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Martin Carnoy • Isak Froumin  
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# HIGHER EDUCATION IN FEDERAL COUNTRIES

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A Comparative Study



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A Comparative Study

**Edited by**  
Martin Carnoy  
Isak Froumin  
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Simon Marginson

 SAGE

Los Angeles | London | New Delhi  
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## Chapter 8

# Mexico

### Dilemmas of Federalism in a Highly Politicized and Semi-decentralized System

Imanol Ordorika, Roberto Rodríguez-Gómez  
and Marion Lloyd

#### INTRODUCTION

Modern federalism faces a central dilemma over competing demands for equity and efficiency. On the one hand, governments face pressure to become more equitable and democratic by expanding access and participation in the distribution of resources. On the other hand, society expects them to achieve economic growth and fulfil commitments to efficiency and transparency in public management. Much of the contemporary debate over governability centres on this dilemma, which forms part of a larger debate over democratic practices (Gibson 2004; Lechner 1997; Watts 2010).

The federation provides a functional, albeit far from complete, solution to the basic problems of democratic governance; it adds a new dimension to the traditional republican formula of the division of powers, and, in theory, facilitates the processing of local policies and government actions (Burgess 2003; Kramer 1994). In their day-to-day functioning, however, federalist systems are both highly complex and

fraught with internal conflicts. They also face capacity constraints, particularly at the subnational levels (Flamand 2010). Implicit in the system is competition between the central power of a national character and the local associates, in this case the various subnational entities—regions, states, districts, municipalities, among others. According to William Riker (1964), all federalist regimes face a continued clash of interests of a political and economic nature. On the one hand, the local entities seek access to a growing share of resources distributed by the central power as well as increased influence in the decision-making processes affecting the entire group. On the other, the federal government tends to accumulate resources and attributions in a bid to ensure its control over the myriad subnational entities. When competing actors and forces with different political projects enter this competitive arena—the classic scenario of the transition from autocratic to more democratic regimes—the resulting instability threatens the original purpose of the federalist system.

To reduce those tensions, many governments have adopted legal norms that regulate the jurisdictions of the federation and the federated entities. Another common practice consists of the central authority setting national standards in certain areas and then empowering the entities to achieve those standards within their respective conditions and circumstances. In practice, the efficiency of such solutions depends primarily on three elements—the capacity of central and local authorities to avoid unnecessary overlap in the application of public policies; the adequate distribution of fiscal resources; and a system of economic resources and policies oriented towards achieving certain standards (Rodríguez-Gómez 2014).

## Federalism in Mexico

In countries such as Mexico, in which the economy and the political structures are still undergoing significant transformations, the consolidation of such systems represents a challenge of extraordinary complexity. In addition to the problems of cost inefficiencies and bloated bureaucracies associated with the operation of federalist systems (Perotti 1996), policymakers must contend with scenarios of profound inequalities, weak democratic processes and institutions, governments that are

divided along political lines and the existence of strong and constant political disputes over resources and spaces for political action (Majeed, Watts and Brown 2006). Such tensions necessarily limit the effective implementation of federalist systems, limiting the degree to which the federal government devolves power to the state and local levels.

Mexico first adopted a federalist system nearly two centuries ago, but later underwent long periods of *de facto* centralism. The process has been more cyclical than linear. During much of the twentieth century, the country was ruled by a highly centralized, authoritarian, one-party regime that was federalist mainly in name. In many cases, the states simply acted out the instructions of the federal government (Flamand 2010).

By the end of the last century, however, that panorama began to shift significantly. In 1997, for the first time since the Mexican Revolution, no party held a majority in the federal congress. Three years later, an opposition candidate won the presidency for the first time in 71 years, ending the decades-long stranglehold of the Institutional Revolutionary Party (PRI) at the national, state and municipal levels. The victory by President Vicente Fox, of the conservative National Action Party (PAN), culminated 11 years of opposition gains at the states level. At the same time, societal demands for greater democratization of both government and services have led to a devolving of federal power to the states in multiple areas—most notably in the political arena, but also in infrastructure, health care and education—a process we will refer to as *federalization*.

Arnaut (1994) notes that the term ‘federalization’ has been employed in government discourse to denote two opposite dynamics in Mexican history—the first is the recentralization of the system by the federal government, primarily during the first part of the twentieth century; and, the second and more recent phenomenon, is the decentralization of the system, with new powers and functions assigned to the state and municipal governments. In this chapter, we use the term to refer to the second trend, which reflects recent attempts in Mexico to shift both fiscal and administrative responsibility to authorities at the subnational level.

The process is by no means unidirectional or complete. It might seem as if the federal government were devolving ever more resources and control to the states and municipalities. In practice, decentralization coexists with centralizing trends in numerous areas. Examples include the new accountability rules imposed by the federal government on all state and municipal institutions and the new financing systems for public higher education institutions (HEIs).

The ongoing federalization process in Mexico is characterized by numerous contradictions, limitations and problems. These include the hyper-bureaucratization of the distributive and control mechanisms, which have diminished rather than increasing the level of autonomy enjoyed by state institutions (Ordorika 2010; Rodríguez-Gómez 2014). Second, while there has been a gradual shifting of resources to the local governments, the federal government still collects the vast majority of taxes and dictates most public policies, in effect reducing incentives for local governments to increase revenue and to remain accountable to their constituents. Finally, major discrepancies and inequalities persist in the distribution of resources among states and institutions; in many cases, the richest or most developed entities receive the greatest share of federal funds.

Furthermore, the return of the PRI to the presidency in 2012 has triggered a re-centralizing and neo-corporatist trend in Mexican politics. A day after President Peña Nieto took office, the PRI signed a pact<sup>1</sup> with the main opposition parties to push through a set of 'structural reforms' by 2018. Citing the need to strengthen key economic and social sectors—energy, telecommunications, law enforcement, education, and health among others—the government has since promoted policies and legal reforms that in practice entail recentralizing control over those sectors. As a result, Mexico has yet to reach the main goals of the federalist model—devolving real power to the states as a means of achieving greater accountability in government,

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<sup>1</sup> On 2 December 2012, the presidents of the PRI, PAN and PRD parties signed the Pact for Mexico (*Pacto por México*), which outlined 96 goals to be completed by the time President Peña's term ends in 2018. The agreement was unprecedented in Mexico's fractured political landscape and sparked fears of a re-concentration of power in the executive branch (a process Mexicans refer to as *presidencialismo*).

promoting local and regional development and, above all, combatting widespread poverty and inequality, which varies considerably from state to state. For example, in 2014, the poverty rate in Chiapas, a low-income state in the south, was 76 per cent, whereas the higher income state of Nuevo Leon in the north had a poverty rate of 20 per cent (CONEVAL-INEGI 2014).

### Higher Education in a Federalist Frame

In this chapter, we examine federalization of one strategic area of government influence—higher education. In the context of globalization and the knowledge society, the importance of higher education as an engine for economic and social change has perhaps never been greater. A surge in demand for college degrees has pushed many countries to expand and diversify their tertiary offerings, as part of the massification process underway since the 1970s. Nonetheless, in Mexico, as in other developing countries, access to higher education remains limited, while strong inequalities persist among social classes, regions and types of institutions. In 2015, gross enrolment was just 34 per cent, well below the Latin American average in 2012 of 41 per cent (Mendoza 2012). There are also major variations in the degree of autonomy among institutional types, unequal access to higher education among regions and socioeconomic levels and the heavy concentration of the country's science and technology research capacities in the capital, which has repercussions for regional development.

In recent decades, the government has embarked on a major expansion and decentralization of the system to render it more efficient, democratic and responsive to local needs. The states have become much more proactive in creating new institutions, with funding shared equally between the states and the federal government. The private sector has also contributed to greater decentralization of the higher education system, with the larger institutions establishing branch campuses and franchises throughout the country. Thus, the system is increasingly decentralized, in terms of basic funding, curricula and programme design, and the geographic location of institutions. Yet, the federal government retains control over the new sources of competitive

funding—known as ‘extraordinary funds’—available to finance this expansion as well as over strategic areas such as technological institutes and scientific research. The resulting panorama is highly complex, with often-contradictory results.

To place Mexico’s federalist system in historic context, we begin by summarizing its origins and development from the early nineteenth century to the present. We then outline the main transitions and political processes that define the contemporary federalist framework, such as the fiscal reform, changes to the federal public administration, and the democratic transition, as well as the policies of control, transparency and accountability in the federal sector. Next, we provide a brief explanation of the Mexican fiscal system, with an emphasis on the funding mechanisms for education and higher education. We follow with an overview of the Mexican higher education system, focusing on the past six decades of growth and diversification, and then discuss some of the limits and contradictions of the Mexican brand of federalism, especially the persistence of inequalities, the hyper-bureaucratization of the funding mechanisms and the implications for university autonomy. Finally, we conclude with reflections on the current state of Mexico’s higher education system and the prospects for change.

## A BRIEF ACCOUNT OF FEDERALISM IN MEXICO

### Earlier Developments

Mexico opted for a federalist system soon after achieving independence from colonial rule, even adopting the official name of the United States of Mexico. The Constitution of 1824 declares, ‘The Mexican nation adopts for its government the form of a popular and federal republic’. However, the federalist principles first enshrined in the Constitution of 1824 have undergone major fluctuations and legal modifications over the past two centuries, depending on the group or party in power. For much of the nineteenth century, opposing factions fought over the degree to which the federal government should cede power to the states—or more precisely, the degree to which local entities should give up their power to the federal authorities—while the victors enshrined their preferences in successive constitutions in 1836, 1843 and 1857

(Valencia 2003). The dispute between federalism and centralism dominated the first three decades of Mexican independence, and was a recurrent source of conflict throughout the century (Vázquez 1993).

