developed its own peer review arrangements for academic research. Accreditation developments in Mexico probably owe as much to the experiment with unfettered expansion of the private sector as to influence of the U.S. model. The lesson seems to be that reliance on market principles to steer higher education systems leads inevitably and fairly quickly to quality assurance and public accountability. And the experience of these three governments would suggest that some coordinated combination of governmental oversight and rigorous peer review is essential for both educational and political reasons

Information: Collecting and disseminating information about institutional characteristics and performance is a key role of federal governments in all three nations. The U.S., with the largest number of states and institutions has for the last quarter-century moved consistently toward ever more comprehensive and sophisticated national databases. Information systems are very uneven across U.S. states with some that are excellent and other that rely very heavily on federal data. During the Fox administration, Mexico moved both at federal and state levels to increase the available data about institutional performance and to make such data widely available to citizens. No national databases on higher education exist in Mexico, a need that has recently been placed on the policy agenda. Nonetheless, the importance of data and indicators is clear to all actors. Most of the collection of performance data on Canadian institutions occurs at the provincial level, but such efforts are strongly supported by national databases and by federal audits of research funding and student grants and loans. Federal governments are clearly the best positioned to provide the types of comparative information essential to accountability and consumer protection. Since information about practices and performance is a basis for power, its migration from offices of institutional research (if available there) to national

and state/provincial databases that are open to everyone has been in many instances less than warmly welcomed by college and university leaders.

Student Access and Achievement: Not surprisingly, each of the three nations has defined social equity as an important federal priority. While definitions of equity issues vary based on history and context, strategies for addressing them show some remarkable similarities. Social equity issues within the U.S. have been defined primarily as the need to eliminate differences in higher education employment, access and achievement that are attributable to race, ethnicity, or gender. In Mexico equity concerns have focused more on basic schooling, available tertiary spaces, and on populations isolated by geographic location. Canada, while also concerned about expanding higher education opportunities, has relied heavily on provincial initiatives limiting overt federal policy interventions for the most part to employment discrimination and opportunities for indigenous people. Beginning with returning World War II veterans, both Canada and the U.S. crafted federal programs of student grants and loans. With the exception of the program for veterans, need has been an important qualifier. Canada has placed somewhat more importance on merit than in the U.S. Programs in both nations are currently perceived to be producing better results for the middle and upper-income students than for the lowest income quartile. With a tradition of elite admissions and no tuition or fees, Mexico adopted a comprehensive federal financial aid program based on need only in 2001. While aimed more at completion than participation, the Mexican program has already had a favorable impact on both. All three countries have also made less than baccalaureate institutions an important strategy for increasing access. Both the U.S. and Canada have a substantial history of developing community colleges, while Mexico has more recently focused on two-year and four-year technical institutes, especially in isolated rural areas. In all three countries, tuition and fee increases have outpaced available federal and state/provincial aid. Institutions assistance, typically emphasizing merit, has helped to make up the difference, but have had less impact on equity than the respective federal programs.

Fiscal Policies: The increasing importance of quasi higher education markets has driven fiscal policy in all three nations. The U.S., where even-handed treatment of private institutions has always been an important consideration in federal fiscal policies, has the strongest emphasis on marketization. Mexico, which sought to meet its needs for additional tertiary spaces through allowing the unregulated expansion of the private sector, was not successful in addressing equity issues. However, the growth of the private sector along with fiscal policy oriented towards steering has increased market emphasis there as well during the past two decades. And while Canada lacks a significant private sector, the boundary between private and public has in the last decade become more porous, particularly at the federal policy level. Perhaps the best example of marketization in all three countries can be seen in federal trends toward funding individuals rather than institutions. In Canada this has taken the fiscal form of reducing appropriations to provinces that can be used for general institutional support. This in turn has encouraged provinces to place greater pressure on institutions to find new revenue sources to replace lost government subsidies. Similar developments in the U.S., particularly during periods of economic downturns, has led some institutional leaders to argue (not very

successfully) that state governments should be seen as simply one additional customer for privatized public flagship universities, buying the number of seats they wish to provide for state residents. Even Mexico, without changing the federal legal framework, has increasingly resorted to steering strategies by placing fiscal pressure on institutions to respond to federal and state priorities. One consequence for all three countries, has been rising tuition and fees accompanied in the U.S. and Canada by growing concerns about student debt. Advocates for increased emphasis on market principles argue they are encouraging public institutions to become more adaptive and efficient while concurrently taking advantage of cost effective services available from the private sector. The use of fiscal policies to steer higher education performance raises all kinds of quality issues necessitating the quality assurance and accreditation developments previously described. While documenting the advantages of privatization remains an elusive task, practical economic realities suggest the trend toward quasi markets is unlikely to reverse any time soon.

