

LATIN AMERICAN HIGHER EDUCATION SYSTEMS IN A HISTORICAL AND COMPARATIVE PERSPECTIVE

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Higher education has undergone impressive growth and change over the last few decades in Latin America. This book selectively reviews some dimensions of this transformation, discussing policies, institutions, and programs, as well as their outcomes in terms of access, workforce training, and research. Individual chapters, commissioned from specialists from Latin America and the United States, stand as original, independent contributions focusing on key issues in higher education: changes in institutional autonomy and system governance, the contributions of higher education to advanced workforce development, policy responses to the continuing challenges of access and equity, government-sponsored study-abroad scholarships programs in several countries, trends in academic mobility and its outcomes for brain drain and gain, the changing landscape of U.S. universities' and corporations' investment in the region, and recent development of U.S. government exchange programs with Latin America.

The chapters of this book consider the region as a whole or compare selected countries, with the important exception of chapters 8 and 9, devoted to explaining Brazilian success in building research universities and including an interview with

Brazil's Minister of Education about the large-scale science and engineering fellowship program launched in 2011 to promote stronger linkages with research universities in more advanced countries. Brazil, a country of continental proportions but a late-comer to higher education, is now responsible for producing well over one-half of all research and doctoral degrees in the region. The Appendix to the volume brings a summary view of IIE's work in Latin America.

This Introduction provides a brief historical and comparative context for the book through a discussion of the long-term process leading to the consolidation of mass institutional systems of higher education, considering intraregional variations, noticing differences with other regions of the world, and reflecting on the major dilemmas faced by public policy in higher education in the last decade.

The Emergence and Growth of National Educational Systems

There were about 25 universities in Spanish America early in the 19th century, when the new republics won their independence from the Spanish crown, but none had been built in Brazil under Portuguese rule. Although they could hardly be regarded as distinguished by European standards, colonial authorities, under the influence of the French Enlightenment during the second half of the 18th century, had counted on those universities, regulated by government, to serve public needs rather than to follow their own corporative interests or those of the Church (Ruegg, 2004). The new republics were to continue this tradition, although for several decades after independence university life was disrupted or entirely discontinued by wars, political upheaval, and severe fiscal constraints.

The first republican innovations in higher education were adopted in Chile and Uruguay in the 1840s, to be followed decades later by many other nations looking to renew university life when political conditions and an increase in public resources allowed them to focus on education. New universities were designed to coordinate public education systems along centralized Napoleonic lines. This ambitious goal was eventually to be delegated to ministries of education—the *Universidad de la Republica* in Uruguay remained responsible for secondary education until the 1920s—but national universities maintained through modern times a public mission closely linked to the state. Legal frameworks gave the public university a special status and protection to fulfill such mission-limiting interference from government, still responsible for its funding through the regular annual budget.

Export-led economic growth in the late 19th and early 20th centuries was conducive to the expansion in the number and size of national universities. Rapid urbanization, the emergence of the modern middle class, and the increase in state

revenues originated in foreign trade fueled the ambitions of enlightened political elites that regarded universities as symbols of modernity. The Southern Cone countries—Argentina, Chile, Uruguay, and southern Brazil—and other nations such as Costa Rica and Cuba were among the main beneficiaries of the expansion in global trade and in transatlantic immigration, and they enjoyed an earlier start and faster growth of mass public education. Immigrants with higher levels of education than the population of the receiving countries fostered both the demand for education and the supply of teachers and university professionals.

In Spanish America central governments often took over provincial institutions or those run by religious orders to build or reconstruct new universities; whereas in Brazil the state of São Paulo competed with the federation to launch the first universities in the 1930s on the basis of preexisting professional schools. By the 1950s there were around 150 universities in the 20 Latin American republics, with a total of about half a million students. The large majority of these students attended public universities that made up the core of the still relatively small and poorly coordinated higher education systems. Argentina's eight national universities made up the largest system, accounting for almost one-third of the total, following the rapid expansion of student numbers with the first centralized experiment in open admissions and the opening of a technological university (Levy, 1986, p. 340).

National policies favored organizational homogeneity and curricular standardization. Universities were bureaucratically regulated by ministries of education with limited or no capacity to influence curricula, faculty appointments and promotion, student admission, and the selection of presidents and deans. However, breaks with university autonomy were not uncommon, as in Argentina between 1947 and 1955. Over time, universities became autonomously run state institutions with a delegated state monopoly to grant professional degrees.

