Expansion of Master's Programs Offered by Chilean Universities and Enrollment: An Overview Based on Quality Assurance Policies

Expansión de la oferta y matrícula de Programas de Magíster en universidades chilenas: una mirada desde las políticas de aseguramiento de la calidad

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Abstract

Offerings and enrollment in master's programs have grown significantly over the last years. This growth has been concentrated particularly in some fields of knowledge and private universities created after 1981. The problem is that such processes of expansion have occurred in areas and universities belonging to the least regulated sector in terms of quality assurance. On the one hand, these universities do not get accreditation in the Postgraduate Teaching area, whereas, on the other hand, Master's programs in these sectors have a low level of participation in accreditation processes. This demonstrates the importance that the Master's-level education area has gained, in terms of the programs available and student enrollment, which makes it an interesting area of study.

Keywords: quality assurance, Master's programs on offer, enrollment

Resumen

La oferta y matrícula de programas de magíster ha tenido un crecimiento significativo en los últimos años. Este crecimiento se ha concentrado preferentemente en algunas áreas de conocimiento y en universidades privadas creadas con posterioridad a 1981. El problema de ello radica en que las áreas e instituciones donde se ha concentrado el proceso de expansión de la oferta y matricula constituyen el sector de menor participación en materia de acreditación de programas. Por un lado, estas universidades no se acreditan en el área de Docencia de Postgrado, mientras que, por otro lado, los programas de magíster en estas áreas exhiben un bajo nivel de participación en procesos de acreditación. Lo anterior nos demuestra la importancia que ha ido adquiriendo la formación de magíster, en términos de oferta de programas y estudiantes matriculados, lo que transforma a este sector en un objeto de estudio de interés.

Palabras clave: aseguramiento de la calidad, magíster, oferta, matrícula

This article is aimed at examining the relation between the expansion of academic offerings and enrollment in Master's programs with the still-incipient implementation of quality assurance policies and mechanisms at this educational level. We sought to characterize this expansion, identify its high-concentration areas, and analyze the behavior of institutions with regard to the institutional accreditation variable —specifically in the research and postgraduate teaching areas— and the rate of participation in national processes for the accreditation of Master's programs.

The article is divided into 4 sections: (1) strategic importance of postgraduate education and its relationship with quality assurance policies, (2) description of the accreditation process of Master's programs, (3) analysis of the dynamics of the expansion of academic offerings at this educational level, and (4) main problematic points and best practices derived from the accreditation programs of Master's programs in Chile.

Methodology

This exploratory study is mainly based on the analysis of public databases produced by the Higher Education Information System (Sistema de Información de Educación Superior, SIES) and the content analysis of a sample of Accreditation Agreements of Master's programs that reflect institutional policies related to this issue.

The data presented in this article were extracted from two different SIES databases: one relating to the *Master's programs on offer* and another to the *enrollment figures* at this educational level. Both cover the year 2016. It is important to note that the databases specify the campus, type (part-time vs full-time), and modality of each Master's program. In this regard, a Master's program can be taught in 2 different campuses and in two 2 modalities (e.g. morning and evening) in each campus, which the database records as 4 different programs. This was the perspective adopted in the present study. The databases are available at www.sies.cl.

With respect to the database of Master's programs available, the analysis only considered those offered by universities and not those provided by higher education institutions belonging to the Armed Forces. In accordance with this decision, the analysis of enrollment data considered the same set of institutions.

Therefore, only the universities present in both databases in the year 2016 were taken into account. Also, the analysis excludes universities that reported enrollment data but offered no programs according to the SIES database. Universidad San Sebastián exemplifies this situation: it reports having 1,362 students enrolled in Master's programs in 2016, but provides no information about the programs offered at this level during the same year. The same is true of the Universidad de Las Américas, Universidad de Atacama, and Universidad de Aconcagua, which were excluded from the analysis for this reason.

