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Abstract

Private higher education literature recognizes large public-private differentiation in terms of field of study. Relative to public counterparts, private universities tend to offer their services in fields that require low initial investments and present at least relatively attractive internal private rates of return. Thus, the main objective of this paper is to evaluate the university market in Argentina to confirm if this pattern is still present or, due to political and market forces, for example, private-public differences have tended to blur overtime. We study this dynamic from both the supply (percentage of institutions offering a determined degree program) and the demand side (percentage of students). Although important to assess public-private differentiation, the former has not been the object of in-depth analysis in the literature. The demand side, much more studied, is evaluated here through a longitudinal approach (1975-2006) to see if the public-private distinction is now less fundamental. A main conclusion is that public universities have gotten more and more into "private waters" while, when there is an opportunity, privates have increased their presence in some fields that were once "public property".

Introduction

The most direct objective of this paper is to analyze the private and public university market in Argentina in terms of field specialization (supply), and the distribution of students among different fields of study (demand) at the undergraduate level[1]. Surely, the global private higher education literature has repeatedly confirmed Levy's (1986) initial finding that public and private differences in terms of demand tend to be large and fundamental. Subsequent research corroborated that Argentina was not an exception (García de Fanelli and Balán 1993). Also, studies of Latin America have established that relative to public institutions, the private sector concentrates in the social and humanities (Levy 1986; de Moura Castro and Navarro 1999; CINDA 2007). However, it is also true that public universities are changing in the distribution of its students in terms of field of study. Levy (1986) already identified that public enrollments were experiencing adjustments toward more traditional private fields. In Argentina, for example, as Cosentino de Cohen (2003) noted that since the 1980's, student enrollment in social and human sciences in national (public) universities grew relative to medical and basic sciences[2]. Continuation of such trends would bring a lesser public-private differentiation, particularly if privates find an opportunity to offer their services in previously non-traditional private fields.

Using statistics provided by the Secretariat for University Policies (SPU), first, the intention here is to evaluate public-private differentiation in terms of academic supply. By supply we mean offerings. Here we will look at the organizational shape of an institution in terms of available fields of study. Specifically, if the sector (private or public) has the infrastructure and thus is ready to produce, independent of the production itself, chemists, meteorologists or, let's say, lawyers. This supply approach has not been the object of an in-depth analysis in the literature, but is important in assessing public-private distinctions. Second, we will look at the demand side, as gauged by enrollment by field, the conventional mode of analysis used in the literature. In doing so, we also add a longitudinal dimension, to get beyond

[1] Our data deal with the country's universities, leaving aside the non-university side. The university sector accounts for almost 70% of total higher education enrollment (INDEC 2001). In the non-university market, the private side is well represented, accounting for 40% of all enrollees. In terms of fields of study, the sector strongly specializes in education. Almost 53% of all students are trained as primary or secondary teachers. However, here a public-private differentiation surges. More than 60% of public students are enrolled in education. On the other hand, only 37% of enrollees in the private side pursue the same academic degree (Sigal and Wentzel 2002).

[2] In this work, the words public and national are used interchangeably. Except for one provincial university (state), all public universities in Argentina are national institutions (federal).

static public-private differences and assess the evolution of enrollment in both sectors. The objective is to see if sectors have tended to converge over time, thus reducing public-private differences.

In a basic economy, supply represents how much the market can offer of a certain good or service. On the other hand, demand refers to the amount of that good or service that is desired by consumers. Equilibrium is reached when the quantity demanded by consumers equals the quantity offered by suppliers. Excess of supply occurs when the equilibrium price of the market is less than the price that the good or service is supplied. For example, in the university market, an institution can offer certain study programs that consumers are not interested to acquire, or could consider them as pricy (above equilibrium)[3]. At that price, with scarce demand, some suppliers will decide to withdraw from that market, or specifically not to enter, particularly private providers. On the other hand, some public suppliers will stay even at this price. We must consider that the state generally assumes certain responsibilities as, for example, be present in certain fields of study even when demand for it is limited. Thus, without an economic incentive to reduce the cost for attendance to stimulate the demand (i.e. scholarships), excess of supply would remain. The consequence would be a more heterogeneous public provision, or supply, in terms of study programs in comparison to the private sector. On the other hand, public-private differentiation in terms of demand (student enrollment according to fields of study) would be less clear. If this situation holds true for the Argentine case, we can expect a stronger intersectoral differentiation in terms of supply than from the demand side. Operationally, supply in this work is defined as the percentage of institutions in each sector that offers a determined study program.

Given that Argentine enrollment has significantly increased since the early 1980's, student demand for different study programs will be analyzed within a longitudinal approach. The intention is to study the evolution of students among different fields of study since the mid 1970's. Thus, the main goal of this paper is to see if a decreasing public-private distinction has been taking place during the last three decades of great growth in Argentina in terms of demand. Of special interest will be to analyze if the conjunction of free market forces and public intervention that has taken place in the university market since the mid 1980's has affected students' decision whether to enroll in one or another discipline.