During the 1850s, Mexico adopted a set of liberal reforms, which resulted in the strongly federalist Constitution of 1857. A year later, Benito Juárez was elected for the first of five terms in office. However, war soon broke out between liberals and conservatives, followed by the French Invasion in 1861 and the three-year rule by Emperor Maximilian, starting in 1864. Juárez regained power in 1867 and began the period known as the Restored Republic, in which he sought to implement many of the modernizing reforms.

The federalist period did not last much longer than Juárez, who died in office in 1872. Four years later, Porfirio Díaz assumed the presidency, and the country embarked on a 35-year period of *de facto* dictatorship (1876–1911). Although Mexico remained constitutionally a federalist state, Díaz ‘reduced the constitutional institutions to a purely semantic level. Federalism only existed on paper, while in reality the government was even more centralized’ (Valencia 2003, 363).

Díaz’s disregard for the federalist pact, and for democratic principles in general, finally led to his overthrow in 1911. However, the uprising against his government was also a testimony to the strength of the local and regional factions in a country whose population was still primarily rural and geographically dispersed. Under the slogan, ‘effective suffrage, no re-election’, local landowners and peasants took up arms against the government, triggering the decade-long civil war known as the Mexican Revolution. Finally, in 1917 and with an estimated 1 million casualties, the victorious side drafted a new Constitution based firmly on federalist principles, although fighting continued for several more years.

The 1917 Constitution, which is still in effect, states in Article 40:

The will of the Mexican people is to constitute a representative, democratic, [and] federal Republic, composed of free and sovereign states in everything concerning their internal affairs; but joined in a Federation established according to the principles of this fundamental law. (Gobierno de México 1917)

The constitution itself opens the way to conflicting interpretations of Mexican federalism, including the provision for 'federal intervention' to re-establish order. That centralist mandate led to the establishment of an effective one-party system in 1929, under the National Revolutionary Party (later called the Institutional Revolutionary Party). As the party's name implies, it sought to cement and centralize the gains of the Revolution within a constitutional order. In practice, the party developed a complex corporatist system, which divided key sectors of society into different corporations under strict federal control. Yet, the president wielded considerable control over the state governments and, in many cases, handpicked the governors, acting essentially as federal delegates to the states (Carpizo 1978; Garrido 1982).

In sum, for most of the twentieth century, Mexico's system of government operated on the principles of 'theoretical federalism and *de facto* centralism' (Valencia 2003, 367–368). For example, a 1934 reform gave Congress sole power to legislate on electricity. Another reform in 1942 increased federal control over foreign investments, credit and insurance, the exploitation of natural resources and electricity taxes. Perhaps even more significant, for decades the federal government controlled 85 per cent of the national budget, with minimal input from the states (Valencia 2003). Even today, states only contribute 20–22 per cent to the national budget. In general, that arrangement has benefitted local politicians, who ceded their fiscal authority in exchange for federal (PRI) protection from local electoral competition (Díaz-Cayeros 2006).

Still, Mexican politicians were not blind to the contradictions between the constitutionally mandated federalism and the centralist reality, which had implications both for the legitimacy of the PRI and the country's governability. The National Fiscal Conventions of 1925, 1933 and 1947 sought to clarify the domains of the federal,<sup>2</sup> state and municipal governments in terms of tax collection and revenue sharing as well as to resolve competing demands from the wealthier north and the poorer south (Reyes 2004). In 1925, the system was so chaotic

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<sup>2</sup> A fourth National Fiscal Convention, held in 2004, introduced mechanisms designed to channel more funding to poorer states. However, there is considerable debate as to the overall effects of the changes in terms of the equity of the fiscal system.

that the finance secretary, Alberto J. Pani, described it 'a fiscal anarchy' with 'innumerable sources of corruption' (Reyes 2004, 8). The first two conventions focused on simplifying tax collection to avoid double-taxation and increase revenue. However, the process was interrupted by the onset of World War II. By the third convention, the system had become so complex that the delegates had to start virtually from scratch in defining fiscal responsibilities—efforts that were only partially successful from a federalist perspective (Reyes 2004).

With the financial and political crises of the late 1970s, Mexico embarked on an era of 'new federalism' (Valencia 2003). In contrast to classical federalism, which distinguished between two orders in juxtaposition with each other, this new approach operates on the principle of the distribution of power, conducted through mechanisms of cooperation and coordination. Among major changes were fiscal reforms and modifications to the federal public administration. The political alternation at the state and later federal level, starting in the late 1980s, was also fundamental in shifting the power balance between the federal and state governments, as was the creation of the autonomous Federal Electoral Institute in 1990. In the following section, we review the key reforms that have served as catalysts for the 're-federalization' of Mexico, a process that, while far from complete, had major implications for the country's higher education system.

### From Theoretical Federalism to New Federalism

Over the past three decades, the Mexican political system has undergone major transformations, which are the result of processes underway at the national and local levels. Four trends are particularly significant. Starting in the late 1970s, the country adopted major reforms in public administration, through the creation of new agencies, rules and criteria affecting both the federal and local governments. Second, the introduction of a new tax system starting in 1978, and particularly after 1997, has transformed the collection, distribution and supervision of federal revenue. Third, as part of the decentralization process, the government transferred administrative control of the health and basic education systems to the state governments. Finally, the political gains by opposition

parties starting in the late 1980s culminated in the collapse of one-party rule in 2000, ushering in new processes of democratic transition. While these processes occurred with relative independence, they form part of efforts to address the economic and social problems that have emerged in Mexico since the 1980s.

In response to the severe economic crisis triggered by plummeting world oil prices and the debt crisis of the 1980s, the federal government pursued a series of strategies intended to insert Mexico into the dynamics of globalization. As with other Latin American countries, the country acted in accordance with the structural adjustment plans stipulated by the international finance agencies. Starting with the presidency of Miguel de la Madrid (1982–1988), the government experimented with formulas for re-activating the national economy. Over the next two decades, however, the anti-crisis programmes shifted from monetary and fiscal control to the reorganization of public finances; from programmes designed to lure foreign investment and international commerce to the redefinition of the role of the state and in the economic sphere; and from fiscal austerity programmes to regional and economic development policies.

Underlying all these changes was a new emphasis on government planning, with increasing collaboration between the federal and state governments. While initially many of the planning functions were concentrated in the executive branch under the Secretariat for Programming and Planning (1976), the government has since created a series of autonomous institutions to monitor the work of the federal and state governments and devolve more power to the latter. These include the Superior Auditor of the Federation and parallel offices at the state level, the National Council for the Evaluation of Social Development Policy and the Federal Institute for Access to Public Information (now National Institute for Transparency, Access to Public Information and the Protection of Personal Data), which has promoted the development of transparency laws at the local level.

The government has also undergone major changes in terms of fiscal responsibility. In 1978, the congress approved the Fiscal Coordination Law, which led to the creation of the National System for Fiscal Coordination. The system had the dual goal of increasing tax collection

and empowering the states to distribute a larger share of the resulting revenue. Even more relevant for higher education financing was the 1997 amendment to the Fiscal Coordination Law, which introduced the concept of 'support funds' for strategic areas, including technology education and teacher training. The new budget framework also specified federal and state responsibilities and oversight for spending programmes; federal agencies are accountable for calculating the total budget to be transferred to each state, and the state then records the funds received in their own accounting systems (Rodríguez 2007).

To reduce the risk of state or municipal entities using the funds for other purposes, the law introduced a system for earmarking funds and other control mechanisms. The government also implemented more flexible systems and joint funding for specific projects, such as the creation of new university campuses at the state level. The changes have had major implications for the federal funding of higher education, as we will discuss later on in this chapter.

A third landmark in the federalization process was the decentralization of Mexico's basic education system starting in the 1980s. The process accelerated in 1992, when the federal government and the National Union of Education Workers (SNTE) signed the National Accord for the Modernization of Basic and Teachers' Education (ANMEB). The agreement had three main objectives—to shift administrative control of the education system to the states (in part in a bid to reduce the negotiating power of the teacher's union, which is the largest in Latin America); to reform the curriculum; and to implement a new incentive system for teachers to improve their on-the-job qualifications. In practice, however, the federal Public Education Secretariat (SEP) retained control over school curricula and salary negotiations with the union, while it only devolved administrative control to the states (Arellano 2012). As a result, 'negotiations on wages take place at the federal level, but the additional fiscal burden is borne by the states' (World Bank 2012, 9). Some observers have suggested that the decentralization of the education system, like that of the health care system in the 1980s, had more to do with image than substance; the PRI needed to boost its democratic credentials following mounting allegations of electoral fraud and corruption (Martínez 2001).

If the strategy paid off, however, the dividends were short-lived. Opposition parties won their first governorship in 1989. Then, in 1997, for the first time since the Mexican Revolution, no party held a majority in the lower chamber of Congress and an opposition candidate was elected the Mayor of Mexico City.<sup>3</sup> The victories paved the way for the election of President Fox in 2000 and subsequent opposition gains at the state and municipal levels. The resulting political competition has led to greater activism at subnational level, including the now common practice by which state legislators and university officials lobby Congress for more funding for existing or new institutions. In the following section, we provide a brief overview of the structure of the country's fiscal system, with details on the funding system for basic and higher education.