Public universities are often described as confederations of *facultades*, each of them in charge of degree-granting programs giving direct access to the most prestigious, state-regulated, and licensed professions. Private universities, authorized early in Chile and Brazil, were delegated to have similar state functions but enjoyed greater freedom in administration, governance, and finance, while only occasionally receiving a direct public subsidy. Close links with the national and provincial political elites made universities a part of the political scene, as key agents in the political socialization and recruitment of the youth. Very often these highly politicized universities were important actors in opposition politics.

Professional schools, or *facultades*—in particular, law, medicine, and engineering, often predating the official founding of a university—were the key organizational units, enjoying much independence from the central university administration and responsible for teaching programs leading to professional degrees. New schools were created as new professions became regulated by the state (e.g., public accounting,

dentistry, pharmacy, architecture, and psychology). Part-time instructors, usually practicing professionals, were in charge of teaching programs characterized by their rigid structure and long duration. Almost totally dependent on public subsidies, university funding was politically negotiated in detailed annual budgets approved by their countries' legislatures.

Basic sciences and the humanities were typically relegated to schools adopting similar curricular formats and aiming to achieve professional status through admission into new licensed professions (i.e., secondary school teaching). Attached to each school one would find hospitals and clinics, laboratories, services of all kinds, programs of popular education, and many other ancillary activities. However, professional education remained the key mission of the university beyond the often voiced ambition of being a center of intellectual debate, a locus for academic research and scholarship, and a forum for public debate on national issues. Applied research, technological innovation, and links with industrial and agricultural sectors were unusual, as they were perceived to be most properly the function of autonomous government institutes and laboratories outside of the university. Teacher training took place until the 1950 in special secondary schools and later on in postsecondary institutions outside, or at the margins, of the more prestigious universities.

Following the European tradition, university study was tuition-free or had low fees, and it was in many cases a part-time activity carried out under the supervision of part-time faculty. The residential campus in the Anglo-American tradition was more the exception than the rule, while it was not unusual for students to work and study at a slower pace than planned in the official programs. A few universities achieved regional and international recognition in some areas, indicated by the acceptance of their graduates in European and North American universities and by their ability to attract foreign scholars who played a key role in building a research tradition in newly founded universities such as La Plata in Argentina in the 1910s and São Paulo in Brazil in the 1930s. Segregated from the national educational systems—many running their own preparatory schools—universities were yet dependent upon the expansion of mass systems of public education that generated growing student demand.

Historians have recently documented how the region fitted within global trends in literacy and schooling since the 1870s, showing the early origins and persistent gap with the more advanced economies in the world. Studies have shown that the role of compulsory mass schooling was promoted by the nation-states in the 18th and 19th centuries, first by several German states, then by other European countries, a majority of states in the United States, and a number of Latin American countries, although free and compulsory education was often more a utopian project than a reflection of a reality in this region (Benavot, Resnik, & Corrales, 2000, p. 11). The Latin American projects still come up against fiscal constraints, poor transportation and communications, limited trade with isolated regions, a lack of national monetary integration, and the overall weakness of national institutions. The implementation of

mandatory schooling laws has proven to be a difficult, long-term process, still incomplete today in many countries that have extended its scope to include some or all of secondary education but are unable to provide the conditions for a majority of young people to complete the mandatory cycle. Access to public schools, as well as their quality, was and still is very uneven, with striking differences between regions, rural and urban areas, and the rich and the poor. Arguably the greatest success over time has been in ironing out gender differences in access and graduation, with the exception of a few countries, while some of the consistent long-term failures were encountered by educational policies designed for the indigenous population.

Throughout Spanish America mass educational systems became centralized, as control over them was removed from the municipalities. Private schools did not receive public support, although they were often strictly regulated by the central authorities (Newland, 1994). Centralization was justified on the perceived need to build a unified nation out of a variety of regional autonomies, diverse ethnic and linguistic groups, and recent immigration that brought in different cultures and religions. Fiscal resources were also centralized, since financing of the public sector was largely based on taxes levied by the national government on foreign trade. National governments controlled the funds to build the school system, employ teachers and administrators, and manage the bureaucracy. Education became a key line within federal budgets and a major source of public employment in systems often ridden with clientelism and political patronage. In some countries, the provinces or states, often those with more resources, maintained their own systems with little coordination with the federal government. Centralized educational systems fostering homogeneity had a serious bias in favor of the more developed areas and the urban population. Brazil was a major exception since it had a decentralized educational system based upon its federal structure. The relative ability of states to raise funds through taxation of foreign trade, however, strongly reinforced regional disparities in education.