[3] A study program could be considered expensive even if direct cost to students is zero (no tuition costs). According to the theory of human capital, individuals tend to invest time and money in education if the present value of the expected benefits (labor market payoffs) outstrips the cost of attendance and forgone earnings or opportunity cost.

Of course we know that public-private differentiation goes beyond enrollment by fields of study. For another thing, curricular differentiation also makes for public-private distinctiveness. In this sense, we recognize some limitations of an approach that looks at percentages of enrollments by field. On the other hand, given that the Argentine is a national system, where diplomas' validation is a prerogative of the National Ministry for Education, we can speculate that programs of studies' differentiation are, to some degree, limited. Homogeneity in this case derives from a state that allows less autonomy to privates than to publics to define their own curriculum and structures[4]. Such a situation may arise when the state trusts more their national institutions than the private counterparts (Levy 1999).

Section 1 presents a general overview about the evolution of the public and the private university sector in Argentina. Specific attention will be paid to the period of the 1960's-1990´s, the time during which a series of particular public policies affected the development of the university market. The case study per se is introduced in section 2, where we compare if public and private universities specialize in different areas of study. Both sectors will be examined from the supply and the demand side respectively. The former is intended to test public-private differentiation in terms of service availability. Academic supply has been divided into 34 academic programs within 5 different fields of study. On the other hand, by analyzing each market from the demand side within a longitudinal approach, we are evaluating public-private enrollment overtime. The objective here is to find how each sector evolved in terms of student enrollment. Specifically, we explore to see if both markets have tended to converge in terms of study programs, thus reducing public-private differences. Given that classification of fields of study provided by the Ministry for Education changes over time, it was not possible to break fields of study down into 34 academic programs. Consequently, when enrollment was studied, sciences have been dissected into four different fields and 15 academic careers. Levy (1986) found that public-private differentiation tended to be more pronounced when fields of study were desaggregated. However, in a longitudinal analysis, stronger validity is accomplished if variables or observations to be compared are the same during the period under analysis (Krathwohl 1993). Thus, we made a relative aggregation of data to keep panels in terms of field of study intact over time. Final conclusions close this work.

[4] Although no private university is allowed to open its doors without state permission, they are not granted definitive authorization before they prove to be academically serious. After this period, that could last even more than 10 years, private universities get more freedom to define their own curriculum.

1. The University Market in Argentina

The Private Sector: Private higher education in Argentina began late in comparison to other university markets in the region[5]. But by the end of just the first decade, the 1960's, Argentina had a mature and dynamic sector. Capturing almost one every five university students, the private university consolidated its presence. As the opening of the private sector was from the very beginning a major public policy issue, though public control did not imply rational planning, the expansion never took the state by surprise, as happened in many Latin American countries (e.g. Mexico). However, in crucial respects, Argentine public policy measures were far from fostering non-public alternatives.

Whereas private growth does not always come through explicit public help (Levy 2006), Argentina offers a stark case of private development in the face of unfavorable public policies. For example, open admission in national institutions implemented between 1973 and 1976, and again since 1984 to today, has helped to channel the demand for university education toward public institutions. As a consequence, the demand for private options suffered a deceleration. This open policy, together with no public money available for students' loans, at least for undergraduate education, put a stop to a stronger private development.

Also, during the 1970's and 1980´s direct public action conspired against the expansion of the private market, at least when the sector is analyzed in terms of the opening of new institutions. Specifically, no new private universities were legally allowed to open their doors during a span of 16 years (1973 to 1989)[6]. Thus, a limited regulation during the 1960´s allowing a dynamic private growth was followed by more public control hampering a stronger consolidation. However, the 1990's brought private universities another chance to reaffirm its presence. Regarding the number of institutions, the sector grew vigorously, surpassing the number of public universities. Not accidentally this period coincided with a pro-market reform centrally operated from the Ministry for Education (ME). The passage of the Higher Education Law (LES) in 1995 is the legal testimony of this aspiration, where the central authority gave enough room to private ventures, promoting

[5] The first private university in Argentina, the Pontifical Catholic University, opened its doors in 1959. In comparison to Brazil, Mexico and Chile, as three of the most important systems in terms of student enrollment, Argentina was preceded by 19, 25 and 71 years respectively in putting an end to the public monopoly.

[6] A governmental decree issued by the peronist government (1973-76) prohibited the creation of new private universities (García de Fanelli and Balán 1994).

competition within the whole university market. Thus, during the 1990's the number of private institutions almost doubled[7].

