

The Changing Academy – The Changing Academic Profession
in International Comparative Perspective 16

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Biographies and Careers throughout Academic Life

 Springer

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Chapter 5

The Mexican Academic Profession Between Centuries: Who are the Actors?

Manuel Gil-Antón, Laura E. Padilla-González, and Jesús F. Galaz-Fontes

5.1 Introduction

There is no doubt that our culture continues to be marked by the old dichotomy already pointed out in early Greek philosophy: the tension between change and permanence. Heraclitus contended that change was the axis in the possibility of the being, while Parmenides placed the emphasis on stability, on permanence, the root where the perfection of being and the horizon of its knowledge can be relied on.

It is true that no one throws himself twice into the same river, as the waters have varied and, in addition, neither he who jumps is identical to the one who previously jumped; but right is he, who in face of this dilemma, notices that, nevertheless, the watercourse remains and despite acknowledging that he is different when immersing, remembers to continue being, and is, somehow, the same person who did it before: he recognizes himself. Therefore, that which varies and remains becomes tied, intertwined. If this were not the case, it would be impossible to account for transformations.

The reshaping of the academic profession in Mexico -after the intricate process of its genesis, followed by several periods in its evolution until reaching its current situation- is visible insofar as the previous 'figure' has varied, but, at the same time,

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© Springer International Publishing Switzerland 2016

J.F. Galaz-Fontes et al. (eds.), *Biographies and Careers throughout Academic Life*, The Changing Academy – The Changing Academic Profession in International Comparative Perspective 16, DOI 10.1007/978-3-319-27493-5_5

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because features of the previous form are maintained. Moreover, these aspects would not be fully understood without being aware of the social and institutional contexts in which they have occurred.

Perhaps an image can synthesize the above: a man, or a woman takes in his/her hands the portrait that was made of him/her a couple of decades ago. Starting today, already in the second decade of the twenty-first century, he/she sees, observes, pays attention to the figure captured at the beginning of the 1990s of the past century. He/she knows it is he/she, but that he/she has changed. Facing the mirror, he/she notices the change: there are clear signs of the impact of time that never comes on its own, but accompanied by new circumstances. He/she is not radically another person, for he/she would not be able to recognize himself/herself. What remains is the foundation on which the capacity to notice change rests.

There are changes that correspond to the expected evolution; others stand out, as they are the imprint of undergone accidents, and other features ensue the inevitable impact of changes in the context of a life lived. The face is different, but not completely. It has been transformed without stop whilst being named as before.

The profession, the academic function, has changed and, somehow, the modifications impact on, and happen because of the personal characteristics of those who compose it and who fulfill the tasks of the profession. A small but important set of such personal characteristics constitute the subject matter of this chapter.

Making an effort to keep some distance from our own experience in the processes will be describing, we will guide our exploration of the selected personal characteristics of Mexican academics by contrasting two portraits, two images. On the one hand a picture that was sketched at the beginning of the last decade of the past century and, on the other, the features that are currently observed in the group of those who belong to the 'profession of professions,' as Clark (1987) adequately refers to it.

After this brief introduction, in the second section of the chapter we contrast four core personal characteristics based on two professoriate's photographs (1992 and 2007). The selected aspects to analyze are central to the vitality and dynamics related to the academic work. The first two are female participation rate in the academic body, and age. The third aspect to consider is the acute modification in the levels of study that has happened between centuries. Finally, the fourth aspect is parents' educational attainment of Mexican academics, a dimension that there are reasons to assume can have a significant impact on several important dimensions of the profession (highest degree, discipline, etc.). All four aspects will be treated, at this moment, from a general perspective, although some remarks will be made in relation to how these characteristics are related to discipline and the type of institution in which academics work.

Having presented two pictures of Mexican academics in which change and permanence can be detected in their personal characteristics, the question of why such is the case presents itself. In an effort to answer such question we describe in section three the periods along which recent Mexican higher education can be studied, and that underlie the way we look into the academic profession. Afterwards, in sections four and five we describe gender and age in the context of such periods. Then, in

section six highest degree is discussed in terms of the periods already used and, in the case of this variable, in terms of gender as well. In section seven the educational background of academics' parents is discussed, again, in terms of the periods in which the recent developments of Mexican higher education can be organized. Finally, the chapter ends with a concluding remarks section in which we summarize what we know thus far in relation to the academics' traits described in this chapter.

It is important to be aware that all of the data and analysis presented will be carried out only considering those academics who hold full-time positions. This condition, in Mexico, is met by just one third of the total academic body, which added up, by 2007, to around 93,000 individuals.

5.2 Different Times and Diverse Contexts

Using the analogy of a big theatre, there are many actors on the stage of the academic life; each time more. Which basic features characterize them as a whole or distinguish them? Who are they now as compared to those portrayed at the beginning of the last decade of the past century, knowing that many of the current ones were in the previous photo, but that there are also new faces now?¹

Table 5.1, as an initial portrait, enables us to distinguish four important features of the personal characteristics of full-time Mexican academics, in the two points in time that can be compared (1992 and 2007): the composition by gender, the average age, how they are distributed according to the highest academic degree achieved up to that moment, and parents' educational attainment.

Although not spectacular in the comparisons that Table 5.1 allows, changes have been noteworthy. On the recent photograph there are more women than before, although the main presence of men is maintained: in 1992 women were almost one third (30.9 %), and in 2007 they are slightly more than a third (35.7 %). On the other hand, and in contrast with the previous 1992 portrait, by 2007 a larger number of people comb gray hair and show certain fatigue on the shoulders, notwithstanding that they are accompanied by new male and female colleagues. The average age increases from 40.1 years in 1992, placing itself at almost 50 years old in 2007. The fact that there is an increase of almost 10 years in an interval of 15 years, points out to an academic staff that, to a significant degree, continues working: many are in both photos. These figures speak of a replacement of academics pace that, in turn, is making the ageing of the academic profession in Mexico a most relevant issue.