The increase of literacy rates among the adult population during the first half of the 20th century, a crude indicator of the impact of mass education, shows impressive growth for the whole region but also the persistent differences between early movers, who benefitted the most from the expansion of global trade before 1930, and the other nations. Argentina, Chile, and Uruguay stood well above the mean both in 1900 and 1950. A second group of smaller countries, Costa Rica, Cuba, and Panama, joined them by the latter date. Nearly half of the adult population of the two most populous countries, Mexico and Brazil, remained illiterate by 1950, while literacy was even more restricted in the poorer Central and South American countries (Benavot & Riddle, 1988; Newland, 1994). Regional inequalities within countries were also of great magnitude, with Brazil as a striking example. Although even poorer states showed an increase in elementary school attendance, by 1940 enrollment rates in the South were over 40 percent of the school age population, two or three times larger than in the Northeast (Martínez-Fritscher, Musacchio, & Viarengo, 2010).

The initial phase of economic globalization, from the 1870s to World War I, saw a strong push to increase mass schooling not only throughout the West and its offshoots, but also in Japan. Such a push, however, was more restricted and generally less successful in Latin America. There was considerable convergence in educational achievement in Europe. Somewhat less advanced countries, such as Australia, Ireland, and New Zealand, caught up with Western Europe at this time. However, Latin America did not reduce the gap despite the overall growth in mandatory schooling (Morrisson & Murtin, 2009, p. 32). Only the most educationally advanced countries, such as Argentina, Uruguay, and Chile, saw the gap reduced with Southern and Eastern Europe, the countries where a majority of their immigrants originated.

Australia and Argentina, both European offshoots, provide contrasting examples of the limitations of the Latin American centralized model. Australia, starting with very low levels of educational achievement up to the 1850s, caught up with the United States and Canada at the eve of the 20th century and continued along a similar line of educational expansion ever since. Argentina, with starting levels comparable to Australia, having enacted free and compulsory schooling laws in the 1870s, did not benefit as much educationally from the economic growth brought about by the expansion of world trade, consistently lagging behind Australia (and the United States) in average years of schooling until today. Decentralization and better public and private funding allowed a greater reach of mass schooling and less inequality in Australia than in Argentina, well before their growth patterns started to diverge in the second half of the 20th century (Morrisson & Murtin, 2009).

Ewout Frankema, in his recent study of the expansion of mass education in Latin America during the last century, argued that primary school enrollment rates and average number of years of schooling, both of which rose consistently throughout the period, are poor indicators of progress without considering also grade enrollment and school completion data (Frankema, 2009, p. 362). Even after achieving full primary school enrollment rates by the 1960s, it took several decades for Latin American countries to cope with grade repetition and precompletion dropout rates, strong indicators of low-quality standards in basic education. His analysis supports the widely held view about the backwardness and unequal distribution of basic education in Latin America compared to East Asian countries, factors that constrained economic growth in the former region. By 1960, only 7 percent of adults in Latin America completed secondary education, while in East Asia 11 percent did so. The gap had increased four decades later, when the corresponding figures were 18 percent and 44 percent (Vegas & Petrow, 2008).

The early development of mass educational systems in Latin America reflected inequalities in the distribution of wealth, income, and opportunities that became barriers to the universalization of mandatory schooling. The gap between regions and between rural and urban areas within each country, strongly associated with those

between social classes and ethnic groups, was not reduced through centralized educational policies that typically resulted in greater subsidies to the more advantaged groups. Although the university sector proved to be a channel for social mobility, its role was seriously constrained by the selectivity operating in earlier educational cycles as well as by the location of universities in the richer cities and regions and the organization of undergraduate programs in long professional cycles. Probably unaware of their socioeconomic elitism—because loose admission systems and tuition-free studies made possible a minority representation of the children of the urban working and lower middle classes—the lack of institutional competition and limited professionalization of academic life made universities also unaware of their academic mediocrity.