Yet more freedom has been generally accompanied by more control. That is, the creation of the National Commission for University Evaluation and Accreditation (CONEAU) in 1996, an independent public organism that works within the orbit of the ME, has strongly limited the expansion of the private market. For understanding its role as a strict controller, enough will be to say that since its creation, CONEAU has evaluated 88 private institutional projects. Only 22 percent of these presentations have received a favorable verdict, a figure that decreases to 13 percent if we include those universities that voluntary withdrew before getting the final decision. In other words, only 11 institutions were allowed to function as accredited universities or university institutes (CONEAU 2005)[8]. Thus, after a relatively "permissive" period of 5 years, when public restrictions appeared to be less strict (1990-1995), the CONEAU imposed new regulations limiting the expansion once again. In this sense, the action of CONEAU can be in part portrayed as a kind of formal delayed regulation[9].

Between 1990 and 1995, however, 22 new private universities opened their doors. Serious entrepreneurs, foundations, non-university institutions, in general with previous academic experience, were waiting for this opportunity, or lobbying for it. On average, the market witnessed the appearance of good academic quality projects, within a mix of elite and serious demand absorbing institutions[10]. With a growing private supply generating a new demand, many investors perceived the opportunity and tried to enter to offer their services. Thus CONEAU acted as an entry barrier, rejecting the opening of more than 70 new private universities.

In any case, the consequences of these changing policies limiting the consolidation of the private sector surge clearly when the market is analyzed

[7] In 1989, the private market had 23 universities. At the end of the following decade there were 44 institutions (SPU 2006).

[8] An extremely low proportion of full-time faculty members, a deficient research planning, libraries with scarce or irrelevant bibliographic material, and a cash-flow plan denoting financial fragility are some of the most common causes that CONEAU finds incompatible with lifting the barriers to allow new players in the university market.

[9] As Levy (2006) reveals, accreditation agencies often surge after the expansion takes the public sector by surprise. The state reacts through delayed regulation to limit private growth or at least low quality growth.

[10] Before the opening of CONEAU in 1996, public control through the Ministry for Education avoided the creation of mediocre private universities, particularly if mediocre refers to "garage institutions". The fact that CONEAU did not force any private university to close down the doors to "clean" the market, confirmed the effectiveness of the Ministry.

in terms of demand. Private impact is limited in comparison to other countries in the region. For example, striking growth in Colombia, Brazil and then in Chile, allowed the private sector to outnumber public enrollment. A 17.4 percent student enrollment share in 1970 in Argentina was followed by a 11.6 percent in 1975, and again from 19.3 percent in 1983 -its highest proportion- to 12.7 percent in 1985. Currently, it is slightly above 17 percent. With up and downs, present relative enrollment is in the same level as 4 decades ago. And although we recognize that the private university has consolidated its presence in terms of supply, with 58 of all 106 universities and university institutes, from the demand side its performance has been less convincing.

The Public Sector: With a total of 47 national institutions, the public sector is dominated by the University of Buenos Aires (UBA), a mega institution created in 1821. With 358,000 undergraduate students, currently this institution has 27 percent of all public enrollees. Except for National University of Córdoba (UNC) and National University of La Plata (UNLP), institutions that enroll around 100,000 each, the rest are medium and small-size universities in terms of number of students.

Decisive reforms took place during the last half of the past century altering the flows of students. With periods of free and open admission, followed by others where quotas and also tuition fees were charged, the national system can be portrayed as the sum of unconnected and spasmodic movements. For example, with the idea of controlling the demand, the military junta that took office in 1966 restricted the admission of new students by implementing entry examinations (Cano 1985). Nevertheless, the democratic government elected in 1974 changed the rules, stimulating the enrollment of new students. Entry examinations were suppressed and the policy of open admission was adopted. In 1976, a new military junta overthrew the constitutional government (Floria and García Belsunce 1988). As expected, policy was radically changed once again. Entry examinations were implemented according to the career chosen by the student. The measure contracted the demand for public education immediately, showing how political decisions are effective to control the demand, at least in the short run (García de Fanelli 2005)[11]. The number of admitted students was also regulated in relation to regional and national priorities, availability of financial resources, and the equilibrium between the supply and demand of vacancies (Ghioldi, Izcovich, and Armendáriz 1990). Also, in April 1981 the *de facto* government introduced tuition fees in national universities, a policy

[11] In the long run, the demand for higher education is fundamentally determined by the evolution of the number of secondary school graduates, for example, where political decisions are less effective.

instrument that had been abolished during the government of President Juan Domingo Perón in 1949.

Another substantial adjustment took place in 1983, the year in which Argentina returned to democracy through free presidential elections. Again an open admission policy was devised to ensure that all high school graduates received university education, eliminating all entry restrictions and student fees, procedure implemented in 1977 by the military junta. Regardless of their academic competences, or the economic need to expand certain fields of study over others, students had the chance to enter any national university, and to enroll in any academic career of their wish. As expected, enrollment in national universities grew strongly and consistently, with many students switching from private to public institutions. As a consequence, the number of enrollees in private institutions decreased by 7.6 and 6.2 percent in 1985 and 1986 respectively (SPU 1999). Thus, Argentina became one of the very few Latin American countries to witness a decline in the private share of enrollment (Levy forthcoming). With small differences --entry examinations are administered to limit the expansion of some careers--, the spirit of this free-for-all model is what currently determines the expansion of the public market.