The feature that stands out and denotes a profound change is the one that refers to the highest degree that had been obtained in 1992 and the one that is reported in

¹The possibility of carrying out this comparison derives from three studies about academics done in México. With information of samples obtained in 1992, one of them was funded by the Universidad Autónoma Metropolitana, Unidad Azcapotzalco (Gil-Antón et al. 1994) and the other one by the Carnegie Foundation for the Advancement of Teaching (Altbach 1996). The third study was that of The Changing Academic Profession (CAP), carried out in 2007 (Galaz-Fontes et al. 2012).

Table 5.1 Gender, age, highest degree and parents' educational attainment of Mexican full-time academics in 1992 (Carnegie N_T=609, and Traits of Diversity N_T=547) and 2007 (CAP N_T=1775)

	1992			2007		
	<i>n</i>		%	<i>n</i>		%
<i>Gender</i>						
Female	187		30.9	625		35.7
Male	418		69.1	1126		64.3
Total	605		100.0	1751		100.0
	<i>n</i>	<i>Mean</i>	<i>s</i>	<i>n</i>	<i>Mean</i>	<i>s</i>
Age	599	40.1	7.9	1740	49.9	9.4
<i>Highest degree</i>	<i>n</i>		%	<i>n</i>		%
Licensure (up to)	305		50.4	439		24.8
Masters	228		37.7	738		41.7
Doctorate	72		11.9	592		33.5
Total	605		100.0	1769		100.0
<i>Parents' educational attainment^a</i>	<i>n</i>		%	<i>n</i>		%
Both low	213		40.3	634		38.1
Medium (one or both)	148		28.0	536		32.2
High (one or both)	168		31.7	495		29.7
Total	529		100.0	1665		100.0

Sources: for 1992 Carnegie Survey (Gil-Antón 1996), and Traits Survey (Gil-Antón et al. 1994); for 2007 CAP Survey 2007/2008

^aEducational attainment: Low=no schooling up to elementary school; Medium=secondary, high and normal school, technician; high=higher education, including graduate studies

2007: from being a group of academics comprised by half of them without graduate studies (50.4 % in 1992), in the recent picture three-fourths already have such level of studies (75.2 % in 2007). In just 15 years, male and female colleagues with a doctorate were multiplied by 3 percentage wise (from 11.9 % in 1992 to 33.5 % in 2007). Does this change in the morphology of the profession, which actually represents a late adaptation of an international trend, derives exclusively from the entrance of new members with more female participation holding at the same time, more graduate degrees? Or, is it a combination, regarding the formative profile, of the above and the concomitant process of the attainment, by those academics already hired, of a graduate degree while they carried out their work or through special licenses to do advanced studies? In other words, how do two convergent processes (the fostering of advanced education of the old academics who entered in large amount carrying under the arm only the licensure degree or not even that, and the increase in the educational attainment of new academics as they obtain their first full-time position) interact in order to produce this sensible change in academics' highest degree?

The changes related to parents' educational attainment are not big, and this is most possibly associated with demographics trends in overall Mexican population, as well as to the main traits of our educational system. Altogether, nearly one third of Mexican academics proceed from a family in which both their parents have had

access to higher education (31.7 % in 1992; 29.7 % in 2007), a proportion that is very similar to the enrolment rate in postsecondary education in the country. This fact has, most probably, a significant influence in the faculty ethos, as for example in the perceived value of higher education as well as in the way academic work is performed.

As mentioned previously, the changes described arise from the comparison of two moments (1992 vs. 2007) and, as such, the compared figures might mask underlying dynamics functioning along the 15 year period considered. To account for some of the issues raised above, it is then convenient to analyze the variation (and non-variation) in the full-time academics' profile considered here (gender, age, level of studies with which those members obtained their first full-time appointment, and the educational attainment of academics' parents), distinguishing what happens in different periods of the context provided by the Mexican higher education system. That is, it is necessary to come closer to a diachronic consideration that would make it possible, at least, to observe with finer detail the dynamics of change (or no-change) and, to that extent, would allow us to propose some conjectures that would make the described transformations more comprehensible.

5.3 A Brief Note on the Periods of Recent Higher Education in México

We will use four time-cuts for the analysis of recent change in Mexican higher education over time. They are not equivalent in amount of years since the periodization is an analytic distinction, that is, it tries to define the conditions of the context of each one of them, without which the evolution of the national academic profession cannot be understood.²

The first one, which goes up to 1982, covers the phases of moderated expansion (the sixties) and the accelerated expansion (the 1970s and beginning of the 1980s) of higher education, as indexed by an unprecedented growth of higher education institutions, student enrollment and the multiplication of positions for academic work in Mexico. In this period, the extent of faculty positions available to assist the growth of new student groups, which reflected the passing from an 'elite' to a 'massified' higher education system, was larger than the amount of people willing to fulfill those positions and who already had higher education studies, or who had even concluded them, at the undergraduate level. It was urgent to attend a growing student demand, unprecedented in the history of the country and, since the expansion was reactive -without profound academic planning (Metzger 1987) and oriented instead by political intentions aimed at renewing the pact with the middle classes (Fuentes-Molinar 1989)- the hiring process of new professors as part of the academic body in the country was carried out among a large group of young people

²For a more detailed description of the periods mentioned here consult Gil-Antón 2012.

who had not been aware of the academic profession as a previous job expectation: for the vast majority of those who became professors in those years, becoming an academic was an ‘unexpected opportunity’ (Pérez-Franco 1992).

The second period, which comprises from 1983 to 1990, is characterized by a slowdown in the speed of enrollment growth, with the consequent decrease in the demand for new academics. This period derived from a very severe economic crisis that struck Mexico. Since 1982, and until the end of the decade, as an example of such crisis, the purchasing power of academic salaries dropped on average 60 %, and the distance between the different categories and levels of the hierarchical structure, regarding its payments, compressed. Before the crisis, the difference in income between the highest category (full professor, level C) and the lowest and usually the initial one (assistant professor, level A), was three times higher; at the end of the decade, it had fallen to less than double, a situation worsened by a big damage in the purchasing power of the Mexican peso (Ibarra-Colado and Rondero-López 2005). In that period, the key question and challenge was how to retain academics with such low salaries, without having the necessary financial resources or the political will -due to the changes in the notion of the State’s tasks in those years- to work towards a generalized salary recovery.