Reforms, Upheaval, and the Consolidation of Mass Education Systems

By the mid-20th century, the Latin American university model had been well established.¹ In the following decades, the limitations of this model were becoming evident as these countries faced the challenges of industrialization, urbanization, expanded access to public education, and the growing and more diverse demands from students and the labor market. The joint challenges of the recurrent fiscal crises of the state—the inability to meet all the competing demands, including the public provision of free education at all levels, while being unable or unwilling to raise the level of taxation—and the political friction among governments, the university administrations, and the student movement, often resulted in university crises of major proportions.

The period between 1950 and 1975—the culmination of the import-substitution industrialization process initiated in the 1930s, with marked cycles and high inflation—saw many attempts to modernize and reform the national universities from within (Levy, 2005). Under the leadership of groups of faculty, students and administrators, the universities sought to achieve transformations that would make the institutions better suited to serve the new national development projects, often convinced of the role of scientific and technological research and of the new social sciences in industrialization and economic development. Organizational reforms were assumed to run parallel to a reorientation of research and teaching within the university. These reforms, often inspired by the Anglo-Saxon model that became highly visible after the war and was promoted by international aid agencies, included the professionalization and full-time involvement of a research-oriented faculty, curriculum changes in undergraduate programs to make them more flexible and student-driven, formalization of a graduate cycle of studies, and strengthening of discipline-based departments and the central administration (with the abolition of traditional academic chairs and erosion of the independence of professional schools within the university; Levy, 2005).

The widening political gap between the autonomous public universities and democratically elected governments was made more critical by a radicalized student activism in the Cold War climate of the latter half of the 20th century. The most visible confrontations took place in the late 1960s, a time of student mobilization worldwide. These protests were very frequent throughout the period in most countries in Latin America, reinforcing the image of a politically involved student movement, even if it was often fostered by the mobilization of a minority of student activists with representation in university governance and closely linked to national political movements and parties. In many cases, student confrontations with the authorities mixed radical demands for revolutionary change with more limited demands for organizational transformation and more generous funding.

Reform and expansion, always difficult to achieve, required considerably more resources than what governments were ready to bring to the table. Universities tended to be permanently and seriously underfunded, yet their administrations were reluctant to make difficult choices between the pressure to open student admissions and that for organizational reforms. Governments, with extremely limited capacity to intervene in university life and unable or unwilling to commit further public resources to traditional universities unresponsive to their views, sought different paths to foster national capacities in science and technology. Within the university sector, their option was to build new institutions rather than to support the reforms of those over which they had no control. Furthermore, central governments strengthened new agencies to fund and coordinate scientific and technological research and to support development projects, laboratories, and applied research institutes outside of the university sector, with only limited commitment to the universities and thus reduced impact upon their reform.

The suspension of university autonomy by authoritarian governments became widespread throughout the region during the Cold War period. Policies of these regimes varied from country to country, and often evolved over time within the same nation. Thus, in Argentina, the 1966 military intervention resulted in a massive brain drain from the public university, only to be followed a few years later by a government plan to strengthen the diversification of the higher education sector through a system of new public universities outside the main cities and a short-lived reform of their academic organization. Another military coup in Argentina in 1976, on the contrary, radically reduced funding to the public universities, limited student admission, persecuted politically adverse students and faculty, and eliminated academic freedom over a period of several years without launching any new initiative for the public sector. The Pinochet regime in Chile (1973–1990) after several years of highly repressive measures launched in the early 1980s ambitious, market-friendly reforms, leading to a diversified, yet academically controlled, higher education system in consonance with the decentralization and privatization of primary and secondary education. Another

striking example was the military regime in Brazil (1964–1985), which also went through different phases to introduce some long-term reforms in graduate education and in research funding (see chapter 8 by Balbachevsky in this volume).

An approach to cope with demands for greater access without committing further public funds throughout the region was the change in policy toward the sector of private universities initiated in the 1950s (Levy, 1986). Although policies differed greatly from country to country (with the private sector making early inroads in Chile, Brazil, and Colombia), the overall process of growth in the private sector is perhaps the most outstanding feature of higher education transformation in the region, greatly accelerated in the last few decades.