Research and Development: All three nations have invested substantially in scientific research and all have adopted policies aimed at strengthening the links between academic research and business and industry. In Canada increased federal research dollars, competitive federal grants for infrastructure, and direct federal funding for faculty chairs have been combined with a matching funding policy between government and industry and a focus on the production of intellectual property. These policies have led to the emergence of ten to fifteen research-intensive universities that account for 80 percent of total university research activity. Concurrently, the percent of research funding from non governmental sources has increased by 20 percent over the past 20 years. The story is very similar for the U.S. where the federal government funds more than 60 percent of all university research through competitive grants and contracts based on government priorities, and research is concentrated in 80 to 100 research-intensive universities. Funding priorities are similar to those in Canada and collaboration with business and industry has been encouraged particularly through patent and trademark legislation that provides incentives for universities to retain ownership of innovations developed with federal research funds and to collaborate with commercial firms in their exploitation. In Mexico where less emphasis traditionally has been placed on research conducted in academic institutions, a combination of the National Council for Science and Technology, a national system of researchers, and a World Bank loan have been employed to strengthen academic research capabilities and to halt or reverse the loss of scientists to other nations. In addition to strengthening academic research capabilities, both federal and state governments have also used tax breaks and other incentives to encourage closer cooperation between business/industry and academic research, but Mexico has had less success in institutionalizing university-industry collaboration and incorporating firms in technological development. As in Canada and the U.S., most of the research capacity is located in a small number of national and larger state universities, although Mexico invests a lower percentage of its GDP in research and development,

Capacity for Changing Rules-in-Use: National capacity to change rules in use can be estimated by examining behaviors in three key areas: 1) *Priorities* – how well a nation establishes authoritative goals and objectives and influences states/provinces and higher

education institutions to pursue them; 2) *Accountability* – how well a nation collects and disseminates information about higher education performance and uses results to create public awareness about contributions to the public good; 3) *Steering* – how well a nation structures competition and encourages cooperation across higher education segments and sectors and between the higher and basic education communities as well as with business and industry. (Adapted from Grindle 1996)

Where authority within a nation resides for changing rules is important to improved performance on outcomes related to national priorities. The balance of authority between federal, state and institutional leaders must allow for the achievement of the legitimate goals of each. From our study data, we conclude that all three nations have demonstrated the capacity to change rules related to the attainment of federal priorities. Among the three, the U.S. appears to have the greatest capacity, partly because there is no history of dominance by any one level of authority. The U.S. federal government set priorities, enforced accountability and used market influences to steer institutions in directions essential to their attainment during our study. In Canada, the history of provincial dominance raised questions about the capacity of the federal government to pursue national priorities, especially in relation to the Province of Quebec. Nevertheless, the Canadian federal government during our study changed fiscal rules and restructured federal/provincial relationships in ways that increased the likelihood of defining and achieving national priorities. Perhaps the major difference between Canada and the U.S. was the necessity for Canadian federal leaders to restrict the range of goals they established and to consider provincial powers in the strategies they adopted. On the surface, Mexico with its strong federal structure should have the most capacity for changing rules. But, among the three countries, Mexico had the most difficulty in setting national priorities, influencing institutions to pursue them and in holding institutional leaders accountable for outcomes. There was in Mexico an extreme imbalance among the sources of authority. Universities were autonomous, states had little authority and the federal government experienced little success in promoting its equity and quality priorities. It was not until the federal government strengthened state authority, constrained the autonomy of public universities and began to use steering strategies through informal changes in the rules defining fiscal policies that it began to demonstrate the capacity to pursue national priorities in effective ways. Nonetheless, the number of private establishments that do not see a need to adapt to national priorities is non-trivial in Mexico, thus revealing diminished state capacity to influence the system as a whole.

Coming from quite different starting points, convergence of strategies and improved performance suggest that all three nations either possessed or developed the capacity to change rules at the federal level in ways that supported national priorities. Convergence of strategies does not necessarily imply convergence of systems, since the policy environment and the structure of each higher education system (and therefore its response to changes in rules) is quite different. Over and above these differences, it is interesting to note that despite concerns in some quarters over the apparent dwindling of the nation-state, all three nations in this study have strengthened the hand of the state in higher education. This has happened without diminishing the role of the market, quite the contrary. All three nations thus seem to demonstrate that state and market are not

opposing poles in a zero-sum game but perhaps complementary forms useful in developing more multifaceted policy strategies in the face of increasing diversity and complexity within systems of higher education.

Finally, a word about rules-in-use as a concept. Throughout the progress of this research, the concept has experienced a subtle but significant evolution. Starting out with a notion of rules quite akin to strategies and decisions made by governments, it became increasingly necessary to recognize that institutions of higher education respond not only to government decisions but also to discourses, expectations, information and unwritten norms. The latter are part of the institutional environment (DiMaggio & Powell) more generally, where rules of appropriateness, accepted standards, and widely adopted goals (such as “quality”, for example) become the “givens” of the policy environment. Thus, both institutions as well as policy makers tend to think and operate within the bounds of rules so defined. Rules therefore turn out to be ways of thinking for the actors involved as well as just instruments (Ahme & Brunsson, 2003). This evolving definition of rules allows the analyst to take into account the influence of third parties such as firms, accreditation agencies, international organizations, the media and professional associations, all of which tend to increase their influence over the kinds of strategies, goals and perceptions that systems of higher education avail themselves of to respond to changing conditions and to legitimate their actions. Thinking of rules in this way has important implications for thinking about the capacities of states to influence the behavior of institutions of higher education.

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