The third period, which goes from 1991 to 1998, is characterized by the gradual, but unceasing, start of an academic salary recovery policy through ‘conditioned monetary transfers’ (Villatoro 2005),³ that is, providing additional income to those academics who agreed to be evaluated in order to validate that they comply with the conditions stipulated by a diversity of programs. This peculiar form of merit-pay, was a way out of the crisis of the previous period and sought to take care of two issues at once: on the one hand, income recovery for a reduced number of full-time academics through a non-salary channel and, on the other hand, the assignment of additional resources based on the presence of certain characteristics such as graduate education, productivity, and the development of academic functions, research and management, that were no longer those that corresponded to attending student demand through teaching as its axis (Galaz-Fontes and Gil-Antón 2013).

The fourth period, which goes from 1999 to 2007 and continues up to this date, emphasizes the previous strategy and strengthens it. At a national level, a single model of full-time academic was established as the one all higher education institutions should adopt. Compliance with such a model pretended to be the solution to the already mentioned drop in income, by those days already stabilized, but turned out to generate a very severe academic stratification between those having the credentials and conditions to fulfill the established requirements, and those who did not.

³The first program of ‘conditioned monetary transfers’ carried out in Mexico for a small sector of the academic body was, in 1984, the National Researchers’ System (SNI by its initials in Spanish), which was conceived to provide additional income, non salary-based, to the subgroup of researchers who were positively evaluated by commissions established for such purpose. Other programs gave continuity, along the same logic, to the general perspective embedded in the SNI program, including research exigencies, performing other academic tasks than teaching and institutional participation, in addition to holding a graduate academic degree (Urbano-Vidales et al. 2006).

The reshaping of the academic profession can be associated, of course, to the normal evolution of a profession that is centered on knowledge transmission and generation (Clark 1987), but also, and not in a lesser extent as we shall try to show here, to the fact that the changes in the depicted periods are intense, with diverse reactions to the public policies targeted at the regulation of the academic profession, including the characteristics that are imposed as the adequate ones to be part of this professional group. We will use these four time-cuts to analyze change among Mexican academics in relation to their first full-time appointment. Let us look now more closely, in the context of the described periods, to the dimensions paid attention to in the first part: feminization, age, highest degree, and parents' educational attainment. Given space limitations, however, we will not be able to pay a great deal of attention to variations, important as they are, along discipline and institutional lines.

5.4 Gender: A Glass Ceiling for Women or the Return of Men?

The participation of women in the group of people who work full-time in higher education in Mexico increased, as we already saw, going from 30.9 % in 1992 to 35.7 % in 2007.

The change is not very large: to be exact, 4.8 additional points are those that female academics increase after three lustrums. A solid gender approach cannot end in the modification of the percentages between two points in time, neither it is sufficient to make a pronouncement regarding the speed and degree of feminization of the Mexican academic body, as an indicator of the reduction in the inequality of opportunities in the access to positions. A stronger analysis requires information regarding the gender of the group of applicants in any given interval, as that information would allow us to observe if there is, or is not, a systematic bias in favor of males in some or more of the periods we are reporting on. We do not have that information, but the analysis of those academics that were hired as full-time academics in each of our established periods, enables us to propose a series of conjectures regarding the evolution of the gender composition of Mexican academics, as such an strategy enables us, with limitations, to study change along a temporal dimension.

Figure 5.1 shows an interesting behavior of female participation as academics in Mexico. Both between the first (up to 1982) and the second period (1983–1990), as well as between the second and the third one (1991–1998), the percentage of females among those academics obtaining their first full-time appointment was increasing and very systematically: it gained, in relation to the previous one, 8.3 points in the second, and 7.4 in the third period. If a similar trend had continued (let us assume an additional 8 percentual points), half of the new full-time academics in the fourth period (1999–2007) would had be women. However, as we can see, the percentage stagnates and even decreases a little to 40.7 %. What happened? How can the stagnation of female participation in the hiring of new full-time academics during the 1999–2007 period be explained?

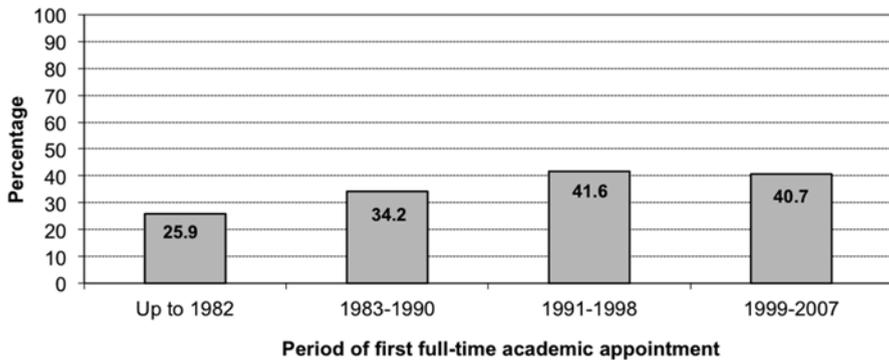


Fig. 5.1 Percentage of females among Mexican academics by period of first full-time academic appointment (Source: CAP Survey 2007/2008)

Certainly, the plateau created between the third and the fourth periods impacts on the gender composition of the 2007 sample; if the previous trend had continued, the entire national full-time academic body in 2007 would comprise, at the least, 42 % of women and not the 35.7 % registered. Has a ‘crystal ceiling’ (a limit in the participation of women) been reached? If such is the case, what are the factors most strongly associated with such a dynamic. Several explanations are possible.