2. Student enrollment by field of study: A dynamic comparison

The supply side: Although public-private distinction in terms of field of study has been generally studied from the demand side, as the percentage of students enrolled in each market, for having a better and more comprehensive perspective about each sector own particularity we will also need to analyze the supply side. Specifically, this supply means the existence of a field within a sector. Previous research found that only two of more than twenty private universities in Argentina offered ten or more fields of study (Levy 1986). Moreover, privates concentrated in less expensive fields, leaving it to the public sector the continued responsibility of satisfying the demand for the most expensive programs (e.g., medicine and exact and natural sciences).

Cost and the lack of a strong demand are two main factors that usually prevent private institutions to expand their academic supply toward less traditional fields, even if they are so disposed. This particularity did not generally inhibit public institutions to be present with a more heterogeneous academic offer. Consequently, a strong public-private differentiation in terms of supply should unsurprise. Furthermore, the past also determines current situations. Given that the State was present long before the existence of a private offer, it assumed certain responsibilities in the design of a more

heterogeneous supply, adding more to the intersectoral distinction in terms of available fields of study (Levy 1986).

Table 1 strongly sustains what has long been established for Latin America: sharp public-private differences, particularly in applied and basic sciences[12]. A stark differentiation is shown in applied sciences when the market is analyzed in terms of the existence of that field.

Table 1. *Academic Supply in Public and Private Universities and University Institutes by Field of Study (2006)*

Science		Number of Institutions Offering the Degree		In Percentage of Total Institutions	
		Public	Private	Public	Private
Applied	Architecture	18	23	41%	46%
	Astronomy	3	-	7%	-
	Biochemistry & Pharmacy	14	7	32%	14%
	Agricultural & Animal Sciences	31	10	70%	20%
	Geology	17	-	39%	-
	Statistics	6	-	14%	-
	Industry	35	22	80%	44%
	Systems	37	31	84%	62%
	Engineering	37	14	84%	28%
	Meteorology	1	-	2%	-
	Other Applied Sciences	3	1	7%	2%
Basic	Biology	31	16	70%	32%
	Physics	23	3	52%	6%
	Mathematics	29	4	66%	8%
	Chemistry	25	7	57%	14%
Health	Medicine	12	17	27%	34%
	Dentistry	8	5	18%	10%
	Allied health	33	24	75%	48%
	Public Health	7	1	16%	2%
	Veterinary	10	4	23%	8%

[12] It is important to note that classification of fields of study varies among nations. In other words, there is no standard categorization. Some countries are much more generic than others. For example, Colombia groups their programs of study into a larger number of areas than do Mexico or Brazil (UNESCO 1994). In our case, we followed the Ministry for Education's classification, grouping a total of 34 study programs within 5 different sciences.

Table 1. *Academic Supply in Public and Private Universities and University Institutes by Field of Study (2006)* (Cont'd)

Science		Number of Institutions Offering the Degree		In Percentage of Total Institutions	
		Public	Private	Public	Private
Humanities	Archeology	3	-	7%	-
	Arts	23	15	52%	30%
	Education	37	29	84%	58%
	Philosophy	20	10	45%	20%
	History	27	5	61%	10%
	Letters and Language	31	15	70%	30%
	Psychology	10	29	23%	58%
	Theology	-	7	-	14%
Social	Communicational Sciences	33	29	75%	58%
	Political Science	19	21	43%	42%
	Geography	31	22	70%	44%
	Law	26	31	59%	62%
	Economy & Administration	43	42	98%	84%
	Institutional Relations	8	19	18%	38%
	Sociology & Anthropology	32	13	73%	26%
	Other Social Sciences	7	3	16%	6%

Source: Secretariat for University Policies (SPU) 2006; and own calculations.

We found that private supply is relatively limited: biochemistry and pharmacy, for example, or non existent: astronomy, geology, statistics and meteorology. However, public supply is also quite limited in astronomy and meteorology (only 7 and 2 percent of all public universities offer these fields). As expected, an interesting difference is revealed in engineering. Although 28 percent of private institutions offer a degree in this field of study, 84 percent of all public institutions do. The substantial public edge in basic sciences is not surprising, particularly in physics and mathematics. Only in biology we note a strong private presence (32 percent), although differentiation is still considerable (70 percent of public universities offer a degree in this field).