## THE MEXICAN FISCAL SYSTEM

Mexico's fiscal system is extremely centralized (Díaz-Cayeros 2006). In general terms, the federal government is responsible for collecting taxes on all movable sources of income, including income, sales and capital gains tax, which together account for roughly 90 per cent of all tax revenue. Local governments, meanwhile, collect from immovable sources, such as land and real estate, and locally registered vehicles. In comparison, local tax revenue accounts for 17 per cent of total public revenues in Argentina and 30 per cent in Colombia (World Bank 2012).

Under the Mexican system, the local governments cede tax collection powers to the federal government, which then channels 60 per cent of the resulting revenue back to the local entities. Of that share, 80 per cent goes to the states and 20 per cent to the municipalities (Reyes 2014). In theory, the mechanism enables the federal government to combat inequalities at the state levels by diverting a proportionally larger share of tax revenue to poorer states. However,

<sup>3</sup> As part of the federalization process, a January 2016 amendment to the Constitution transformed the Federal District (Distrito Federal) into the equivalent of Mexico's 32nd state. The capital is now known simply as Mexico City (Ciudad de México).

that is not always the case, as roughly 10 per cent of total funding is disbursed through agreements (known as *convenios*) negotiated on a case-by-case basis between the states and the federal government (CEEY 2013; World Bank 2012). The heavy dependence of local governments on federal funding in Mexico also serves as a disincentive for states to increase local tax collection, while making local officials less accountable to their constituents (World Bank 2012).

As a part of the decentralization process, total federal funding for local governments nearly doubled between 2000 and 2012, from 776 billion pesos to 1.3 trillion pesos (Auditoría Superior de la Federación 2013), increasing the overall spending capacity of the subnational governments. In addition, in recent years, the government has created special funds to strengthen development projects and administrative management capacity at the regional, state and municipal levels. However, the increase in federal funding comes with strings attached. Under the new system of categorical or 'extraordinary' funding in place since the late 1990s, the federal government disburses nearly half of its funding for the states in the form of conditioned funds known as *aportaciones*. The federal government transfers the rest in the form of *participaciones*, which is to be used at the states' discretion and which derive from federal tax collection at the state and municipal levels. The *aportaciones* go towards specific areas, such as education, health, road-building or environmental conservation, an arrangement that limits the degree of autonomy of local governments. In fact, the share of conditioned federal funding to state governments in Mexico is among the highest in the world—about 48 per cent compared with 25 per cent in the United States and 2.5 per cent in Russia (CEEY 2013; World Bank 2012).

## Education Funding

The Mexican government spent approximately 5.5 per cent of GDP on education in 2014 (Peña Nieto 2015), slightly above the average of fellow members of the Organization for Economic Co-operation and Development (OECD 2015). As is the case with other sectors, the federal government accounts for most education spending—79.2

per cent, compared to 20.7 per cent by the states and 0.01 per cent by the municipalities in 2014 (Peña Nieto 2015). These percentages have varied little since 2000, when the breakdown was 80.8 per cent federal, 19.0 per cent state, and 0.2 per cent municipal. The bulk of the federal share is assigned through branches 11, 25 and 33 of the federal budget, the first of which is administered directly by the federal SEP and the rest by the states. However, in the case of basic education, about 80 per cent of funding is tied up in teachers' salaries, and another 17 per cent in other fixed spending areas, leaving states with little margin for determining spending priorities (México Evalúa 2011).

Compared with public primary and secondary schools, HEIs have greater discretion over how they spend their budget, which has grown significantly in recent years. Total public higher education spending nearly doubled between 2006 and 2015, from 73 billion pesos to 126 billion in the 2016 budget. State expenditure has also grown significantly, from 24 billion pesos in 2006 to 38 billion in 2015. As a result, the share of state funding compared with federal funding has remained relatively constant over the same period, ranging from 29.9 per cent to 34.8 per cent (Table 8.1). However, as we show later in this chapter, HEIs, including those with autonomous status, have become increasingly dependent on discretionary, competitive funds, whose share of institutional budgets has averaged about 20 per cent in recent years (Mendoza 2015a). In addition, in the context of political pluralism and decentralization, institutions must negotiate for funding with an increasingly broad array of actors; these include the local legislatures, governors, the federal congress, the executive branch, the National Council for Science and Technology (CONACYT), among others.

The changes mentioned in Table 8.1 have also impacted the private sector. Under the pro-business administrations of the PAN (2000–2012), the federal government increased funding to private institutions to support technology and business incubators. In addition, in 2008, the Fox Government agreed to cover 30 per cent of salary bonuses for academics at private institutions that are members of the National Researchers System (SNI). Then in 2014, CONACYT announced that it would cover the full cost of the stipends in the private sector in a bid to expand the country's research capacity (CONACYT 2014).

**Table 8.1** Higher Education Spending (in Million Pesos), 2016

Year	Federal Higher Education Spending <sup>a</sup> (\$)	State-level Higher Education Spending <sup>b</sup> (\$)	States/Federal (%)
2006	73,958.70	24,663.10	33.3
2007	82,437.23	26,985.19	32.7
2008	91,744.71	28,861.10	31.5
2009	100,724.07	30,261.01	30.0
2010	104,144.74	33,835.12	32.5
2011	106,917.74	31,917.80	29.9
2012	109,287.25	33,226.40	30.4
2013	114,881.49	34,746.60	30.2
2014	124,100.38	43,134.53	34.8
2015	125,719.86	38,360.00	30.5
2016	125,875.34	n.a.	—

Source: Dirección General de Planeación y Programación de la SEP.

Note: The figure for 2015 corresponds to the authorized federal budget, and for all other years, to the actual spending.

<sup>a</sup>Federal Budget approved for higher education.

<sup>b</sup>Figure reported by the Questionnaire on State Education Financing (Cuestionario sobre Financiamiento Educativo Estatal).

## MEXICAN HIGHER EDUCATION FROM 1950 TO THE PRESENT

### Growth

Mexico is home to one of the first HEIs in the Americas. In 1551, the Spanish crown established the Royal and Pontifical University of Mexico. After Mexican Independence, liberals who opposed the university's ties to the Catholic Church closed it down in 1867, and it was not until 1910 that the institution was reborn as the National University of Mexico (Ordorika 2006). During the first half of the nineteenth century, higher education remained the province of the

privileged elite. In 1950, Mexico had just 23 HEIs. These included two federal institutions—the National Autonomous University of Mexico (UNAM), the modern successor of the Royal and Pontifical University of Mexico, and the National Polytechnic Institute (IPN). In addition, there were 12 public, state-run universities, 3 regional technological institutes and 6 private universities. Total enrolment at the time was approximately 50,000 students.

Starting in the 1950s, the government embarked on the first major expansion of higher education in Mexico with the creation of 10 new public state universities throughout the decade and seven more in the 1960s, all of them located in the state capitals. To decentralize the system, the government expanded the number of regional technological institutes, many of which opened in cities and municipalities with growing demand for industrial and agricultural production. Thanks to a major investment by the federal government, the HE system underwent a period of extraordinary expansion in the 1970s. By the end of the decade, total enrolment had reached 800,000 students—16 times the number of students in 1950—and net enrolment (as a proportion of students between the ages of 19 and 23) had reached 10 per cent. For the first time in Mexican history, HEIs outside the capital enrolled a majority of students (Rodríguez 2009).

Most of the initial growth in the system was in the public sector. Private higher education accounted for a limited share of enrolment for much of the last century. This was largely due to the onerous and highly centralized government licensing process for private HEIs. Although the first private institutions began in the 1910s, they did not gain government recognition for another two decades (Rodríguez and Ordorika 2012). Similarly, the country's leading private institutions, including the Monterrey Institute for Technology and Higher Studies (Tec de Monterrey 1952), the Autonomous Technological Institute of Mexico (1963), the Ibero-American University (1981) and the Autonomous University of Guadalajara (1982), received authorization by presidential decree (Rodríguez and Ordorika 2012). However, during the debt crisis of the 1980s, the government relaxed controls on the private sector in a bid to increase higher education places to compensate for major budget cuts for public higher education.

The decentralization of the education system starting in 1991 further fuelled the expansion of the private sector by increasing the number of licensing entities. In addition to public universities, state governments were now empowered to issue licenses for academic programmes (known as RVOEs) to private universities. In the later part of the decade, the government of Ernesto Zedillo (1994–2000) negotiated a new legal framework for the RVOE system with the Federation of Mexican Private Higher Education Institutions (FIMPES), which simplified the licensing process even further. The result was a surge in the number of new private institutions, many of questionable quality.

That trend changed somewhat under Zedillo's successor, Vicente Fox, who sought to stem the proliferation of low-quality institutions. His government pushed for new common academic criteria among the federal government and the states in issuing RVOEs, and, by 2004, all 32 states had an agreement of this kind in place. The government also encouraged public universities to stiffen their standards for issuing RVOEs. As a result, some 201 programmes lost their licenses during the Fox period (Rodríguez and Ordorika 2012). Nonetheless, the government crackdown on 'junk universities' may have facilitated the growth of the largest private institutions as part of a broader diversification of the country's higher education system.