One first possibility is that the limit in the participation of women derives from some restrictions related to different rhythms of growth in the disciplines or as a consequence of limitations associated with type of institution. As it would be natural to expect, women participation rate varied by disciplinary field and type of institution. For instance, in social and behavioral sciences, as well as in business and administration, academic women represented about 43.0 %, as compared to 35.7 % in the whole 2007 sample. In addition, female representation in first full-time appointments during the last period in these academic fields was close to 47 %, as compared to 40.7 % in the 2007 sample. On the contrary, academic women in engineering, manufacturing and construction represented only 20.3 % of total academics in this field, even though the percentage in first full-time appointments during the last period was 28.0 %. The lowest percentage of female faculty (29.1 %) was observed in public research centers, while the highest percentages were identified in federal public institutions (38.7 %) as well as in private institutions (39.7 %). It should be noted that the percentage of women faculty in first full-time appointments diminished in research centers and federal public institutions from the third (1991–1998) to the fourth period (1999–2007), passing from 30.0 % to 25.9 %, and from 47.6 to 45.2 %, respectively, whereas this percentage rose in private institutions, from 41.1 to 47.8 %. The above facts concerning women representation in STEM disciplines as well as in research institutions, which appear to be an important factor in explaining the leveling of female participation among first-time full-time academics, constitute an unresolved dilemma in the context of higher education worldwide (Xu 2008).

A second possibility for explaining the ‘crystal ceiling’ effect is that the stagnation in the entrance of women to the academic profession (attainment of first full-time appointment) is due to the return of men, once the academic job market has recovered the income and prestige it provides or, more over, now that external working positions are scarce and employment in the academic field becomes, once again, an option for men, thus bringing back the impact of ‘gender privilege’ on the hiring process, something that would be noticeable during the entrance, for the first time, into full-time positions. This potential explanation would lead us to conclude that there is a very strong gender inequality: it would mean that the growth of female participation in the profession (being hired for the first time as a full-time academic) could somehow be explained by the relative abandonment by men of this job market, as they lowered their successful participation in the entrance processes for a first-time academic position (from 74.1 % up to 1982, to 65.8 % in the period 1983–1990, and to 58.4 % in 1991–1998). On the other hand, its most recent leveling, that of female participation, would be due to the fact that men have turned their attention back to the academic job market (59.3 % of all first-hired full-time academics in 1999–2007 were men). To what extent, then, is faculty feminization an opportunity that opens when men withdraw during some years from this job market, and then stagnates or decreases when it becomes attractive to them again? Presented in this way, the possible explanation is radical, and although certainly more factors intervene in this process, it is not totally mistaken to include, as part of our explanation of the ‘crystal ceiling’ in the feminization of the Mexican academic body, this variation of the participation of men according to the attractiveness of the positions in the academic profession.

A third potential explanation has to do with some research that suggests that women, once they have earned a master’s or a doctoral degree, do not pursue an academic career, but rather choose a different professional path. It seems that either some of these women do not perceive an academic career as attractive as other job options, which is a matter of personal choice, or there are barriers difficult to overcome for them in entering into the academic profession, which might be related to cultural aspects (Metcalfé and Padilla-Gonzalez 2013). For instance, this decision may be influenced by traditional roles that women play in relation to marriage, motherhood and family duties, such as caring for children and ageing family members (Wolf-Wendel and Ward 2006). In order to balance family and career, these highly trained women will prefer part-time or non-tenure track faculty appointments, which are the least secure, although lower paid (Sax et al. 2002; Schoening 2009).

Furthermore, since now a doctorate degree is the minimum certificate for entering into an academic career, this fact can influence the changes observed, considering that women do not have it or do not enroll at this level to the same extent as men. Official sources, such as ANUIES yearbooks (2010) show that women are a majority in relation to master degree students, but not so at the doctorate level, even though the percentage of women at this level was 42.0, which is higher than the percentage of full-time female faculty in the country. In addition, it is important to take into account that in order to obtain an academic position during the last period (1999–2007), in many cases a master’s degree was required, while the doctorate

degree was just recommended. A similar situation has been found in countries such as Canada and the USA (Metcalf and Padilla-Gonzalez 2013).

More thorough studies, with other type of data and data collection techniques could solve several unknowns about the weight of some aspects that might contribute to the phenomenon under consideration. Additionally, the variability by type of institution, discipline, and predominant academic function to be performed should be considered in more detail. Studies along these lines are pending, but the stagnation of the proportional presence of women in the academic profession is clear... and worrisome.

5.5 An Aging Academic Profession

In section one of the this chapter we pointed out that Mexican academics were on average 10 years older in 2007 than 15 years earlier; average age rose from about 40 to almost 50 years. In explaining this general issue, demographics factors should be taken into account, such as those associated to retirement patterns. In addition to the previous factors, it is essential to consider the availability of new faculty positions and the requirements that academics have to fulfill in order to occupy them (most prominently academic degrees), the average age of doctorate earners, and faculty attrition rates, among others.

In order to have a more detailed image of the way in which the age of Mexican academics has evolved during the last five decades, Fig. 5.2 presents the gradual increase on academics' average age at the moment of obtaining their first full-time appointment, according to the established periods of recent Mexican higher education development.

As when comparing academics in 1992 and 2007, in Fig. 5.2 we can also appreciate a 10 years difference between those faculty first hired as full-time academics in the period of up-to-1982 (27.5 years), and those hired during the 1999–2007 period (37.0 years). The corresponding figures were 29.7 years in the second period and 33.8 years in the third period. While the delay in retirement, few academic positions and an increasing demand of graduate studies all tend to increase the age at which academics are first hired in full-time positions, the systematically increasing trend in age that we see in Fig. 5.2 is very likely associated with the change in the hiring requirements brought about by the implementation of public policies aimed at increasing the academic credentials of full-time academics working in public institutions (Urbano-Vidales et al. 2006), as it happens in countries with developed higher education systems.