A less compelling differentiation is present in health sciences. The private edge in medicine, particularly surprising, shows the rapid expansion of private medical schools during the last decade, particularly since the mid 1990's. Also, public-private distinction is relatively limited in dentistry and allied health. Only public health and veterinary show a clear public advantage. Although it is believed that private institutions are more likely to add market diversity, it is also true that private universities tend to duplicate public programs (Teixeira and Amaral 2001). Thus, health science is a good case to show that the stark public-private differentiation found in Levy (1986) was

followed by some blurring over time. Privates expand to more expensive fields, as medicine and allied health, as long as they offer good payoffs to their graduates.

Humanities reveal a public dominance, although not nearly as clear as in basic sciences. Although an undisputable public edge in education contributes to a visible intersectoral differentiation, the private sector is also strongly represented (58 percent). The widest distinction is present in history, and letters and language. Here the public sector rules. We found no private offer in archeology even though the public sector presence is limited (3 out of 44 national institutions offer this degree). In this case, archeology presents a good case to sustain that there is no private presence when demand is limited. On the other hand, psychology shows a private lead, more than doubling the public supply (58 vs. 23 percent), presenting evidence that non-public universities are alert to market demand when there are labor market payoffs.

On the other hand, and less surprising, is that the indisputable public edge in terms of supply in the hard sciences, for example, presents some limitation in the social sciences. As previous research shows (Levy 1986), the private sector is strongly present in inexpensive fields, particularly in the social sciences, and specifically in commercial studies. However, we also found that public supply is active in less expensive fields, blurring private-public differences in terms of field availability. Although the public sector shows a stronger supply in communicational sciences and geography, the private sector is also convincingly present (58 and 44 percent respectively). On the other hand, private-public distinction blurs in political sciences, law, and economy and administration. Public and private presence in these fields of study is extensive, particularly in the latter. Only sociology and anthropology present an undisputable public edge though, with a clear private supply (26 percent of privates vs. 73 percent of publics). The opposite is true in institutional relations, where private dominates (18 percent publics vs. 38 percent privates). In sum, a strong private presence is accompanied by a compelling public supply in all study programs in the social sciences. Evidently, what the study of public-private differences in terms of supply brings is that distinction is more the consequence of a weak private presence in basic and applied sciences, than the absence of a public alternative in more traditional private fields (human and social sciences).

The demand side: Public-private enrollment in terms of field of study has been largely studied showing that differences are considerable (Levy, 1986; de Moura Castro and Navarro 1999). Oriented to those less expensive fields of study, private enrollment in social and humanities dominates. On the other hand, Cosentino de Cohen (2003) showed that since the 1980's, students in

social and human careers in public universities in Argentina are growing more rapidly than in other fields of study. The findings show that in 1980, students in social and human programs in public universities accounted for 40 percent of total public enrollment. By 1997, students in both these sciences reached 53 percent. Under this dynamic, it is possible to infer that public institutions began to imitate privates, concentrating in those fields that are least expensive to teach. The "imitation" need not imply design, but can be the consequence of an increasingly similar response to demand, particularly in the face of an open admission system. Thus, if this pattern has continued since the mid-1990's, public-private distinction in terms of enrollment would be weakening, particularly if private institutions found in non traditional areas, particularly in health sciences, sector that presents a large increase in terms of supply, a particular niche to offer their services. The objective is to see if both sectors have tended, or not, to converge over time thus weakening private-public differentiation.

When sciences are categorized as four different groups (applied and basic, health, human, and social), Table 2 shows a pattern that emerges in both periods (1986-1996 and 1996-2006).

Table 2. *Student Enrollment in Public Universities and University Institutes by Field of Study (1986-2006)*

Science	1986		1996		2006	
	#	%	#	%	#	%
Applied and Basic	**236,428**	**40.6**	**267,633**	**32.9**	**364,173**	**27.9**
Agricultural & Animal Sciences	26,685	4.6	28,644	3.5	32,399	2.5
Architecture	29,104	5.0	48,329	5.9	83,512	6.4
Engineering, Systems & Industry	106,438	18.3	115,626	14.2	172,764	13.2
Exact & Natural Sciences	44,539	7.7	44,331	5.5	38,961	3.0
Biochemistry, Pharmacy & Chemistry	29,662	5.1	30,703	3.8	36,537	2.8
Health	**74,877**	**12.9**	**112,994**	**13.9**	**175,806**	**13.5**
Medicine	51,229	8.8	59,545	7.3	62,397	4.8
Dentistry	12,137	2.1	20,397	2.5	18,015	1.4
Veterinary & Allied Health	8,202	1.4	20,041	2.5	92,224	7.3
Humanities	**74,768**	**12.9**	**108,480**	**13.4**	**216,841**	**16.6**
Letters, Language & Philosophy	12,615	2.2	12,529	1.5	41,652	3.2
Education	14,335	2.5	21,051	2.6	50,966	3.9
Arts	37,669	6.5	14,506	1.8	44,003	3.4
Other Humanities	10,149	1.7	60,394	7.4	80,220	6.2