Complementarily, a qualitative analysis was performed of a sample of one hundred Accreditation Agreements (signed between 2015 and 2016) of Master's programs —both accredited and non-accredited— linked to multiple subject areas, higher education institutions, and accreditation agencies. The aim of this analysis[1] was to identify best practices and critical points in the assessment of such programs.

Aim and research questions

The aim of this article is *to characterize the sustained increase in the number of Master's programs offered*. The bill for reforming higher education, currently being reviewed by Congress, omits the accreditation of Master's programs as a quality assurance mechanism at this educational level, which, in our view, is a mistake, because it sanctions deregulation in a field with an increasing demand and which is highly relevant for the development of research in Chile. This should be a key public policy issue.

The questions that oriented the present study were:

- Which higher education institutions concentrate the expansion of Master's-level offerings? Does the expansion of Master's programs on offer differ by subject area?
- Does the accreditation of Master's programs contribute to regulation and the establishment of best practices oriented towards quality assurance at this educational level?

Analysis of institutional policies

Postgraduate Education and Quality Assurance: A Necessary Dialog

Several social and political stakeholders, along with experts in this field, have recently voiced the need to reform the higher education system in a way that acknowledges the deep transformations that it has undergone in the last 35 years (Bernasconi, 2015; Brunner & Peña, 2008; OECD, 2009).

Therefore, in July 2016, the government led by President Michelle Bachelet submitted a bill to the National Congress to reform Chilean higher education. One of the conceptual cornerstones of this project is quality assurance. The Presidential message states that quality is "an indispensable element that enables higher education to respond to what the country demands from this sector. Without quality, higher education cannot meet society's expectations and violates the faith that families place on it" (Cámara de Diputados, 2016, p.4).

Despite constantly referring to it, the project does not explicitly define a notion of quality. What can be deduced is that it is directly linked to an assessment leading to accreditation. The project assumes that an accreditation mechanism will be used to regulate the system and ensure its quality (Cámara de Diputados, 2016).

The international literature on the concept of quality includes several views. Harvey and Green (1993) suggest five notions of quality: a) as an exception (elitist nature of quality), b) as perfection (error-free results), c) as the ability to achieve a purpose (fulfillment of a mission), d) as added value (rate of return), and e) as transformation (emphasis on teaching-learning processes). Chile's National Quality Assurance System is closer to letter c, with internal consistency being a key element in the assessment of quality assurance through accreditation.

Similarly, J. Parri (2006) provides two views: a) quality as improvement and b) quality as threshold (defined based on standards to be met), notions that could be linked to the discussion on orienting assessment towards processes or results. With a more economy-centric approach, Poole (2010) views quality from the perspective of the market and customer satisfaction, due to its being a notion imported from the world of industry [input-process-output]. Within this context, the role of employers and

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[1] These documents were obtained from the CNA-Chile website (www.cnachile.cl).

graduates' employability indicators gain relevance. On the other hand, Filippakou (2011) stresses political-cultural aspects. In her view, quality is an ideological construct that expresses a control and domination mechanism, thus establishing an "ideal state" whose characteristics are determined by the hegemonic ideas of the time or the current authorities.

To summarize, the international literature on quality assurance distinguishes two predominant perspectives. One approach focuses on more control and accountability, emphasizing the measurement of results and the meeting of standards, whereas another approach promotes continuing improvement and stresses internal control, focusing on the development of self-regulation processes, policies, and mechanisms. Consequently, the present study regards accreditation as one of the external regulation mechanisms used to assess quality assurance, which in no way means that quality can be reduced to this.

In this regard, the aforementioned bill establishes the obligatory accreditation of doctoral programs and the institutions offering them and preserves the obligatory accreditation of undergraduate programs in the areas of Medicine and Education. With respect to institutional accreditation, the document establishes that:

> institutional accreditation will be comprehensive and will entail the assessment of all the dimensions set forth in article 45, of all the campuses of the higher education institution examined, and of the undergraduate programs and syllabuses selected by the Board (Cámara de Diputados, 2016, p.57).