The evolution of this trait, however, is not general to all academics. As it would be expected, academics in different disciplines present different career trajectories in reaching the doctorate or the highest degree offered in its discipline. So, during the fourth period (1999–2008) the lowest average age at the first full-time position was observed in life and physical sciences (34.7 years) as well as in research centers (33.9) and private institutions (32.0 years), whereas academics in the business and

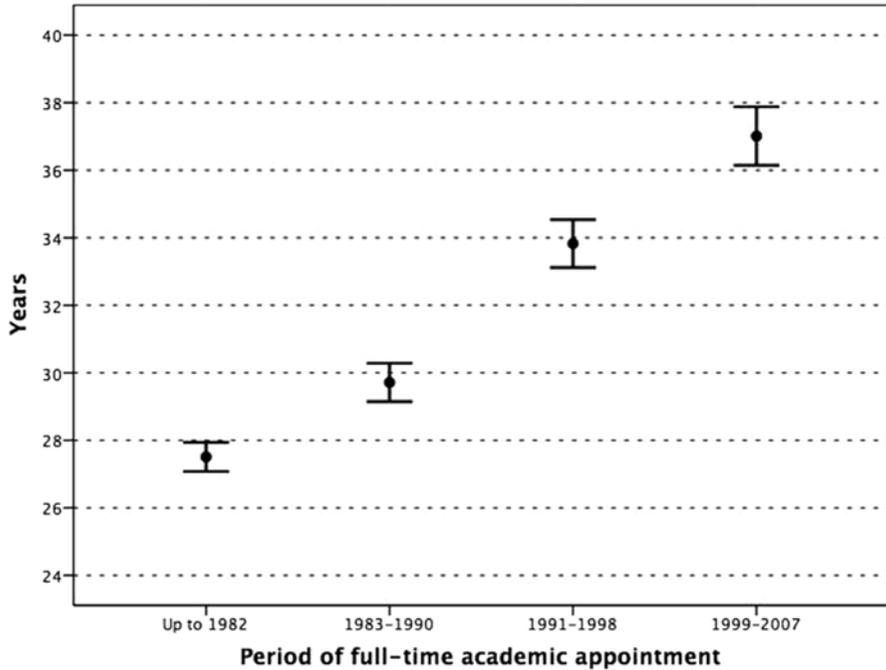


Fig. 5.2 Average age (and corresponding 95 % CI) in first full-time appointment among Mexican academics (Source: CAP Survey 2007/2008)

administration fields presented one of the highest average age (41.7 years) when they were first hired in a full-time position. If one considers that many of these academics might be coming from working professionally outside academic institutions, these figures seem quite reasonable.

The pace of the above ageing process for Mexican faculty is expected to continue in much the same way in the near future, as older academics may delay their retirement due, on the first place, to institutional and economic conditions involved in this decision and, secondly, to a low availability of new full-time positions. More research is needed in order to fully understand this phenomenon and to generate strategies to deal with it, such as maintaining the vitality of older academics who wish or need to remain working, among others.

5.6 The Variation of Educational Levels: Re-engineering or Renovation?

Table 5.1 allows us to compare data from 1992 and 2007 in relation to the highest academic degrees hold by full-time academics. As it can be observed, at the beginning of the decade of the 1990s 50.4 % of them only held a licensure degree, while 15 years

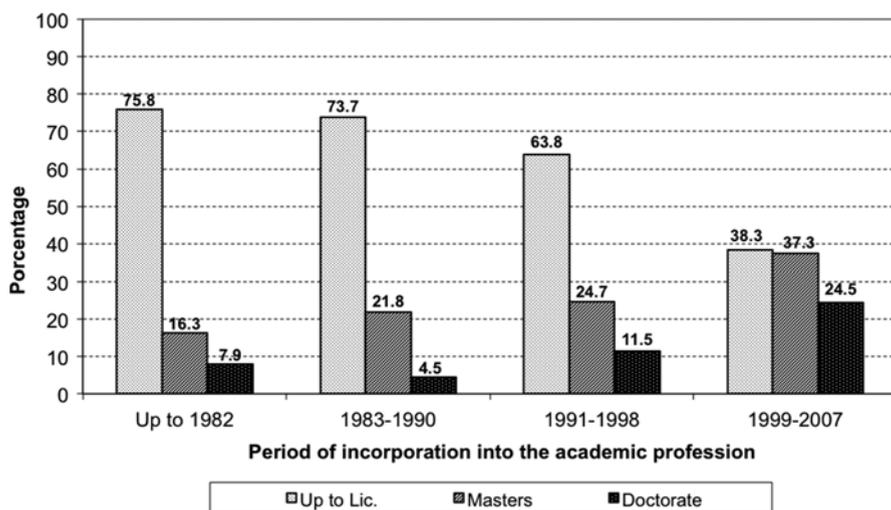


Fig. 5.3 Highest degree of Mexican academics in first full-time appointment (Source: CAP Survey 2007/2008)

later this percentage had been reduced to a half (24.8 %). It is also something to observe that of the 38 out of each hundred that held a master's degree in 1992, the number goes up to 42 out of each hundred in 2007. However, the most significant change occurred in relation to those academics who held a doctorate degree: they went from being 11.9 % of all academics surveyed, to 33.5 %. The 1992 percentage almost multiplies itself by three by 2007.

The contrast is clear: the possession of a licensure degree as the highest degree plummets; colleagues with a master's degree increase, but almost all the weight that the undergraduate level loses is gained by the doctorate level. Although the average age of the faculty in 2007 indicates broadly that the recruitment of young people has not been the only source of new doctorates (because in their case the average age would be lesser) in the new configuration of the academic body in the country, it is necessary to elucidate if the intense modification in the current degrees corresponds mainly to the impact of new entrants to the profession with doctoral studies already finished, or at least with graduate ones, or to the 're-engineering' process by which the attainment of graduate degrees for a large part of the former in-service academic body, was promoted. To do this, a look at the levels of education of those who entered into the academic profession by period enables us to open lines of analysis on this variation (see Fig. 5.3).

As it can be observed in Fig. 5.3, during the first two periods, that is, before 1991, when still no federal policies emphasizing graduate education among academics were in place, the proportions of new faculty with different highest degrees are very similar, and it stands out that three out of each four positions (85.8 % for up-to-1982, and 73.7 % for 1983–1990) continued to be granted to academics having obtained only a licensure degree. The influence of the policies established during

the following periods are clearly visualized, since the faculty members who entered the profession just with a licensure degree decreased almost by half in the last period (38.3 % in 1999–2007, coming from 63.8 % in 1991–1998), while those who entered already holding a doctorate degree multiplied by five (from 4.5 % in 1983–1990 to 11.5 % in 1991–1998, and finally to 24.5 % in 1999–2007).