Table 2. *Student Enrollment in Public Universities and University Institutes by Field of Study (1986-2006)* (Cont'd)

Science	1986		1996		2006	
	#	%	#	%	#	%
Social	**195,740**	**33.6**	**323,201**	**39.8**	**547,153**	**42.0**
Communication, Administration & Economics	89,701	15.4	153,738	18.9	310,543	23.8
Law & Political Sciences	87,224	15.0	117,346	14.4	174,942	13.4
Other Social Sciences	18,815	3.2	52,117	6.4	61,668	4.7
Total	**581,813**	**100**	**812,308**	**100**	**1,303,973**	**100**

Source: SPU (1997); SPU (2006); and own calculations.

For example, public enrollment shares in basic and applied decreases during 1986-1996, behavior that repeats during the following decade. Particularly important is the relative reduction in the proportion of students in engineering, systems and industry (from 18.3 to 13.2 percent), and in the exact and natural sciences (from 7.7 to 3.0 percent). Architecture is the only field that presents a relative increase (from 5.0 to 6.4 percent). On the other hand, as an aggregate field of study, health remained relatively stable during both periods. However, when this group is dissected into three different fields, we find a different distribution of students among careers. For example, enrollment in medicine grew at a slow rate, losing its edge to allied health.

Within this redistribution of students among fields, we can conclude that human and social were the main gainers within the public sector. During 1986-1996 particularly important was the increase of enrollees in "other humanities", a subgroup involving psychology and history among others fields of study. Education, and letters, language and philosophy increased their presence, particularly during 1996-2006. Arts also recaptured part of their students after a strong decrease during 1986-1996. On the other hand, enrollment in the social sciences presents a clearer pattern, now forming the dominant group. Specifically, the number of students in administration and economics show a significant increase while the percentage of students in law and political sciences presents a more stable pattern during both periods.

Unfortunately, we did not find specific data on 1986 private enrollment for breaking fields of study down into same specialties as we did with the public sector (See Table 3). However, we used data on private enrollment from Levy

1986. And although the figures refer to 1977, we consider them also as a good proxy for 1986[13].

Table 3. *Student Enrollment in Private Universities and University Institutes by Field of Study (1977-2006)*

Science	1977 (1)		1996		2006	
	#	%	#	%	#	%
Applied and Basic	14,500	23.0	27,896	20.2	50,421	18.0
Agricultural & Animal Sciences (2)	1,842	2.9	1,129	0.8	2,449	0.9
Architecture	4,564	7.2	7,428	5.4	15,033	5.4
Engineering, Systems & Industry	4,372	6.9	15,356	11.1	26,210	9.4
Exact & Natural Sciences	2,003	3.2	579	0.4	2,407	0.9
Biochemistry, Pharmacy & Chemistry	1,719	2.7	3,404	2.5	4,322	1.5
Health	637	1.0	4,857	3.5	32,236	11.5
Medicine	637	1.0	1,954	1.4	8,761	3.1
Dentistry	-	-	234	0.2	2,119	0.8
Veterinary (2)	n.a.	-	350	0.3	-	-
Allied Health	n.a.	-	2,319	1.7	21,356	7.6
Humanities	13,029	20.6	15,421	11.2	40,412	14.5
Letters, Language & Philosophy	2,528	4.0	2,669	1.9	4,075	1.5
Education	2,873 (3)	4.5	4,101	3.0	11,201	4.0
Arts	418	0.7	1,021	0.7	3,962	1.4
Psychology	n.a.	-	7,004	5.1	19,428	7.0
Other Humanities	7,210	11.4	626	0.5	1,746	0.6
Social	35,008	55.4	90,128	65.2	156,306	55.9
Economy & Administration	17,544	27.8	45,546	32.9	70,385	25.2
Communication & Human Relations	n.a.	-	10,241	7.4	19,080	6.8
Law	14,190	22.5	27,266	19.7	51,185	18.3
Political Sciences	n.a.	-	2,771	2.0	5,330	1.9
Other Social Sciences	3,274	5.2	4,304	3.1	10,326	3.7
Total	**63,174**	**100.0**	**138,302**	**100.0**	**279,375**	**100.0**

Notes: (1) Own estimations based on Levy 1986.
(2) In 1977, veterinary is included in agricultural and animal sciences.
(3) Own estimation given that data for 1977 included students enrolled in non-university institutions.
Source: Levy 1986; SPU 2006.

[13] We can speculate that enrollment by field of study did not fundamentally change within these years given that no new private university was allowed to open their doors during the period. Then, given the lack of new alternatives, it is possible to hypothesize that changes in relative enrollment according to study programs were limited.