Within this context, it is interesting to note that the project leaves Master's programs out. Its explicit aim is to regulate, through obligatory accreditation, all higher education institutions, Doctoral Programs, and the Medicine and Education undergraduate programs. All other undergraduate programs could eventually be included as a sample in a "comprehensive assessment" within the context of each institution's accreditation. Nevertheless, no references are made to the accreditation of Master's programs. This omission is problematic (Irarrázaval, Scharager, & Meza, 2016).

The process of expansion and widespread growth of higher education in Chile, over the last three decades, has led to diversification in the type of institutions within the system and the academic programs on offer. Even though this transformation has been extensive in undergraduate education (Bernasconi, 2015; Brunner & Peña, 2008) —and despite eliciting heated debate on this core issue of the ongoing reform—, the postgraduate area has not been left out (Devés & Marshall, cited in Brunner & Peña, 2008; Espinoza & González, 2009).

Devés and Marshall (cited in Brunner & Peña, 2008) identify three phases in the evolution of postgraduate studies in Chile: founding (1968–1982), consolidation (1983–1998), and expansion (from 1998 onwards). The start of the latter phase is considered to be linked to the implementation of the Program for the Improvement of Quality and Equity in Higher Education (Programa de Mejoramiento de la Calidad y Equidad de la Educación Superior, Mecesup), which supports postgraduate programs by funding them if an action plan is followed and certain aims are met. Within this context, the first system for accrediting postgraduate programs was established, linking the allocation of funds to the meeting of quality standards.

It can be asserted that quality assurance was taken into account when encouraging the expansion of the postgraduate programs on offer. However, evidence shows that, later on, said expansion began to operate with no regulation. Thus, it can be observed that, due to a lack of accreditation, quality assurance policies and mechanisms have a weaker presence in certain areas. This is the case of the accreditation of Master's programs (Cuenta Pública CNA-Chile, 2012).

From this perspective, it can be presumed that, at the beginning of the expansion period, public incentives were used to encourage an increase in the number of postgraduate programs on offer. It was assumed that quality assurance was a process inherent to this growth. However, the dynamics of said expansion overwhelmed the regulatory systems in place, which allowed programs to operate without interference from control and quality assurance mechanisms, as a later section will show.

Lemaitre (2013) suggests that, in the past, quality in higher education was taken as a given, being regarded as a trait linked to the prestige, tradition, and stability of universities. The quality of these institutions was not in question. Nowadays, the widespread growth in enrollment, the system's expansion,

the pressure to secure sources of funding, and the effects of public policy on the system as a whole generate a context of uncertainty in which quality is pursued as a goal. As the same author adds, "It is not that quality was not important; instead, it was assumed to be present. Nowadays, it is indispensable for 'someone' –with power and social recognition– to define, promote, verify, and guarantee quality in higher education" (p. 215). It is clear that quality is no longer assumed to exist and became an object to be assessed and guaranteed.

The ability to generate new knowledge through research and innovation processes is fundamental in a country's development. According to the 2010 Higher Education Report for Latin America [Informe de Educación Superior en Iberoamérica], universities must play a role in scientific and technological development, which is regarded as "a condition for achieving development". However, Santelices (cited in Bernasconi, 2015) is skeptical regarding the ability of Chilean universities to perform such a task. In her view:

> In the case of the many Chilean universities with very incipient or non-existent research areas, and given the levels of material resources and time that building scientific-technological capacity requires, it may be advisable for many of these institutions to become specialized in teaching activities (p. 442).

Rosso (2008) concurs, noting the difficulties for promoting the development of "research universities" in Chile, which he attributes to the low level of public investment in higher education, science, and technology.