The following factors were decisive in fuelling the expansion and de-concentration of higher education in the country:

1. *Private investment.* Bolstered by unmet demand in the public sector as well as government support (through weak regulation and favourable fiscal policies), private enrolment expanded heavily in the 1980s and 1990s. By the end of the 1990s, 30 per cent of total enrolment was private. It then flattened out at the current 33 per cent of undergraduate and 40 per cent of graduate enrolments (Rodríguez 2009). However, some of the biggest and most established providers have expanded nationwide. The largest private institution, the Tec de Monterrey, has established branches in virtually every state in Mexico, while several of the leading Catholic institutions have opened universities in the major provincial cities. By far, the largest

expansion has come from proprietary (for-profit) institutions,<sup>4</sup> which now comprise an increasing share of the private market and of total tertiary enrolment. For example, Laureate International Universities, the US based for-profit education giant, operates three universities in Mexico, including the second-largest private institution in the country, the University of the Valley of Mexico, with 70,000 students (ExECUM 2016).

2. *The growth of publically funded technological institutions.* In 1991, the federal government established the first technological universities, which offered superior technical degrees (i.e., Técnico Superior Universitario or TSU) after 2–3 years of coursework. These universities are similar to community colleges in the United States, in that they cater to working students from less affluent families and, theoretically, serve as stepping-stones to higher-level degrees. Starting in 1994, the government reinforced the system of technological institutes (which offer undergraduate engineering degrees of 4–5 years), through the creation of a subsystem of decentralized technological institutes to complement the existing federal technological institutes. In addition, starting in 2001, a new subsystem of institutions, the polytechnic universities, began opening across Mexico (De la Garza 2003). The new model offers a variety of engineering degrees and seeks to strengthen ties with industry by requiring students to undergo intensive internships and linking study plans to local technological needs. Finally, in 2014, the government created the National Technological Institute of Mexico to strengthen (and recentralize) coordination of the rapidly expanding system of technological institutes.
3. *The creation of new public HEIs in the states.* Since 2001, the federal government, in conjunction with the state governments,

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<sup>4</sup>Traditionally, most private universities have operated as non-profit institutions, a status which requires them to reinvest all profits in the institution in exchange for tax breaks. However, in recent years, there has been a boom in for-profit education providers, which are often subsidiaries of large corporations and many of which are listed on the stock market. The for-profit sector has come under fire in recent years in the United States and Chile, among other countries, for adopting dishonest business practices in a bid to lure students and skirt government restrictions (Ordorika and Lloyd 2015).

has established 23 new institutions under the name of 'public universities with solidarity support' (UPEAS) and 12 'intercultural universities' (UIs). In both cases, the universities typically receive half of their funding from the federal government and the other half from the states, in contrast to the funding systems for the traditional state universities, in which the federal-state ratio varies considerably (Mendoza 2015a).

4. *The decentralization of public state universities.* To expand higher education coverage in smaller cities and municipalities, the state universities created new campuses and centres in the interior of the respective state. While examples vary significantly, the new facilities opened outside the state capitals and in areas with large demand for tertiary studies in most cases. That trend has accelerated in recent years, with state universities opening 45 new campuses or extension centres between 2007 and 2012 (Mendoza 2012).
5. *The incorporation of public teachers' colleges into the higher education system.* In the 1980s, the government determined that institutions dedicated to training primary and middle school teachers, known as *normales* in Mexico, could award degrees at the tertiary level. However, it was not until 2005, following the restructuring of the SEP, that the teachers' colleges were officially incorporated into the higher education system (Rodríguez 2009).
6. *Distance education.* In 2002, the private Monterrey Technological Institute of Superior Studies (ITESM) became the first institution in Mexico to offer distance education at the tertiary level, through its TECMilenio subsidiary. A year later, the UNAM added the term 'distance education' to its open university, and, in 2005, it began offering the first six undergraduate degrees to 300 students (Andrade 2011). Other universities quickly followed the suit, and, in 2012, after several years of piloted programmes, the government created the Open and Distance University of Mexico. Today, there are more than 460,000 students enrolled in distance higher education programmes, accounting for 11 per cent of tertiary enrolments (SEP 2014).
7. *New funding models for institutions.* In 1991, the federal government introduced a system of conditioned funding to state universities, as a supplement to regular funds for operating costs. The new

'extraordinary' funds cover infrastructure expansion (including the construction of new campuses) as well as costs incurred by increasing student enrolment, scientific programmes and other areas deemed strategic by the federal government. Universities must demonstrate that they used the funds for the stipulated purpose, in order to be eligible for future funding.

Fuelled by these changes, tertiary enrolment in Mexico nearly tripled between 1990 and 2015, from 1.3 to 3.5 million students, re-accelerating the trend of enrolment growth that slowed in the 1980s (from 0.9 million in 1980 to 1.3 million students in 1990). Net enrolment increased from 15 per cent in 1990 to about 29 per cent today. The percentage of students undergoing degree programmes is as follows: TSU, 4.3 per cent, *normales*, 3.9 per cent, undergraduate programmes (called *licenciatura* in Mexico), 85.1 per cent, and graduate programmes, 6.7 per cent (SEP 2014).

Growth has been largest in the state-controlled institutions (decentralized technological institutes, technological universities, polytechnic universities, UPEAS and UIs), whose combined enrolment grew six-fold between 2000–2001 and 2014–2015 (see Table 8.2), while their share of the total tertiary enrolment more than tripled, from 5.8 per cent to 18.6 per cent (SEP 2016), largely due to increased lobbying on the part of local officials.

There are also large variations among states, both in the size of enrolment and in the concentration of students among different institutional control types and sectors. For example, in Chiapas, Mexico's poorest state, a third of tertiary enrolment was in the private sector in 2015, while in Baja California, a relatively wealthy state, the private share was just one-fifth.

### The Higher Education System Today

In 2014, there were 2,790 HEIs in Mexico, of which 868 were public and 1,930 were private (Table 8.3). In terms of enrolment, the ratio reverses with approximately 66 per cent of students enrolled in public institutions and 33 per cent in private (ExECUM 2016).

**Table 8.2** Undergraduate Enrolment Growth by State and Administrative Control Type

State	2000–2001					2014–2015				
	Total	Federal	State	Autonomous	Private	Total	Federal	State	Autonomous	Private
Aguascalientes	16,992	2,890	1,468	9,318	3,316	40,821	6,740	8,996	14,910	10,175
Baja California	39,570	7,947	700	23,023	7,900	94,115	11,754	6,159	57,619	18,583
Baja California Sur	6,633	2,089	434	2,132	1,978	18,219	3,025	4,814	5,362	5,018
Campeche	11,237	2,726	1,195	6,729	587	24,524	2,914	7,228	11,514	2,868
Coahuila	52,688	9,448	4,899	23,188	15,153	84,442	13,662	20,083	26,786	23,911
Colima	12,934	1,741	0	10,571	622	19,462	3,151	1,598	12,264	2,449
Chiapas	37,111	3,933	1,939	14,275	16,964	71,029	8,182	17,909	20,760	24,178
Chihuahua	52,887	15,670	1,806	25,174	10,237	110,932	19,541	23,054	51,519	16,818
Ciudad de M	336,695	86,360	0	129,765	120,570	481,142	139,702	0	164,775	176,665
Durango	20,021	5,737	1,785	8,503	3,996	38,821	7,058	11,611	13,407	6,745
Guanajuato	49,037	7,642	4,543	7,743	29,109	103,185	13,355	29,759	19,598	40,473
Guerrero	38,779	8,003	1,561	26,017	3,198	57,054	12,210	11,486	27,503	5,855
Hidalgo	24,656	3,773	4,215	9,970	6,698	79,873	5,708	30,645	25,845	17,675
Jalisco	111,903	5,456	1,670	55,182	49,595	209,785	8,740	20,442	102,429	78,174
México	153,923	11,057	14,241	71,209	57,416	370,364	12,728	91,887	119,897	145,852
Michoacán	49,219	8,709	5,351	28,014	7,145	90,339	13,111	23,867	39,467	13,894

Morelos	22,309	4,479	144	9,337	8,349	44,107	6,419	6,597	18,028	13,063
Nayarit	12,564	2,880	0	8,617	1,067	30,792	5,377	7,344	15,430	2,641
Nuevo León	98,445	2,847	910	53,020	41,668	158,883	4,319	7,284	91,815	55,465
Oaxaca	41,827	12,908	1,398	22,541	4,980	58,486	18,169	11,326	15,904	13,087
Puebla	87,895	7,806	9,888	28,703	41,498	181,474	10,277	42,055	56,425	72,717
Querétaro	24,397	5,345	3,145	7,741	8,166	55,885	7,674	13,159	18,032	17,020
Quintana Roo	8,194	3,965	2,744	0	1,485	31,802	6,384	16,555	0	8,863
San Luis Potosí	30,562	6,116	1,784	17,506	5,156	62,044	7,509	13,157	25,629	15,749
Sinaloa	68,215	8,474	9,324	43,670	6,747	104,151	13,223	18,084	59,434	13,410
Sonora	54,335	7,736	7,904	33,571	5,124	95,641	11,699	23,041	45,364	15,537
Tabasco	41,230	4,922	6,059	26,262	3,987	67,490	6,563	23,121	28,681	9,125
Tamaulipas	64,878	16,183	217	28,419	20,059	99,859	21,837	13,447	34,531	30,044
Tlaxcala	15,936	3,627	1,219	9,165	1,925	27,640	4,086	7,021	13,435	3,098
Veracruz	88,801	17,418	5,469	38,378	27,536	168,178	20,519	57,950	54,113	35,596
Yucatán	26,933	6,188	1,532	7,526	11,687	61,186	8,142	11,566	14,612	26,866
Zacatecas	17,211	2,680	2,742	10,649	1,140	39,782	3,310	10,640	22,153	3,679
National Total	1,718,017	296,755	100,286	795,918	525,058	3,181,507	437,088	591,885	1,227,241	925,293

Source: Secretaría de Educación Pública [Public Education Secretariat] (SEP) (2016). Sistema Nacional de Información Estadística Educativa [National System of Education Statistics]. Database.