As we approach current times, the proportion of those who were granted a full-time academic position for the first time with only a licensure degree decreases, in a more pronounced way between the third and the fourth time-cut, although it does not disappear as would be expected according to the hiring policies (still 38.3 % in 1999–2007). People holding master's degrees become systematically larger in number: there is growth among all periods, but the increase has a greater slope between the third and the fourth (a difference of 12.6 percentual points). There is, then, an inverse movement: the percentage that began their academic career with the minimum degree decreases, while the ones with a master's degree increases. The fall of the first and the rise of the second one are emphasized between the decades that signal the end of the twentieth century and the beginning of the twenty-first century. In the case of the doctorate degree we observe a different movement: first it decreases (from 7.9 % in up-to-1982 to 4.5 % in 1983–1990) but, considering the third and later periods, it can be observed that it is radically modified upwards, as it increases a little more than its multiplication by five (to 11.5 % in 1991–1998, and then to 24.5 % in 1999–2007).

There are, then, reasons to claim that a part of the increase of the doctorate as the highest degree in the current full-time academics group in the country is due to the gradual entrance of more academics with a doctoral degree as an initial feature in their career. However, for it to be the sole factor and even the most relevant in the explanation of the change between 1992 and 2007, the moment in which 75 % of the academic body had earned a graduate degree, it would have been necessary that almost all of the new members in the last periods held that degree. However, in each interval considered there were new academics with still only a licensure degree. So, although the increase of doctorates as recent hires is most relevant, during the first years of the twenty-first century more than one third of them – almost four out of each 10 – had joined the guild having only a licensure degree, and another similar proportion a master's degree.

Therefore, the distribution by academic degree that is observed in 2007 is a combination of both modifications in the degrees through time of the personnel who started their careers (obtained their first full-time academic appointment) without having obtained their doctorate, and the entrance of people who initiate their career already with that certificate. There has been a considerable amount of 're-engineering' in order to change academics' level of studies along the way.

These outstanding modifications in the composition of the academic body could not be understood without considering a public policy, a particular program, with two components: on the one hand, starting on 1989 education authorities at the national level decided to support the attainment of graduate degrees in the in-service academic body at that time. This policy gained more strength in 1996 with the creation of the Program for the Improvement of the Professoriate (PROMEP) whose

main objective was aimed at achieving a situation where most of the academic personnel would fulfill two characteristics: a full-time contract and a doctoral degree (or at least a master's degree) in a term of 10 years.⁴ On the other hand, besides the financial aid to support paid leave of absence of faculty members in pursuing their graduate studies, the program placed a very strong incentive for its achievement: the doctoral degree became the key for academics to be able to obtain more resources -monthly incomes through scholarships or diverse ways of merit-pay, as noted above- as well as for receiving grants to carry out research. The 're-engineering' procedure was opened with 'generosity' and was implemented not only in disciplines that had, as part of their ethos, the way to ascend in the academic ladder through classic graduate degrees, but it also included professional fields that in the past were considered prestigious due to their professional work outside universities, as in the case of engineering, architecture, or law (Galaz-Fontes and Gil-Antón 2013; Urbano-Vidales et al. 2006).

The data by academic field makes it possible to observe both the strength of the policy that promoted the doctoral degree for all academics, but also the relevance of the disciplines in which academics work. It is argued in this chapter that academics from life and physical sciences, mathematics, social sciences, and humanities already had a tendency to obtain classic graduate degrees. In the 2007 sample we observe how the program fostering the doctorate degree has contributed to the growth of a trend that was already clear: for life and physical sciences, the change regarding the doctoral degree rose from 23.5 % (the highest in 1992) to 62.4 %; in social sciences, from 13.4 to 42.5 %, and in humanities from 13.2 to 30.8 %. On the contrary, in agricultural sciences and related disciplines there was no doctorate in 1992, but in 2007 the percentage was 34.3 %. This is a very big leap. The same happened in engineering (from 4.4 % in 1992 to 27.4 % in 2007) and in administrative sciences, where the biggest leap can be observed at the master's degree level (from 32.1 % in 1992 to 62.9 % in 2007).

As it can be observed, even in the last period (1999–2007) there were contracts granted with only a licensure degree; moreover, just 24.5 % of first full-time appointments were granted to Ph.D. holders. This percentage presented significant variation across type of institutions. For instance, it rose to 84.6 in public research centers, while it decreased to 17.9 % in public state institutions, and to 9.1 % in public technological institutions. These figures speak, in addition to the discipline factor, to the relevance of the type of institution in which academics work.

It cannot be firmly sustained based on the most recent sample, but it is not mistaken to mention, as a conjecture, that since in Mexico the larger enrollment is located in medicine, administration, and law, such programs require the hiring of professionals with broad experience in the application of knowledge on job markets external to academe, where professional practice allows, with only a licensure degree, the acquisition of expertise on the application of the know-how in those areas.

⁴By no means in 2006 all academics held a full-time appointment. It is not until recently that around one third of all academics hold such type of position. On the other hand, currently a large proportion of all full-time academics hold now a graduate degree, but mostly not a doctorate (Gil-Antón 2000).

For higher education institutions devoted largely to teaching it is therefore unavoidable to hire as academics such type of practitioners, as their economic income, and working conditions in the external job market have no comparison (upward) and do not legally require a doctorate to do their job. Somehow, it is likely that a large amount of them are the ones hired with only a licensure degree, since their job at the university does not require higher credentials, particularly if what it is expected of them is to be largely involved in teaching. In other countries such is not the case, as even in such professional fields as law, psychology and education professionals have to have a doctorate or a terminal degree in order to be involved in a professional practice outside the university context.

5.6.1 Academic Degrees and Gender

We have already observed the changes in the highest academic degree reached in the 15 years that separate the 1992 and 2007 portraits of Mexican academics. However, it is important to explore if the distribution of the various certificates is different when controlling by gender.