A prevalent idea exists that not all universities are in a situation allowing them to play a relevant role in the creation of new knowledge and lead scientific and technological research processes. In fact, several universities have defended their status as "teaching universities", de facto waiving one of the historical missions of traditional universities (Santelices, cited in Bernasconi, 2015). The issue of whether universities can be demanded to carry out research functions is part of an ongoing debate in Chile (AEQUALIS, 2013b; Muñoz & Blanco, 2013; Reyes & Rosso, 2012).

Initially, the connection between advanced research and postgraduate studies was natural, because most of the programs available were offered by complex and traditional institutions. However, the private universities created after 1981 started gaining relevance in the system due to an increase in professionally-oriented Master's programs, which require lower levels of investment in laboratories and research teams (Espinoza & González, 2009). This situation, which explains the explosive growth in this area, can be observed in Master's programs in Management, Social Sciences, and Education.

According to Munita and Reyes (2011), Chile lacks a policy focused on postgraduate programs, which makes regulation difficult:

> Therefore, it can be asserted that the postgraduate system in Chile has achieved major progress, but lacks specific and effective regulatory mechanisms, which reflects the absence of a policy aimed at this educational level. In consequence, this is a heterogeneous system (…) In terms of pending challenges, it is necessary to organize this growth further. That is, it should be conducted more strategically by the same institutions implementing postgraduate programs. This does not only involve these institutions' ability to project, in a planned manner, the operation of their programs, but also the ability of their academic staff to connect comprehensively to their environment (p. 136).

It is necessary, then, to re-construct a systemic perspective, one that is able to align postgraduate education with the country's needs and guarantee high-quality educational processes. The literature reviewed appears to suggest that this task is limited to doctoral programs, with Master's programs being left out (Bernasconi, 2015; Brunner, 2015; Rosso, 2008).

Accreditation of Master's Programs: Assessment Criteria and Procedures

The accreditation of Master's programs in Chile is regulated by Law 20.129 (Ministerio de Educación de Chile, 2006). This normative body tasks the National Accreditation Committee with setting Assessment Criteria for the accreditation of postgraduate programs. The current criteria came into effect on November 4th, 2013 (Resolución Exenta DJ N°006-4, CNA-Chile, 2013). It should be noted that the accreditation of Master's programs is voluntary and involves three broad stages: self-assessment, external assessment by

a peer committee, and accreditation by CNA-Chile or the Area Council of an authorized accreditation agency.

These assessment criteria state that:

[…] Master's programs, in general, constitute advanced-level courses of study aimed at the development of analysis, synthesis, abstraction, and practical competences. These competences should reach a higher level of depth, complexity, or specialization than in a Bachelor's or professional program. Master's programs can target academic, research, or creativity aims or instead focus on a specific professional field. In some cases, both approaches can be adopted simultaneously" (Resolución Exenta DJ Nº006-4, CNA-Chile, 2013, p.19).

This document acknowledges the existence of programs of a different nature. Academic Master's programs are aimed at the attainment of advanced knowledge in their subject area and [seek] to foster independence and reflexive and analytical thinking in students. In contrast, professional Master's programs are aimed at the acquisition of in-depth, specialized, applied, or practical knowledge in a certain subject area and seek to acquaint students with its latest advancements, allowing them to apply this knowledge in their professional practice (Resolución Exenta DJ Nº006-4, CNA-Chile, 2013).

This distinction permeates all the aspects to be assessed in accreditation processes. Thus, the definition of the nature of each program is essential for analyzing its aims, the type of students enrolling in it, the characteristics of its faculty, its curricular structure, its graduation activity, and its forms of connection with its larger environment, among other variables. On the other hand:

a mixed Master's program is one which balances the traits of a professional and an academic Master's program. A mixed Master's program must be structured in such a way that it can allow students to acquire the skills, competences, and knowledge necessary to participate in research or professional activities. Therefore, such a program must provide two graduation choices (a thesis or an equivalent educational activity); must include courses and activities leading to a solid education, either in the research or professional fields; and must employ experienced and competent faculty in order to sustain and guide both paths in a balanced manner (QUALITAS, 2013).