**Table 8.3** Mexican HEIs by Type and Control Regime, 2014

<b>Federal HEIs</b>	<b>147</b>
Federal Universities	9
Federal Technological Institutes	132
Federal Teachers' Colleges (Normales)	6
<b>State HEIs</b>	<b>634</b>
State Universities	34
State Universities with Solidarity Support (UPEAS)	23
Decentralized Technological Institutes	134
Technological Universities	109
Polytechnic Universities	58
UIs	12
Federal Teachers' Colleges (Transferred to State Control)	121
State Teachers' Colleges	143
<b>Other Public HEIs (Federal or State)</b>	<b>88</b>
<b>Private HEIs</b>	<b>1,929</b>
Universities, Schools and Centres	1,755
Teachers' Colleges	174
<b>Total Higher Education System (Federal, State and Private)</b>	<b>2,798</b>

Sources: Secretaría de Educación Pública (SEP), Sistema Nacional de Información Estadística Educativa. Database. Asociación de Universidades e Instituciones de Educación Superior (ANUIES). 2014. Anuario Estadístico 2013–2014. Database.

Note: Does not include institutions that offer solely graduate studies.

The Mexican higher education system is comprised of various subsystems—universities (both public and private), technological institutes, teachers' colleges (*normales*) and public institutions tied to specific government entities. The private system includes a handful of high quality and high tuition institutions, including the Tec de Monterrey, the Ibero-American University, and the Mexican Autonomous Technological Institute (ITAM). There are also a number of second-tier institutions, both Catholic and for-profits, while the

rest tend to be of mediocre or low quality and conduct virtually no research. The public universities, in turn, are divided into five broad groups—federal universities, state universities, UPEAS, UIs (which are often grouped together with the UPEAS for administrative reasons) and technological and polytechnic universities. Both admissions standards and the profile of students vary significantly among the institutions, with the federal universities and a handful of state universities among the most competitive.

There are nine federal institutions of higher education, of which four, all located in Mexico City, account for 12 per cent of total tertiary enrolment and employ 13 per cent of university professors. They are the UNAM, the Autonomous Metropolitan University (UAM), IPN and the National Pedagogical University (UPN). The first three are the most competitive HEIs in Mexico. The UNAM, for instance, accepts roughly 9 per cent of regular applicants (Olivares 2015), although students that attend its high school system are guaranteed admission with a minimum grade point average. The exact cut-off varies, depending on demand for the programme of study. Medicine, engineering and architecture are the most competitive. The other five federal institutions cater to specific sectors—two agricultural universities, two small research universities and the military university. Together, the federal universities accounted for 27 per cent of total tertiary enrolment.

There are also 34 state universities. Most are autonomous and receive a significant share of their budget from the federal government. As with the federal universities, the state universities apply a standardized entrance exam, and the degree of competitiveness varies greatly depending on the institution. These accounts for 22 per cent of tertiary enrolment. There are another 23 UPEAS, which were created over the past 15 years to satisfy unmet demand at the traditional state universities. Admissions requirements tend to be relatively lax. Together, these institutions accounted for 3 per cent of total tertiary enrolment (ExECUM 2016).

In addition, there are 12 UIs, which cater to the country's minority indigenous population. They represent roughly 10 per cent of the country's 122 million people, but, because this group has traditionally been excluded from higher education, they account for an estimated

0.7 per cent of enrolment in 1990 (Carnoy et al. 2002) and 1.5 per cent of all tertiary-level students in 2014 (Universia 2014). The first UI opened in 2002 in northern Sinaloa state, and since then, another 11 institutions have opened in different states. Their curriculum targets local development needs and the preservation of indigenous languages. Together, these institutions accounted for just 0.3 per cent of enrolment in 2014 (ExECUM 2016).

The technical universities, which are divided into technological universities and polytechnic universities, enrolled 4.5 per cent and 1.4 per cent of students, respectively, in 2014 (ExECUM 2016). According to the web site of the Undersecretariat for Higher Education (SES) of the SEP, there are currently 61 technological universities and 48 polytechnic universities in 2015 (SEP), although only 30 reported enrolment statistics to the SEP in 2013 (ExECUM 2016). In addition, there are 249 technological institutes, accounting for 12.5 per cent of enrolments. Former President Lázaro Cárdenas (1936–1942) created the first technological institutes as part of an industrialization strategy in the early 1940s, and the sector has undergone a major resurgence in the past two decades. Together, the three types of technical institutions, which tend to cater to less affluent students in search of job security, accounted for a combined 17.5 per cent of enrolments (ExECUM 2016).

Finally, there were 127,000 students enrolled in more than 450 teachers' colleges in 2013, accounting for 3.7 per cent of tertiary enrolment in that year (SIBEN/SEP 2015). This sector, which has a long history of political activism, is comprised of both public and private institutions. As is the case with the UIs, students attending the teachers' colleges tend to be among the poorest of the university-going population.

### Expansion of the System

The significant expansion of the Mexican higher education system in recent decades has not occurred equally across sectors. Of all the sub-systems, the technological sector has experienced the greatest growth. During the administration of Vicente Fox (2000–2006), the government created 95 new HEIs, 73 of which offer primarily engineering

and other technical degrees. The breakdown was as follows: 24 technological universities, 21 polytechnic universities, 28 technological institutes, 14 UPEAS and 7 UIs (Mendoza 2015b). This period was particularly noteworthy for the creation of two new subsystems, the polytechnic universities and the UIs, which formed part of a government strategy to democratize and decentralize the system as well as to expand ties between HEIs and local industries. In addition, the state universities, aided by federal support, created 13 new campuses outside the state capitals.

Under Fox's successor, Felipe Calderón (2006–2012), the government continued the expansion of the public higher education system, with an even greater emphasis on technological degrees. The SEP reported the creation of 140 new institutions—43 technological universities, 34 polytechnic universities, 23 state technological institutes, 22 federal technological institutes, 13 public state universities (state, federal and intercultural) and 5 regional centres for teacher training (Mendoza 2015b). Of the total, 100 were technological institutions, a focus whose implications we will discuss later on in this chapter.

The current administration of Enrique Peña Nieto (2012–) has set even more ambitious goals for higher education expansion than its predecessors. His Sectoral Program for Education (2013–2018) calls for gross tertiary enrolment to reach 40 per cent, up from the current 31.4 per cent (SEP 2014). Unlike net enrolment, gross enrolment, which is computed by dividing the total number of students of any age by the share of the population aged 19–23, incorporates overage students—a sizable portion of the tertiary population in Mexico and in other developing countries. So far, the government has met its annual goals. However, major federal budget cutbacks for 2016, due to plummeting world oil prices, may well have limited the government's ability to continue to invest in the sector for the short term.

Despite recent gains in coverage, Mexico remains far behind many Latin American countries in higher education enrolment. Argentina, the regional leader, reports gross enrolment of 80 per cent (2012 figures), Chile, 79 per cent; Uruguay, 63 per cent; and Colombia and Costa Rica, 48 per cent (World Bank 2015). Of equal importance, the

Mexican higher education system is highly inequitable and stratified along class and regional lines.

## THE LIMITS TO FEDERALISM IN HIGHER EDUCATION

In broad terms, the federalization of higher education occurs across two dimensions—the devolution of academic, financial and administrative control and geographic decentralization, which refers to the distribution of educational opportunities throughout the country. In both those dimensions in Mexico, significant tensions and contradictions remain. The Mexican higher education system has expanded and diversified over the past two decades, both in terms of institutional type and geographic location. However, there has been a simultaneous loss of institutional autonomy, due to the introduction of higher education policies dictated at the supranational level and an increase in federal control over budgeting, in the case of all institutions, and curriculum, in the case of the technological and teacher-training sectors. Perhaps of most concern, the federalization process has done little to reduce inequalities among states and institutions in terms of resources and knowledge-production capacities, neither has it significantly improved access to high-quality education for low-income and indigenous students.

### Institutional Autonomy and Federalism in Higher Education

The federalization of higher education in Mexico has affected some subsystems more than others, and in different ways. There is almost no federal or state intervention in student admissions and faculty hiring across institutional types or state or federal regimes. Notwithstanding, some institutions have gained increasing control over their administration and curricula, most have become more dependent on state and federal authorities in determining budgetary priorities, despite receiving a larger amount of overall funding. The process has also resulted in the increasing bureaucratization of the financing process, as institutions seek to respond to state or federal demands for accountability and transparency.