Data on enrollment's dynamic in the private market confirms a different pattern from the one observed in the public system. Although in basic and applied sciences a relative decrease in the private sector is present in both periods (from 23.0 to 20.2 to 18.0 percent), it is not as clear as what happened in the national university. What in fact shows a stark contrast with the public sector is the evolution found in health sciences. The number of students has grown robustly. Currently it explains 11.5 percent of all private enrollments (was only 1.0 percent in 1977 and 3.5 percent in 1996). And although allied health programs present the highest increase during the last period (1996-2006), as in the public sector, we cannot underestimate the relative contribution of medicine, historically an area traditionally dominated by the national university. This singular expansion matches with the opening of several university institutes in the field of medicine that took place since the mid 1990's.

Opposite to what happened in applied and basic (decrease), and health sciences (increase), a fluctuation pattern is observed in human and social sciences as an aggregate group. A significant change is the decrease in the relative enrollment in letters, language and philosophy (4.0 to 1.5 percent from 1977 to 2006). On the other hand, psychology, historically a discipline highly popular among students, increases its contribution in almost 2 percentage points during the last period (5.1 to 7.0 percent). This career currently explains almost half of total enrollment in the human fields.

After an expansion during the first period (1977-1996), basically explained by economy and administration, a relative contraction has taken place in the social sciences, again described by a relative fall of students in administration and economics (from 32.9 in 1996 to 25.2 percent in 2006). However, programs in the social field still keep their predominance with more than half of all students in the private market. Law, another highly demanded field of study, remains as more stable, but within a decreasing pattern (from 22.5 to 19.7 to 18.3 percent). These figures still confirm that privates specialized in less expensive niches. However, the longitudinal analysis shows that the contribution of these careers has decreased during the last decades. In 1977 and 1996 more than half the entire private sector was concentrated in these two fields of study (50.3 and 52.6 percent respectively, and now 43.5 percent).

The impression that the intersectoral contrast is now less marked is evident, particularly when both sectors are compared through a longer time series (1975-2006). Although we recognize that field aggregation tends to underestimate intersectoral differentiation, we cannot deny that the private-public gap has decreased over time (See Table 4).

Table 4. *Student Enrollment in Public and Private Universities and University Institutes by Field of Study (1975-2006)*

Science	**Public**			**Private**		
	1975	2006	Variation*	1975	2006	Variation*
Basic & Applied	37.7%	28.0%	-9.7	21.8%	18.0%	-3.8
Health	17.4%	13.5%	-3.9	2.3%	11.5%	9.2
Humanities	11.6%	16.6%	5.0	15.5%	14.5%	-1.0
Social	33.3%	42.0%	8.7	60.5%	55.5%	-5.0
Total	**481,155**	**1,303,973**		**55,804**	**279,375**	
Percentage	89.6%	82.4%		10,4%	17,6%	

* In percentage points
Source: Levy 1986; SPU 2006; and own calculations.

A common pattern in both sectors is that relative enrollment in basic and applied has decreased, but the rest of sciences present opposite movements. Specifically, when relative enrollment in one sector increases, the other market moves in the opposite direction. Thus, intersectoral gaps have diminished, even in basic and applied (as public enrollment decreased more than in private institutions). Most important, these movements have changed the picture, particularly in the public sector. For example, as a consequence of a 9.7 percentage points relative enrollment decrease, basic and applied sciences have lost the leadership to the social sciences. The latter increases 8.7 percentage points during the period and now accounts for 42.0 percent of public enrollment. Health, which was third in 1975 (17.4 percent), is now fourth after human (16.6 percent in 2006).

On the other hand, except for health, changes in the private sector were less striking. The relative decrease in basic and applied is not unexpected (3.8 percentage points), but part of a trend that is affecting the whole university system. Quite the contrary, and thus more surprising, is the relative decrease of students in the social sciences (5.0 percentage points) and especially the strong increase in the medical sciences (9.2 percentage points). However, in contrast to what happened in the public sector, when sciences are ranked according to the number of students, we found no changes during the period 1975-2006. The predominance of students in social is still evident, although not as vigorous as three decades ago, followed by basic and applied sciences, human, and health.

Conclusions

When public-private differentiation was studied from the supply side, it remains evident that relative to private institutions, national universities specialized in applied and basic sciences. In fact private universities were absent in certain programs when the number of students enrolled in the whole market (i.e. astronomy, statistics) was below a certain threshold (in this case, less than 3,000 students)[14]. Thus, the figures confirm that privates are ready to offer their services when there is a strong demand to justify its presence. On the other hand, although the number of students enrolled in certain areas is almost insignificant (i.e. only 236 in meteorology), the state is nonetheless present to satisfy the demand with at least one institution. Then, public-private differentiation in basic and applied sciences is more the consequence of a "social" responsibility (the state must be present when there are social externalities) than the simple response to the market's law.