Let us remember: in 2007 about one quarter of all academics, both male and female, reported that they held a licensure as their highest degree: 42 % reported a master's degree, and 33 % a doctorate. We can observe in Table 5.2 the distribution of this same indicator by gender, with the advantage of being able to compare, even if briefly, these figures against the previous situation.

In 2007 the distribution of highest degree among men is more alike to that of the total -there is a composition effect, that is, their number partly explains the similarity to the values of the whole- (26.1, 38.1, and 35.8 % respectively) but it is interesting that when they are separated from the total (there are 4 % points less in the master, and 3 additional points in the doctorate) there is a convergence in the opposite direction to the distribution of female academics (22, 49, and 29 %). That is, women in the academic profession are concentrated more in the master's degree (7 percentual points more than the total and 11 in comparison to men), and they are less in the doctorate: 4 point less than the total, and 7 in relation to male academics, although in licensure the proportion of men is greater than the total and that of their female colleagues, 3 and 4 percentage points respectively.

A look at the situation in 1992 shows that the distances just described have widened, in such a way that again questions arise regarding the dynamics associated to gender. The clearest of all is the distance between the percentages of female doctorates. Before, in 1992, about a point and a half less than men (10.8 % vs. 12.2 %). Today, it is almost five times greater than before (6.9 percentual points). The increase in the proportion of female academics with a master's degree, on the other hand, is no less considerable, although smaller (from 40 to 49 %): is the 'preference' for a master's degree related to the survival of traditional roles, for example, maternity or caring for children or elderly people at home, which lead to less prolonged studies? Is this degree, the master's degree, more associated with teaching functions than with those of research; is it meaningful in terms of the 'logic' established as natural,

Table 5.2 Gender by highest degree of Mexican full-time faculty in 1992 ($N_T=609$) and 2007 ($N_T=1775$)

	1992		2007	
	<i>n</i>	%	<i>n</i>	%
<i>Females</i>				
Licensure (up to)	91	49.2	138	22.1
Masters	74	40.0	305	49.0
Doctorate	20	10.8	180	28.9
Total	185	100.0	623	100.0
<i>Males</i>	<i>n</i>	%	<i>n</i>	%
Licensure (up to)	212	51.0	293	26.1
Masters	153	36.8	428	38.1
Doctorate	51	12.2	402	35.8
Total	416	100.0	1123	100.0
<i>Total</i>	<i>n</i>	%	<i>n</i>	%
Licensure (up to)	303	50.4	431	24.7
Masters	227	37.8	733	42.0
Doctorate (up to)	71	11.8	582	33.3
Total	601	100.0	1746	100.0

Sources: For 1992 Carnegie Survey (Gil-Antón 1996); for 2007 CAP Survey 2007/2008

being deeply cultural, of teaching being more typical of women, and of research being more natural of men?

As we have mentioned in other cases, it is necessary to do more research on these crucial topics, but there is a clear tendency: the urge for degrees is general, yet the attainment of the doctoral degree -and its benefits derived from the 'conditioned monetary transfers' already summarized- is much greater in the case of men. Between the two photographs, female doctorates go from 11 to 29 %: 18 points more; men with that degree, from 12 to 36 %: 24 percentual points more.

In addition, if we consider all men and women with graduate degrees, a larger proportion of women, compared to men, hold a graduate degree: 78 % versus 74 %. Does this have to do with the predominance of men in the professional areas outside higher education, where it is even more frequent to find licensures? What is being addressed is not trivial. The questions, based on these data, are more precise and point to important inquiry works, since they enlighten our understanding of the reshaping of the profession, but they also speak about the need to compare these cultural changes considering spaces located beyond the academic spheres.

5.7 Pioneers or Heirs? A Contrast Between Two Photographs

Due to the speed of the hiring of new faculty members at the beginning of the expansion period, as well as due to the relative absence of people with higher education in Mexican society back then, it was possible in 1992 to realize that the immense

majority of academics (68.3 %) fit in the classification category of ‘pioneers,’ in the sense of being part of a family whose parents have no higher education background (see Table 5.1). These persons reached higher education in a double leap: as students and then as part of the academic personnel. By 2007, pioneers represented 70.3 % of all full-time academics.

Because parents’ level of education tends to be a constant, finding little variation in the proportions of pioneers can be an indicator, either of a high permanence of the academics in this period, or that the hirings in the most recent periods were also mostly pioneers. So, the small change in the percentages along this dimension in the 2007 data comes mainly from the new hirings.

As with the previous variables discussed in this chapter, it is possible to look at the variation of academics’ parents educational attainment across the periods of their first full-time appointment.⁵ In this exploration we will consider pioneers and heirs. Pioneers, as it has been stated previously, are those academics who come from parents in which none of them had contact with higher education. The second group includes academics with at least one parent with experience in higher education, and in such case they are named partial heirs. Lastly, those academics who come from couples where both had access to higher education will be labeled as heirs.

In a departure from previous analysis, those academics who obtained their first full-time appointment up to 1970 are differentiated from those who did so between 1971 and 1982. This additional periodization will make it clear that before the accelerated expansion, academics were ‘more selected’ in terms of their parents’ level of education, a tendency that was broken due to the speed of the expansion in the 1970s until the beginning of the 1980s. With these clarifications we can observe Table 5.3.

As it can be observed in Table 5.3, of those academics who entered the profession in the 1999–2007 period, 37.3 % have higher education antecedents on at least one of his parents’ side, and 14 % are heirs, that is, both of their parents had some higher education experience. In the previous periods of incorporation into the academic profession the percentage of academic heirs change, systematically, downwards, except for colleagues who still belong to the current academic body and who entered in the earliest phase considered (up to 1970), previous to the accelerated expansion, in which case, 1 out of 10 was heir considering both parents, and another 40 % was a partial heir (mainly on the father’s side).