Privatization encompasses many dimensions. Student enrollment and the number of institutions in the private sector are the most visible ones, although the proportion of funding that originated in private spending is perhaps the most important figure from a public policy perspective. Organisation for Economic Co-operation and Development (OECD) data indicate that in 2009 household expenditures accounted for 68.1 percent of total spending in tertiary education in Chile, the highest rate in the world, while in neighboring Argentina they accounted for only 12.9 percent, toward the low end of the distribution (OECD, 2012, table B3.2b). These numbers indicate the wide range exhibited within Latin America, yet they correspond to countries with relatively similar levels in GDP per capita and in average educational attainment.

Nancy Birdsall and her colleagues at the Inter-American Development Bank (Birdsall, 1996; Birdsall, Ross, & Sabot, 1997) have looked at the relative weight of public spending in higher education compared to basic education as an element in the unequal distribution of public subsidies and a key dimension responsible for the differences in average educational achievement in the region when compared to East Asia. Along similar lines, Frankema has shown that the ratio of public expenditure per student enrolled in tertiary to primary education in Latin America or sub-Saharan Africa was, in the 1950s and 1960s, much higher than in Western Europe or in Asia (Frankema, 2009, table 4). The ratio declined on the average for Latin America, from 15:1 in the 1960s to 5.6:1 in the 1990s, but it still was relatively high in international comparisons.

Rapidly increased enrollments in higher education with slower growth in public and private resources—as was the case with primary and secondary education earlier—may be held responsible for a decline in quality, including lower graduation rates and longer term-to-degree periods among those who do graduate. Quantitative expansion with a loss in quality is perhaps the most widespread burning issue of education at all levels in Latin America, but it has been better documented in primary and secondary than in higher education. Underfunding of education, however, is not the only culprit for poor quality. A recent report card for education in the region, entitled

Quantity Without Quality, praises Latin American governments for the fiscal effort of the last two decades, yet indicates that the quality problem has persisted due to a lack of focus on learning outcomes and accountability:

Latin America has significantly increased public spending on education and has managed to get many more children into school. Over the past decade, the percentage of children entering and completing primary and secondary education has risen faster in Latin America than in any other part of the developing world. This is no small achievement and reflects the commitment of successive governments to extend basic education to as many children as possible. But the region has made almost no progress in improving learning and in reducing inequality in its schools. Latin America scores at the bottom on every global test of student achievement. Children from poor families routinely score much lower than children from middle and upper class families. Despite sincere and impressive efforts to reform, most schools still fail to provide children with the skills and competencies they need for economic and personal success and active citizenship. (PREAL, 2006, p. 6)

Quality issues also loom large in any assessment of higher education in the region. Although quality assurance has been a priority in the policy agenda since the 1990s, resources to tackle both expansion *and* quality became more plentiful in recent years as macroeconomic conditions improved in many Latin American countries.

Higher Education and Public Policy in the Last Decade

The new global economic order, trade liberalization, and a less polarized world have presented unique opportunities for economic growth for the region, which persisted through the 2008 financial crisis and until recently.² Awareness that increased productivity in the huge service sector and further diversification of the export base are heavily dependent upon a skilled workforce, enhanced research capacities, and technological innovation has led governments to tackle well-known deficiencies in their education systems at all levels.

To what extent and through which mechanisms is the current economic bonanza strengthening the research and advanced training capacities of top-ranking institutions in Latin America and making them more internationally competitive? How do countries manage the trade-offs between concentrating research efforts in selected institutions, enhancing quality throughout the system, and increasing access through a more diversified yet affordable system of higher education?

Comparing the performance of educational programs and institutions within and between countries in Latin America and with the rest of the world had been

seriously limited by the scarcity of reliable statistical data until the 1980s. Improved educational statistics in the late 1980s and 1990s allowed a more careful diagnosis of the serious quality crisis in Latin American elementary and secondary education, reflected in issues such as grade repetition, cohort attrition, and serious achievement gaps between socioeconomic groups. The inclusion of several Latin American countries in international studies of education achievement in the 1990s and in the OECD Program for International Student Assessment since 2000 provided data showing that quantitative expansion of mass education in Latin America had failed to bring about learning outcomes comparable to those prevailing in developed countries or other emerging economies.