In the case of the public teachers' colleges and the technological sector, federalization has primarily translated into administrative decentralization, with the SEP still dictating much of the curricula and financial policies from the capital. However, there are exceptions. The recent expansion of the technological institutions at the state level as well as the diversification of the sector with the creation of the polytechnic universities has resulted in greater freedom for institutions to design their own curricula. Furthermore, in 2011, the SEP authorized the technological universities to offer 4-year engineering degrees, in addition to 2-year technical degrees—a long-time demand of students at those institutions.

Another example in which federalization has had mixed results is that of the UIs. Overall, these institutions receive by far the largest per-student share of funding of any public universities in Mexico. The most well-funded of these, the Intercultural University of Puebla State, received 50 million pesos in government funding in 2013 and enrolled just 214 students—the equivalent of \$234,000 pesos per student (US\$12,700 at 2016 exchange rates). In practice, however, these universities enjoy very little institutional autonomy from either level of government. The SEP is responsible for approving their study plans, and extraordinary funds (both federal and state) represent 50 per cent of their budgets—the largest share of any type of institution—meaning that many administrative and academic decisions are made outside university walls. Similarly, while in theory the institutions are responsible for choosing their own rectors and top officials, in practice the state governments often intervene directly or indirectly in the succession process.<sup>5</sup>

Especially relevant are the effects of federalization on the traditional public university sector, which includes both federal and state universities and accounts for 39 per cent of tertiary enrolment and 80 per cent of scientific production, as measured by the number of indexed articles in the Thomson Reuters Web of Knowledge (EXECUM 2016). In theory, these institutions—most of which have official autonomous

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<sup>5</sup> Interview with a former professor from the Intercultural University of Chiapas and a former member of the federal General Coordinating Office for Bilingual and Intercultural Education, who spoke on the condition of anonymity on 25 September 2015.

status and bear the word ‘autonomous’ in their names—have virtually total control over the design of their academic programmes and in the use of their budgets. Similarly, by law, professors and researchers employed in those institutions enjoy significant academic freedom in terms of the content of their teaching and research. A 1980 amendment to the Constitution outlines those rights:

Universities and other higher education institutions that are legally granted autonomy will have the power and responsibility to govern themselves; to fulfill their educational goals, to research and disseminate culture under the principle of academic freedom, with the free and open debate of ideas; to determine their plans and programs; to determine their own policies governing faculty hiring and retention; and to administer their own patrimony. (Mexican Constitution Article 3, Fraction 7)

Yet, the degree of autonomy exercised by the public universities varies significantly among institutions and, over time, in part because the government has yet to issue the regulations to accompany the constitutional amendment. This leaves its application to the discretion of political and higher education actors (Villa 2013). More importantly, changes in the federal budgetary process have made institutions and academics more dependent on conditioned sources of funding. Such contradictions are typical of Mexico’s federalist pact, in which historic notions of university autonomy<sup>6</sup> clash with more recent policies favouring greater government oversight of public institutions.

Thus, the public universities—and the state universities in particular—have had to adjust to competing for a sizable share of budgets, and many institutions have reacted by dramatically increasing the number of administrators whose main job entails soliciting and justifying federal and state funding. This new class of administrators play an increasing role in determining institutional policy (Acosta 2009). In

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<sup>6</sup> The 1918 reform movement at the University of Córdoba, Argentina, gave root to a tradition of university autonomy in Latin America, which has remained the dominant model until recently. The movement also promoted the role of public universities as agents of social change, a goal that was incorporated into the missions of the UNAM and the public universities that followed in Mexico.

addition, significant fluctuations in the amount of federal- and state-extraordinary funds have an impact on universities' planning capacity.

The new policies form part of the raft of changes in higher education policies implemented on a global scale starting in the 1980s. The structural adjustment measures, and the so-called neoliberal<sup>7</sup> policies that accompanied the globalization trends towards the end of the century, had a major influence on public universities in Latin America. Higher education policies adopted during the period included the massive reduction of public financing and the establishment of accountability measures; institutional diversification and decentralization; a new emphasis on 'excellence'; the evaluation and adoption of new market-based competitive models as well as the privatization and commercialization of the educational providers; and a new emphasis on 'university production' (Mendoza 2002). Together, these policies opened a new era in the relationship between the universities and the state (Rodríguez 2002), characterized by an intense and growing competition for individual and institutional resources (Marginson 1997; Marginson and Considine 2000). Such changes dramatically reduced the traditional autonomy of academic institutions (universities and other postsecondary institutions) and their professionals vis-à-vis the state and the market (Ordorika 2004; Rhoades 1998; Slaughter and Leslie 1997).

Mexico first adopted neoliberal policies following the debt crisis in the early 1980s, which triggered a period of fiscal austerity and negative growth known as the 'lost decade'. As part of the fiscal austerity measures dictated by the International Monetary Fund and the World Bank, the government slashed spending on education and health care, among other social services. It also introduced new measures designed to increase accountability, efficiency and competitiveness, as part of the neoliberal logic promoted by the international agencies.

An example of such policies at the individual level is the SNI, which was created in 1984 to staunch the faculty income loss due to the

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<sup>7</sup> We ascribe to Harvey's (2005, 3) definition of neoliberalism, as a philosophy that 'holds that the social good will be maximized by maximizing the reach and frequency of market transactions, and it seeks to bring all human action into the domain of the market'.

financial crisis and to promote competition among top scholars. The system provides financial incentives for academics with a demonstrated capacity for scientific research, measured in terms of the number of articles published in international peer-reviewed journals, patents produced, doctoral theses directed, etc. (Ordorika 2004). Currently, there are more than 22,000 members of the SNI, whose salaries are largely conditioned by their adherence to research quotas—either publish or perish dynamics, which has implications for academic autonomy.

At the institutional level, the government of Carlos Salinas de Gortari (1990–1994) approved the first extraordinary fund in 1991, the Fund for the Modernization of Higher Education (FOMES), followed five years later by the Program for the Improvement of the Professorship (PROMEP), which supports postgraduate programmes for academics who lack master's or doctoral degrees. The number of such funds increased significantly in the first decade of the twenty-first century. By 2010, there 10 extraordinary funds directed at the state universities, with the highest level of funding disbursed in 2007 and 2008, when such funds represented 34 per cent of state university budgets (Mendoza 2015a).

The federal government also exerts control over institutions through the certification process. The SEP is responsible for licensing the majority of HEIs both in the capital and at the state level, through the issuing of certificates known as Official Recognition of Educational Validity (RVOE in Spanish), which in turn empower institutions to award degrees. However, public universities of recognized quality and the state educational secretariats are also empowered to award degrees.

In sum, the neoliberal policies implemented over the past few decades have run counter to the decentralization process by introducing new administrative and fiscal controls at the federal level. The state universities have been the most affected, as the new policies run counter to the century-old tradition of university autonomy in Mexico.

### **Equity in Mexican Higher Education**

The federalization of higher education in Mexico has not been a linear process, nor has it affected all regions and institutions equally. Both

in terms of funding and coverage, huge disparities remain, particularly between the richer and poorer states and between urban and rural areas. Variations in higher education enrolment tend to mirror income disparities among states. For example, Chiapas ranks at the bottom of Mexico's 33 states, both in terms of the share of the population living in poverty (76%) and its ranking on the country's human development index—at 0.667, it is at par with the African nation of Gabon (CESOP 2013; PNUD 2015). It also has the lowest tertiary enrolment rate, 14.8 per cent (CONAPO/SEP 2016). In contrast, the Federal District has a poverty rate of 28.5 per cent and a human development index of 0.83, on par with Andorra (CESOP 2013; PNUD 2015). Gross tertiary enrolment in the capital is 60 per cent, higher than most European nations (Table 8.4). The closest rivals to the capital are the relatively prosperous northern states of Sinaloa, Sonora and Nuevo Leon, which have gross enrolment rates of 43 per cent, 41.9 per cent and 41.6 per cent, respectively (Mendoza 2012).

A similar gap exists between urban and rural areas. Two factors explain the disparity—the lack of institutions and the smaller share of students graduating from high school in the poorer regions. In 2012, just 23 per cent of all municipalities offered some form of tertiary education. In Oaxaca state, which concentrates the country's largest indigenous population and is among the poorest entities, HEIs were concentrated in just 5 per cent of municipalities; while in Baja California, along the border with the United States, every municipality had at least one HEI institution. The type of institutions also varied greatly depending on the type of locality. Despite the decades-long process of decentralization, a majority of the public universities are still located in the state capitals. Meanwhile, in many small cities, the only options available to students are technological institutions, teachers' colleges, private institutions of often questionable quality and, increasingly, distance education programmes (Ordorika and Rodríguez 2012).