Assessment criteria emphasize different aspects depending on whether the program is academic or professional in nature. The following are the main distinctions set out:

a) The *Institutional Context* section establishes that academic programs must be hosted by an institution with a level of research productivity able to sustain the development of their postgraduate programs.

b) For academic programs, the *Characteristics and Results of the Program* section states that well-defined lines of research must exist, that the syllabus must consider the development of research skills and the writing of a thesis, and that systematic mechanisms must be in place to allow the program's productivity to be measured in terms of publications or scientific dissemination activities, generated upon the basis of the theses of graduate or current students. That is, the whole educational process must result in graduates who are able to conduct research. Therefore, it is also relevant to consider the selection criteria used in enrollment processes. For its part, a professional Master's program entails a final project (a short thesis, a research report or article, or an applied experience activity) that demonstrates that the student has individually acquired the knowledge, skills, and aptitudes provided by a program at this level. In any case, this project must be a contribution to the relevant professional field. This graduation activity has a connotation that differs from that of usual theses.

c) The *Faculty* section also establishes relevant differences. For academic programs, the host institution must have an Academic Governing Body composed of at least four full-time academics with active lines of research in the Master's program subject area, backed by publications and active participation in research projects. In contrast, institutions offering professionally-oriented Master's programs must demonstrate the presence of academics with an active and relevant participation in the labor market.

d) Lastly, the main difference established in the *Support Resources* section concerns connections with the program's larger environment. In the case of professional programs, they are required to apply policies and mechanisms intended to foster the links of students and professors with the labor market, given the nature of such programs. For their part, academically-oriented programs are expected to establish connections within their disciplinary fields.

As can be observed, assessment does not involve standards —except for the requirement of a minimum number of academics. However, "Productivity Guidelines" prepared by CNA-Chile's Area Committees constitute an element not included in assessment criteria, but incorporated as a point of reference. Considering the characteristics of the relevant disciplines, each of these committees prepared some guidelines for assessing the productivity of faculty, in most cases establishing certain differences between the ideal targets of academic and professional programs.[2]

These productivity guidelines have been constantly reviewed and updated. Even though these documents are produced by specialized subject area committees, it is unclear whether they take into account the state of development of each discipline, territorial factors, or the degree of complexity of certain programs. Whether to apply assessment criteria or implement standards is another of the major issues included in the debate on quality assurance in our country.

The Increase in Master's Programs on Offer in Chile: Unregulated Growth

According to SIES data, universities offered 1,580 programs in 2016, which constitutes a 52.5% increase compared with 2010, when only 1,036 programs were available. That is, in only six years, the number of programs offered at this educational level rose by 544.

This increase has mostly taken place in the new private universities —those founded after 1981. In the 2010-2016 period, the number of programs provided by CRUCH-affiliated institutions went up from 701 to 836, that is, it grew 19.3%, while in the private sector these offerings rose from 331 to 744, which constitutes a 124.8% increase.