There are no equivalent statistics available about learning outcomes of higher education graduates. In fact, until the 1980s there was a scarcity of comparative data useful to measure educational quality of universities in Latin America. Competition for students, faculty, or resources within national systems had been traditionally limited to the private sector and based on reputation and price, since little was known about graduation rates, duration of studies, and labor market outcomes for graduates. Competitive pressures, however, have built in recent years, at least in part as a consequence of the visibility and proliferation of international and domestic ratings and rankings, however inadequately they reflect the quality of teaching and learning. The leading Latin American universities are known to do poorly in international rankings, given the weakness or low intensity of their research activities.

Universitas21, a global network of research universities, requested the University of Melbourne to rank the 48 national higher education systems with the largest scientific production in the world (Williams, De Rassenfosse, Jensen & Marginson, 2012). Four Latin American countries were included: Argentina, Brazil, Chile, and Mexico. The Latin American nations ranked very close to each other in positions ranging from the 37th (Chile) to the 43rd (Mexico), below those in North America, Western Europe, Australia, and several Eastern European and Asian countries, but above other emerging economies such as India, Indonesia, and South Africa. Although participation rates in higher education have increased in the four countries, and are already very high in Argentina and Chile, there is widespread concern about the low graduation rates, the small number of students in science and technology, the quality of teaching and learning, and the competencies and skills of graduates. Although graduate education has increased in all four countries, doctoral training is still lagging behind.

Institutional diversity within a differentiated system of higher education has been long recognized as a requirement to enhance mass access, better serve the learning needs and goals of a highly diverse student body, and preserve student selectivity within academically demanding institutions and programs. By and large, however, postsecondary enrollments in Latin America remain concentrated in university first-degree

programs, which absorb more than two-thirds of the total. Although tertiary, nonuniversity institutions play a growing role in training a skilled workforce (see chapter 2 by Fanelli in this volume), public funding from central governments are concentrated in the university sector while the nonuniversity segment relies more heavily than the universities upon private funding. Mexico and Brazil have attempted in recent years to strengthen institutional segments with an explicit mission for technological education and short-cycle programs with greater accessibility attending a more diverse student body. However, generally such segments have relied heavily upon the private sector, including the for-profits, whose main limitation is their reliance on student fees.

Governments have differed in their policies of expanding the public university system to cope with increased student demands. Chile has kept a closed circle of 25 traditional universities, public and private, eligible for direct federal support. The Brazilian federal government, until recently very cautious in opening up the restricted circle of federally supported universities, has shifted gears in recent years, embarking in an expansion of federal universities and their branches, in a plan to increase access in underserved regions. In both cases, a highly differentiated sector of private providers that includes a significant for-profit segment takes the lead in absorbing demand. Argentina continues to limit the size and growth of the private system, still absorbing only some 20 percent of university undergraduates, while public university expansion proceeds under universities able to determine student intake and by Congressional authorizations to build new public universities despite the lack of an overall plan. Mexico is an example of diversification and regional decentralization of the public system, which now includes many different kinds of universities and technological schools, only a few of them with the status of autonomous, federally funded universities.

The most important step forward to increase vertical differentiation within the university sector has been taken through the growth in research funding and graduate education provided through science and technology public agencies to the most competitive universities. In recent decades, under democratic governments, agencies have given priority to funding research centers, projects, and researchers within universities rather than in autonomous government institutes. Science and technology policymaking, now conducted in closer collaboration with educational authorities and the academic community, has favored the development of research-based graduate education programs, research projects, and selected segments of the academic profession. In Brazil and Chile, and to a lesser extent in Mexico and Argentina, the link between research support and consolidation of doctoral education has been the enabling factor in identifying and supporting university programs where these functions became closer to the center of institutional life.

These and many other countries in the region have also developed in recent years more consistent efforts to increase the international involvement and competitiveness of their higher education programs, institutions, and systems, as documented

in several chapters in this volume. They often require a closer collaboration between institutions—public and private—and governments, as well as more active participation of the productive sectors in the life of academic institutions, than what was possible within the traditional university model in Latin America. This is no doubt another crucial dimension of change required by higher education in the region.

NOTES

¹ The so-called Latin American model and its recent transition into a new hybrid have been discussed by a number of authors. See, for instance, Arocena and Sutz (2005) and Bernasconi (2008).

² The following paragraphs draw upon Balán (2012). See also Brunner and Hurtado (2011) for recent data on higher education in Ibero America.

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