The share of students eligible to attend college also varies by region and socioeconomic condition. A year after a constitutional amendment made secondary education mandatory in 2011, gross enrolment at the level was just 71 per cent and net enrolment around 50 per cent in the 2012–2013 school year. That proportion is not expected to increase

**Table 8.4** Gross Enrolment in Higher Education by State

	2000– 2001	2005– 2006	2010– 2011	2011– 2012	2012– 2013
Aguascalientes	20.2	26.7	32.1	33.1	34.7
Baja California	17.4	21.8	27.1	29.1	30.7
Baja California Sur	15.5	26.2	27.3	29.4	29.4
Campeche	22.0	26.2	29.9	30.0	29.9
Coahuila	24.4	27.5	32.1	32.5	32.4
Colima	24.6	26.5	30.0	30.8	32.6
Chiapas	10.6	12.9	14.2	14.7	14.8
Chihuahua	19.4	25.1	30.6	32.0	34.0
Ciudad de México	39.5	43.8	53.3	56.6	60.1
Durango	17.2	20.6	24.1	24.5	26.0
Guanajuato	11.2	14.7	17.5	18.2	19.0
Guerrero	17.2	17.0	17.0	17.3	17.4
Hidalgo	14.1	21.8	26.5	27.6	29.5
Jalisco	19.4	22.2	26.1	27.5	28.1
México	12.9	17.8	21.2	22.5	23.7
Michoacán	13.3	18.3	20.3	21.0	22.1
Morelos	18.6	23.7	24.7	26.2	27.9
Nayarit	27.1	23.9	29.8	27.7	29.2
Nuevo León	27.0	31.5	35.7	38.3	38.8
Oaxaca	14.0	16.4	16.9	16.8	17.4
Puebla	20.2	25.8	30.5	31.7	32.4
Querétaro	16.8	21.5	26.5	27.9	29.3
Quintana Roo	8.6	13.2	17.6	17.8	19.0
San Luis Potosí	15.7	21.3	24.6	25.4	26.0
Sinaloa	28.2	29.5	32.9	36.7	38.2
Sonora	26.6	30.9	35.5	37.8	38.6
Tabasco	21.2	26.5	29.7	29.7	30.5
Tamaulipas	32.6	30.7	33.2	34.3	34.8
Tlaxcala	17.7	20.6	23.2	24.1	24.6

	2000– 2001	2005– 2006	2010– 2011	2011– 2012	2012– 2013
Veracruz	14.2	18.8	22.1	23.0	22.9
Yucatán	19.2	24.5	29.0	29.4	30.8
Zacatecas	13.8	19.4	24.5	25.2	26.4
National Average	19.5	23.3	26.9	28.1	29.1

Sources: (a) Consejo Nacional de Población [National Population Council] (CONAPO). *Proyecciones de Población 1990–2030* [Population projections 1990–2030]. Database. Accessed at: [http://www.conapo.gob.mx/es/CONAPO/Proyecciones\\_Datos](http://www.conapo.gob.mx/es/CONAPO/Proyecciones_Datos). (b) Secretaría de Educación Pública, *Serie Histórica de Matrícula*, Database.

significantly in the near future, given the shortage of high schools in many municipalities (Ordorika and Rodríguez 2012).

The direct link between poverty and educational attainment starts at the basic education level. In Chiapas, 14 per cent of the population aged 15 and above was illiterate in 2015, and 51 per cent had not completed ninth grade—the mandatory minimum education level prior to 2011. In contrast, illiteracy in Mexico City was 1.4 per cent and ninth grade completion was almost 80 per cent (SEP 2015).

Not surprisingly, there is also a direct relationship between socio-economic class and access to higher education, with students in the top income brackets far more likely to attend university than their poorer peers. According to the National Surveys of Income and Household Spending<sup>8</sup> (for years 2000, 2006 and 2010), in 2000 just 2.76 per cent of college-age students in the bottom income quintile were enrolled in higher education, compared with 63.5 per cent in the top quintile. However, that panorama may be starting to change. In 2010, the enrolment rate among the bottom quintile of the population had reached 14.4 per cent and the top quintile hit 78.4 per cent. Nonetheless, a

<sup>8</sup> Household surveys tend to yield higher estimates of school attendance than data on the educational system, as families often report part-time or sporadic students as being enrolled in college. However, the Education Secretariat does not provide data on tertiary enrolment by income bracket.

large share of lower-income students is enrolled in the technological and private sectors, since competition has become increasingly fierce at the top institutions (Table 8.5).

The federal government has attempted to address some of the inequalities through compensatory funding programmes for poorer institutions and regions. In 2001, the Fox government created a national scholarship programme for higher education, known as, Pronabes, issuing the first 44,000 scholarships to low-income students. By 2011, the number of scholarships had more than quadrupled, and the government created an additional funding programme, bringing the total number of scholarships in that year to 813,000 (Villa 2013). However, like other government funding programmes, Pronabes has disproportionately benefited residents of the capital; during the 2010–2011 school year, Mexico City accounted for a fourth of all the scholarships, despite representing just 16 per cent of the country's total public tertiary enrolment (Rodríguez 2012). Similarly, while the states of Mexico<sup>9</sup> and Michoacán enrolled almost the same proportion of public university students in 2010–2011 (12.9% and 12.5%, respectively), the former state received three times as many Pronabes scholarships, 24,218 compared with 8,854 (Rodríguez 2012). The different degrees of political influence of the two states—Mexico state is adjacent to the capital—go a long way in explaining the discrepancy in funding patterns.

### Inequalities among institutions

There are also major inequalities among institutions and institutional types in Mexico. Particularly noteworthy is the lack of a clear and uniform set of criteria for apportioning federal funding to the 34 state universities (Mendoza 2015a). Instead, each institution has its own agreement with the federal government that determines the share of federal funding in the overall budget, with significant variations depending on the institutions' degree of bargaining power in the federal

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<sup>9</sup> The name 'Mexico' is used to denote three different geographic areas—Mexico (the country), Mexico State (one of the country's 32 federated entities) and Mexico City (the capital, which, making things somewhat more confusing, became its own state as of January 2016).

**Table 8.5** Higher Education Age Group Participation by Income Quintile, 2000–2010, Only Undergraduate, TSU and Normal

Income Quintile	Population 19–23 Years Old	Total Enrolment	% Coverage
<b>2010</b>			
Total	9,917,474	3,787,293	38.19
I	1,716,583	247,930	14.44
II	2,092,248	551,472	26.36
III	2,211,953	792,280	35.82
IV	2,395,955	1,018,490	42.51
V	1,500,735	1,177,121	78.44
<b>2006</b>			
Total	9,071,659	3,155,394	34.78
I	1,608,601	202,173	12.57
II	1,878,508	311,677	16.59
III	2,025,247	642,074	31.70
IV	2,170,512	1,021,861	47.08
V	1,388,791	977,609	70.39
<b>2000</b>			
Total	8,487,381	2,041,421	24.05
I	1,420,714	39,221	2.76
II	1,766,078	148,748	8.42
III	1,950,223	364,333	18.68
IV	1,836,393	527,157	28.71
V	1,513,973	961,962	63.54

Source: Estimates by the Subsecretaría de Educación Superior (SES), based on the National Household Survey of Income and Spending (ENIGH), 2000, 2006 and 2010.

congress as well as the particular moment in time in which the institutions first negotiated their funding structure. Once set, these agreements have proved difficult to modify, despite a series of short-term measures on the part of the federal government designed to minimize the inequalities.

For example, while some universities, such as the Autonomous University of Guerrero and the Autonomous Benito Juárez University of Oaxaca, depend almost entirely on federal funding for their budgets, others, such as the University of Guadalajara, receive a majority from their respective states (ExECUM 2016). Nevertheless, a majority receive a greater share of federal funding than state funds, a reliance that reflects the institutions' financial dependence on the federal government (Mendoza 2011). In general, the universities in poorer states rely more heavily on federal subsidies, although there are some exceptions, such as the Autonomous University of Nuevo Leon, which receives three times more from the federal government than from the state (ExECUM 2016), despite Nuevo Leon's role as the country's main industrial hub.

There are also considerable inequalities in the share of funding per student. In 2007, this figure varied more than threefold, depending on the institution, from 23,187 pesos (US\$2,070 at 2007 exchange rates) at the Autonomous Benito Juárez University of Oaxaca to 70,658 pesos (US\$6,300) at the Autonomous University of Yucatan. In general, the amount of funding corresponds directly with the economic situation of the respective state, although there are some exceptions, such as the University of Guadalajara, whose low share of spending is primarily a reflection of its large enrolment—with 103,000 students, it is the second largest public university in Mexico, surpassed only by the UNAM, with 217,000 students in 2013 (ExECUM 2016). Those differences not only have impacts on the teaching conditions but also on the capacity of the institutions to conduct research.

The decentralization of the higher education system starting in the 1990s sought to address such inequalities, through a series of compensatory funds for poorer states and institutions. One such fund was designed to increase per student spending at institutions that fell below the national average, with the largest such fund assigned during the government of Felipe Calderón (2007–2012). The programme

resulted in significant funding increases at a majority of the targeted institutions. However, starting in 2009, the share of total contingent extraordinary funds has steadily decreased. In 2013, federal extraordinary funds represented 17 per cent of federal ordinary funding to the 34 state universities.

Such fluctuations have major implications for the capacity of state universities to plan their budgets and invest in long-term expansion. Similarly, while part of the funds are earmarked for increasing student enrolment and the construction of new facilities, there has been no corresponding increase in ordinary funding for the new campuses or centres (Mendoza 2015a). Finally, the universities' ability to secure extraordinary funding varies, as does the degree to which institutions depend on these resources. For example, in 2013, extraordinary funds represented 71 per cent of the ordinary budget of the University of Quintana Roo, equivalent to 41 per cent of the total institutional budget. In eight other universities, the funds represented between 31 per cent and 44 per cent of the ordinary funding. At the other end of the spectrum were the large state universities for which extraordinary funds were just 20 per cent of ordinary funds and 16 per cent of their total budgets.