With that initial look, it is possible to hold the conjecture of a growth of academic heirs and the subsequent reduction of pioneers, systematic through time, except in the case of academics hired up to 1970. It is a fact that nowadays there are considerable more people in higher education in the country in comparison to the decades of the 1970s or 1980s of the twentieth century, but at the same time the amount of new full-time positions available are scarce; so much that -perhaps- the fact of being heir becomes again a characteristic that offers an advantage in a moment in which the market is both shrinking and more competitive, while in periods of vertiginous expansion of positions that situation did not play a role as a relevant variable.

⁵This exercise has been done in a more detailed way by Gil-Antón (2014).

Table 5.3 Parents’ education attainment of full-time faculty in 2007 by period of first full-time appointment

Period of first full-time appointment	Pioneers ^a		Partial heirs (a)		Heirs (b)		With higher education antecedents (a + b)		Total	
	n	%	n	%	n	%	n	%*	n	%
Up to 1970	15	37.5	16	40.0	4	10.0	20	50.0	40	2.3
1971–1982	156	39.5	77	19.5	26	6.6	103	26.1	395	22.4
1983–1990	200	45.9	70	16.1	33	7.6	103	23.6	436	24.7
1991–1998	138	32.7	84	19.9	48	11.4	132	31.3	422	23.9
1999–2007	152	32.2	108	22.9	68	14.4	176	37.3	472	26.7
Total	661	37.5	355	20.1	179	10.1	534	30.3	1765	100.0

Source: CAP Survey 2007/2008

Source: Gil-Antón (2014)

^aPioneers = Both parents with basic education or less; Partial heirs = At least one parent with access to higher education; Heirs = Both parents with higher education

*The percentage of the total is by column. Horizontal percentages do not add up 100 % since only some of the possible combinations were chosen, the most significant to the analysis of intergenerational variation

If we consider just the most recent period of entrance in the academic career (1999–2007), it is possible to identify significant differences across academic fields and type of institutions. On one hand, social and health sciences presented the highest percentages of heirs and partial heirs (51.2 % and 38.5 % respectively), while life and physical sciences as well as administrations and business presented the lowest (25.4 % and 23.7 %, respectively). On the other hand, private institutions (56.3 %) and research centers (50.0 %), followed by federal public institutions (43.2 %) comprised the most significant amount of heirs and partial heirs, while public technological institutions (12.1) presented the lowest percentage of them.

There is much more to explore about this, but the seed is promising. This analysis illustrates what we think is needed, in order to know in more detail the ‘new academics’ that constitute the academic profession in Mexico.

5.8 Concluding Comments: Change and Permanence

What can we say at the end of this chapter in relation to the demographics of Mexican academics? When observing in detail two important features, the feminization rate and the highest degree attained, placing the periods as a general context and, certainly, the change in the age of the academic body, the use of the word ‘reconfiguration’ -having another figure, another shape- is adequate. In 15 years, female participation as well as educational attainment of faculty members has generated a different structure: more female academics reflected in almost a 5 %

increment, and many more members of the profession with higher academic degrees (from 49.6 % in 1992 to 75.2 % of full-time academics holding a graduate degree in 2007).

However, this reconfiguration does not occur in the void, but it is oriented by changes in the conditions of the context and encouraged by public policies with powerful incentives. In the case of the feminization rate, the slope changes to transform itself into a plateau. Beyond the conjectures proposed, the findings in this transformation open the door to a motivation to carry out specific research in order to answer questions that until now, the aggregated data and the way it has been collected, do not allow.

The increase in the education levels seems the most comprehensible: the number of faculty members with graduate education significantly increased in the country after the period of expansion of higher education, but it leveled off during the eighties, and regained impulse in the two decades that border the new century. It is asserted that such a dynamic took place because an incentive so powerful as money was used to promote the attainment of degrees higher than licensure, to which recognition and prestige are added. Also, generous opportunities were offered for achieving higher degrees while professors were in service. A result of this combination of factors, plus the impact of other financing schemes directed at public institutions, have made that new academics are being required to a greater extent to hold a doctorate degree as a starting condition for a full-time position in almost all areas academic fields. There are more doctorates in disciplinary areas where this was not frequent or even nonexistent, it is true, but higher education institutions continue to hire in many fields professors who hold just a licensure or master degree.

However, there is no public policy, even if commanded by money, able to twist completely the trends already pointed out by the sociology of the universities regarding the ethos in prestige and socialization processes of the tribes within the academic profession (Becher 1989). There is an impact, yes, but resistance leaves a print and it has not been proven, through research, that these features have changed the quality of the practice of the substantive academic functions: teaching and research.

Change, permanence, policy impact, and control; persistence of habits and traditions, crystal ceiling or very hard cement ones, cracks through which paths are being open. Contrary to a structural perspective in which social actors have no margin of action, without stopping to consider the economic, working, and political management of the system environments, this comparative perspective facilitates observing that there is diligence, that there is a margin of action of the subjects and of certain groups: they are not necessarily puppets, although they might be conceived that way. They are actors, and on the stage of the academic profession the roles are conditioned, but not defined. Social life is like that and the academic profession is part of it. It could not be otherwise.

We conclude with a reflection about features that change and others that remain. We began this article by stressing the constant tension that takes place during the evolution of small tribes in the broad territory of the academic profession. Certainly the actors, without fully being 'others,' since the permanence rate in the

activity is significant, have changed, and the new members, although relatively few, impact with their distinctive features. At the same time, strengths that oppose the public policy pressures and its incentives are acknowledged.

To sum it all up, change and permanence are generated in that, human beings, far from being epiphenomena of structural and political conditions, or a forever non-modifiable creation, are, in effect, actors: they are active agents, they move, reinterpret policies and adapt them to their institutional and disciplinary conditions. Has the academic profession been reshaped, reconfigured? Up to a certain level, it is unquestionable; in another sense, more research would have to be done to separate the real impact in comparison to the expected indicators and thus come closer to the magnitude of the change. What is evident is that, without being completely so, we are not the same who stepped into the river years ago -although we know where we come from-, neither is the river – the country's circumstances and the development conditions of Mexican academics. Adjustment, adaptation, change, and permanence: human life in a society. It could not be otherwise.

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