Enrollment in these programs has also grown significantly. In the year 2000, 6,632 students were enrolled in Master's programs, a figure that reached 29,330 in 2010 and 42,039 in 2016 [in the system as a whole]. In other words, enrollment rose by 533.9% in 16 years. In the year 2000, private universities represented 18% of the total number of students enrolled in Master's programs, a proportion that climbed to 38.8% in 2010 and 50.8% in 2016.
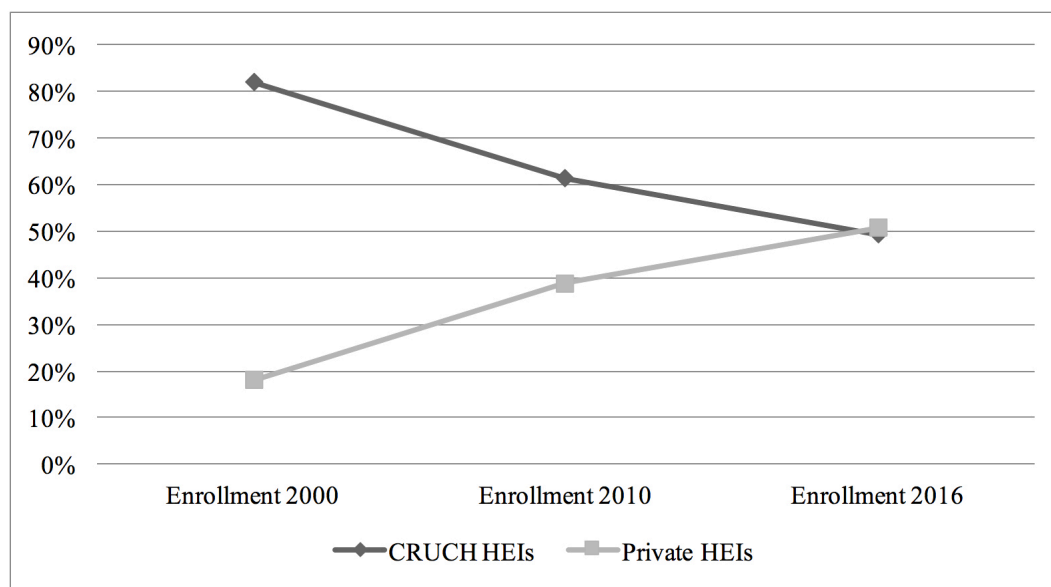

Figure 1. Enrollment in Master's Programs 2000 - 2016
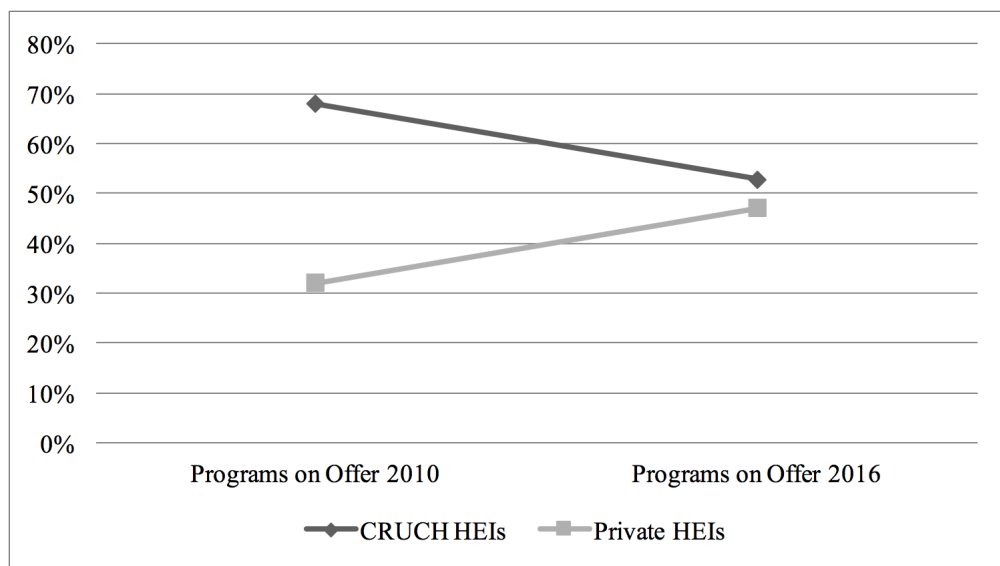
Figure 2. Master's Programs on Offer 2010 - 2016

This exponential increase in available programs and enrollment —especially in the private sector— makes it necessary to examine the degree of regulation present and the quality assurance mechanisms that universities implement when designing programs at this educational level.