### Inequalities among faculty

A final area where federalization has yet to achieve equity is in terms of the country's scientific research system, which remains heavily centralized in the capital. In addition, a small share of researchers at top universities receive a majority of research funding, while many state universities and a majority of private ones—not to mention the technological sector and the teachers' colleges—conduct virtually no research.

One of the best indicators of the distribution of S&T capacities and investment in Mexico is the SNI. Members of the SNI represent a privileged and tiny minority of university professors—just 3.7 per cent of the 380,000 professors employed nationwide (ExECUM 2016). While the system also has members in private universities and research institutes, the vast majority of SNI members work in a handful of public universities, with three main universities in the capital accounting for

nearly 30 per cent of the total (ExECUM 2016). The system has four levels, with bonuses (extra salaries) ranging from 5,906 pesos (US\$450) to 27,561 pesos (US\$2,090) per month in 2014 (Olivares 2014), meaning that SNI members often earn double the salary of non-members. The result is a highly stratified system of teachers and researchers, with the latter considered more valuable, and between academics at different types of institutions (Bensimon and Ordorika 2006; Ordorika 2004). The concentration of top-ranked SNI members (Level III) in the capital is noteworthy, as these academics command the largest share of research funding.

The country's scientific production in terms of articles and other documents published in internationally indexed journals is even more concentrated in the capital. Researchers based in Mexico City were responsible for publishing nearly half (48%) of all the Mexican documents indexed by the Thomson Reuters Web of Science in 2004, while the second closest state, Morelos, accounted for just 7.3 per cent of the total (ExECUM 2016). The concentration of international-level research in few institutions has implications for the government's stated goal of expanding and decentralizing Mexico's science and technology research capacities.

The heavy concentration of research centres in the federal capital and a few states also has implications for regional technological development. For example, two institutions—the National Petroleum Institute and the UNAM—have produced nearly half all the patents issued to HEIs in Mexico (ExECUM 2016).

## FINAL COMMENTS

To understand the dynamics and organization of the country's higher education system, we have analysed the emergence, historical transformations and characteristics of Mexican federalism in order. In particular, we have assessed the extent to which higher education policies, funding, decision-making, administration and coverage are effectively decentralized to the subnational level.

Two centuries have passed since Mexico first adopted federalism as its form of government. During the nineteenth century, opposing

**Table 8.6** Total SNI Members, SNI Level III, and Indexed Documents, by State, 2014

	Total		Level 3			Indexed Documents	
	No.	% National	No.	% National	Inst.	No.	% Total
Mexico	21,358	100	1,842	100	8.6	11,946	100
Ciudad De Mexico	7,482	35	1,105	60	14.8	5,738	48
Estado De México	1,208	5.7	45	2.4	3.7	796	6.7
Jalisco	1,087	5.1	52	2.8	4.8	607	5.1
Morelos	946	4.4	111	6	11.7	869	7.3
Nuevo Leon	857	4	34	1.8	4	765	6.4
Puebla	799	3.7	62	3.4	7.8	707	5.9
Guanajuato	720	3.4	55	3	7.6	632	5.3
Baja California	661	3.1	58	3.1	8.8	583	4.9
Veracruz	631	3	27	1.5	4.3	585	4.9
Michoacán	626	2.9	42	2.3	6.7	511	4.3
Queretaro	549	2.6	50	2.7	9.1	501	4.2
San Luis Potosi	512	2.4	36	2	7	492	4.1
Yucatan	508	2.4	34	1.8	6.7	462	3.9
Sonora	454	2.1	17	0.9	3.7	323	2.7
Chihuahua	340	1.6	9	0.5	2.6	258	2.2
Sinaloa	339	1.6	6	0.3	1.8	221	1.8
Coahuila	298	1.4	8	0.4	2.7	299	2.5
Hidalgo	283	1.3	0	0	0	208	1.7
Chiapas	243	1.1	4	0.2	1.6	178	1.5
Oaxaca	242	1.1	5	0.3	2.1	194	1.6
Baja California Sur	228	1.1	18	1	7.9	132	1.1
Zacatecas	186	0.9	6	0.3	3.2	107	0.9

(Continued)

**Table 8.6** (Continued)

	Total		Level 3			Indexed Documents	
	No.	%	No.	%	%	No.	%
		National		National			
Tamaulipas	178	0.8	2	0.1	1.1	172	1.4
Colima	175	0.8	4	0.2	2.3	113	0.9
Aguascalientes	138	0.6	2	0.1	1.4	87	0.7
Durango	138	0.6	5	0.3	3.6	150	1.3
Tabasco	130	0.6	2	0.1	1.5	110	0.9
Tlaxcala	128	0.6	4	0.2	3.1	96	0.8
Quintana Roo	127	0.6	3	0.2	2.4	126	1.1
Campeche	112	0.5	1	0.1	0.9	101	0.8
Nayarit	107	0.5	0	0	0	76	0.6
Guerrero	90	0.4	0	0	0	71	0.6

Source: EXECUM (2016).

political projects overtly challenged or promoted federalism. After the Mexican Revolution (1910–1917), the system was legally adopted and enshrined in the current Constitution. In spite of its legal standing and centrality in official political discourse, however, federalism has been hampered by the realities of an authoritarian political regime, *prismo*, which gained prevalence starting in the 1920s.

The weakening of authoritarianism since the 1970s, internal needs for political stability and economic growth as well as modernization policies aligned with international trends have given federalization attempts renewed political currency and administrative relevance. These trends have been strengthened by the new realities of party transitions and multiparty government at the state and national levels.

Federalism in Mexico is far from being a complete or unified reality. Beyond ideological depictions and political claims, it is possible to argue that during the last four decades, movements towards decentralization and federalism have been as strong as those seeking the preservation

of authoritarian centralism or the recentralization of key sectors and structures. The contradictory dynamics between federalization and decentralization, on the one hand, and centralization and control, on the other, are a consequence of and shape the modernization of the authoritarian regime, as well as contemporary models for accumulation. These processes have become crucial to the establishment of new political arrangements and commitment to structural reforms (fiscal, oil and electricity and education, among others) between political parties across the spectrum, which have become institutionalized in the *Pacto por México*.

The tensions and contradictions surrounding federalization and centralization are evident in the case of Mexican higher education, in which deep-rooted inequalities and conflicts persist in the forms of funding, administration and the geographic distribution of institutions. The discourse of decentralization and diversification of higher education, prevalent since the 1980s, preceded the new emphasis on federalization starting in the late 1990s. In practice, outcomes have been contradictory.

On the one hand, the federal government has strengthened its control over HEIs and faculties. In 1980, university autonomy was raised to the constitutional level, as part of government efforts to impede the nationwide unionization of faculty and staff. A few years later, merit pay and incentive systems were introduced at the federal and institutional levels. These policies, which included centralized research funding through CONACYT and performance-based subsidies, were designed to reign in autonomous universities and an ill-coordinated conglomerate of tertiary institutions.

On the other hand, the government's decentralization and diversification policies have relied almost entirely on increasing enrolment in the private sector, during the 1990s, as well as the creation of two- and four-year public vocational institutions over the past two decades. Many of these private and public institutions were established in mid-sized urban areas, outside Mexico City and the state capitals. However, while decentralization and expansion have increased tertiary enrolment rates, diversification and privatization have reproduced inequalities among students. This is due to the stratified access to different types of

tertiary education institutions, which vary greatly in terms of resources and the quality of teachers and programmes.

Recent government financing policies also reveal numerous contradictions and limitations in the federalization process. Total public expenditure on higher education increased 70 per cent in real terms from 2000 to 2016, while state-level participation has remained relatively constant at around 30 per cent of the total. Federal and state subsidies are still unevenly distributed geographically and by institutional type. Financial resources are heavily centralized in federal universities and to a minor extent in public state institutions (UPES), policies that cater to more affluent students in traditional universities in Mexico City and the state capitals. In addition, federal and state performance-based subsidies as well as faculty participation in national merit-pay programmes such as the SNI, further reinforce inequalities.

While Mexico's government continues to tout the merits of federalization in many spheres, including higher education, the reality is far more complex. Throughout this chapter, we have provided numerous examples of the contradictions and limits inherent to Mexico's brand of federalism in general, and with regard to higher education, in particular. Effects of these tensions between federalization and centralization on higher education can be summarized in three broad dimensions. First, despite the constitutional guarantees of university autonomy (as with state autonomy), the effective exercise of that right has waxed and waned depending on the policies of the federal government. Second, while state governments are playing an increasing role in creating new institutions outside the capital, a majority of those institutions fall under centralized control, as in the case of the technological institutions and the indigenous universities. Third, while the overall federal budget for higher education has increased dramatically in recent years, the federal government dictates spending priorities for a greater share of that funding than it did in the 1950s.

While the newly pluralistic political system has devolved significant power to the states—often by mere necessity, given the impossibility of ruling the opposition states from the centre, or out of political expediency—in many spheres the system remains highly centralized.

Major challenges also persist in terms of equity, both in overall access to higher education and in the types of educational offerings at the state and municipal levels, particularly in the poorer regions. Nonetheless, financing is only one piece of the federalization process, the success of which depends just as much on administrative capacity and political will. In developing countries such as Mexico, which are still in the process of democratic and institutional consolidation, such elements are in short supply.

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