Health science presents a different dynamic, where, surprisingly, the private sector grew vigorously. We can speculate that the increase in the number of private schools of medicine is the consequence of three main reasons. First, in comparison to public universities, private institutions in general offer their enrollees a better organized study plan, allowing students to finish their studies in a shorter time period. Second, there is a general perception by some students that an overcrowded and thus underfunded UBA is losing part of its former prestige (within a kind of open admission system, UBA enrolls almost 50 percent of all public students). Then, for some students, a private option surges as a reasonable substitute. On the other hand, public schools of medicine with good reputation (i.e. National University of La Plata and National University of Córdoba) decided to put a stop to unrestricted admission policies to control its quality[15]. These dynamics show how administrative mismanagement (deficiencies in the articulation of courses in public institutions can prevent students from advancing more rapidly in their careers), a *laissez faire* policy (open admission), and public intervention by limiting access (supply restriction), can converge to give private institutions an opportunity to expand beyond their traditional niches. Thus, public-private differentiation in this field of study tended to blur.

On the other hand, public-private distinction in terms of supply is more evident in the human than in the social sciences— a finding original for the private higher education literature. Again, we can anticipate less differentiation in those

[14] An exception would be geology. Although the public sector enrolled more than 3,000 students, there is no private offer to satisfy this demand.
[15] On the other hand, since 2008, the National University of Rosario, the other big public school of medicine, decided to eliminate all kind of entry barriers.

areas where the market offers good payoffs to their graduates. Except for education and psychology, two highly demanded degrees in the humanities, the social sciences presents the most marketable careers. Thus, a strong private presence generates a less clear public-private distinction. This dynamics can be logically applied to the rest of the sciences. In other words, what makes for public-private differentiation in terms of supply is the absence of a private option, but not the lack of public presence.

A first interpretation about the movement of students in each sector and within sciences supports the idea that the blurring of public-private differentiation in terms of student enrollment (demand) is more the consequence of a public university repositioning into private waters than the opposite movement, although privates are also increasing their presence in some fields that were once "public property". This confirms what was already established by Levy (1986), with public institutions getting more and more into less expensive fields. The predominance of students in social sciences is not anymore a simple private characteristic but increasingly a public reality too. As Table 2 showed, the exact and natural sciences in the national university, a "natural monopoly" of public systems, are losing students, and not only in relative terms (7.7 percent in 1986 vs. 3.0 in 2006), but even in absolute numbers (44,539 vs. 38,961 in 1986 and 2006 respectively). And although public universities still keep a quasi-monopolistic position in the production of physics or chemists, for example, the numbers are so small that the impact in the national system is almost insignificant[16].

The open admission system in public institutions generated a massive entrance of students into the most profitable and "easier" careers[17]. Thus, the absence of the state or university policies limiting the overabundance of enrollees in the social sciences introduced market dynamics into public settings. By lifting all kinds of entry barriers, now only the demand determines the final equilibrium in terms of students' distribution according to fields of study. In other words, the public is the main "demand-absorber"[18]. Then, diminished intersectoral distinctiveness along the years is the consequence of both sectors (public-private) defining part of the distribution of its students within a similar rule: market force.

[16] Although the national system enrolls more than 1 million students, in 2005 it only produced 1,934 graduates in the basic sciences (996 biologists, 554 chemists, 227 mathematicians, and only 137 graduates in physics) (SPU 2006).

[17] Although during the last years the labor market increased its demand for engineers, students prefer to enroll in those careers that, at first glance, are "easier" to complete.

[18] By restricting the expansion of the private sector, more so than in other large Latin American countries, the state implicitly conferred on public universities the function of absorbing the increasing demand for university education.

On the other hand, public intervention in the private sector restricted the expansion of a more heterogeneous non-public demand. A strict early control from the outset (1959), followed by a sort of delayed regulation restricting the opening of new private institutions (1974-1989), culminated with more public regulation through CONEAU (1996). This kind of market intervention allowed scarce opportunity for "fly-by-night" private institutions of the sort rampant in much of Latin America. In other words, the private sector did not have the chance of developing a stronger demand absorbing subsystem to specialize even more into the social fields. The "reaction" to these public rules was the appearance of academic projects less inclined to strongly specialized only in the least expensive areas of study.

Although more analysis remains to be done to identify from a theoretical perspective these patterns of diminishing public-private differentiation, we can speculate that the consumer choice theory, generally applied to understand the human behavior before the absence or weak public regulations, is a good approach to explain why the national university has adopted private tendencies when deciding its recruiting strategies. Specifically, before the absence of any mechanism to distribute the demand among different study programs, students have the chance to enroll in any academic career of their wish. Then, the market coordinates the enrollment in public settings. On the other hand, the relative decreasing expansion of students in the social fields in non-public universities could be understood through a coercive isomorphic perspective (state regulation), which in the end is aimed to limit privates to exclusively react to market signals.

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