Within institutional accreditation, accrediting the Postgraduate Teaching, Research, and Outreach areas is optional. According to the National Accreditation Committee (CNA-Chile), the assessment of Master's programs involves 4 aspects:

a. Criteria for the internal and external assessment of the Master's programs hosted by the institution: at least, to consider the relevance and pertinence of the programs with respect to the institution's goals, the educational process, and the programs' impact on the scientific, technological, disciplinary, or professional fields as well as on innovation.
b. Criteria for ensuring the minimum necessary number of academics for postgraduate teaching duties, including graduation activities: recruitment, assessment, follow-up, continuing education, and renewal strategies.
c. Criteria for allotting funds for infrastructure, facilities, and resources.
d. Links between each program and research and development areas.

(CNA-Chile, Guía para la autoevaluación interna de universidades [Guidelines for Universities' Internal Self-Evaluation], p. 15).

Only 22.8% of all the Chilean universities registered with SIES have received accreditation for their Postgraduate Teaching areas. 43.5% of CRUCH-affiliated universities have received accreditation for their Postgraduate Teaching areas, a figure that only reaches 10.3% among the new private universities.

Table 1
Universities offering Master's programs according to SIES 2016

| CRUCH HEIs | Institutional accreditation | | | Total number of programs offered, SIES 2016 | | Master's accreditation | | | | |
| | | | | | | Yes | | No | | Total |
	Years	Research	Postgraduate Teaching	N	Enrollment	N	%	N	%	%
U. de Talca	5	Yes	Yes	30	786	18	60,0	4	13,3	73,3
U. de la Frontera	5	Yes	Yes	36	524	18	50,0	6	16,7	66,7
U. de Concepción	6	Yes	Yes	57	1506	30	52,6	6	10,5	63,2
U. de Chile	7	Yes	Yes	132	5797	62	47,0	20	15,2	62,1
Uc del Maule	5	No	No	16	518	9	56,3	0	0,0	56,3
PUC	7	Yes	Yes	106	3755	44	41,5	12	11,3	52,8
USACH	6	Yes	Yes	48	1222	7	14,6	17	35,4	50,0
UTFSM	5	Yes	Yes	24	897	8	33,3	2	8,3	41,7
Uc del Norte	6	Yes	Yes	28	335	9	32,1	2	7,1	39,3
U. Austral de Chile	6	Yes	Yes	36	503	10	27,8	4	11,1	38,9
Pucv	6	Yes	Yes	45	928	10	22,2	7	15,6	37,8
U. del Bio-Bio	5	Yes	No	31	387	3	9,7	6	19,4	29,0
U. de Antofagasta	4	Yes	No	15	212	2	13,3	2	13,3	26,7
U. de Valparaiso	5	Yes	No	39	766	8	20,5	2	5,1	25,6
UMCE	4	No	No	17	199	0	0,0	4	23,5	23,5
U. de Los Lagos	3	No	No	13	91	3	23,1	0	0,0	23,1
U. de Magallanes	4	Yes	No	9	81	2	22,2	0	0,0	22,2
Upla	4	No	No	23	383	5	21,7	0	0,0	21,7
Ucsc	4	No	No	25	559	3	12,0	0	0,0	12,0
U. de la Serena	4	No	No	10	119	1	10,0	0	0,0	10,0
U. de Tarapaca	5	Yes	No	36	44	0	0,0	0	0,0	0,0
Uc de Temuco	4	Yes	No	14	267	0	0,0	0	0,0	0,0
U. Arturo Prat	3	No	No	40	725	0	0,0	0	0,0	0,0
UTEM	3	No	No	6	85	0	0,0	0	0,0	0,0
CRUCH HEIs	4,9	70%	43%	830	20.689	252	30,4	94	11,3	41,7
Private HEIs	Years	Research	Postgraduate Teaching	N	Enrollment	N	%	N	%	%
U. Alberto Hurtado	5	Yes	Yes	32	1047	12	37,5	1	3,1	40,6
U. Diego Portales	5	Yes	No	40	1901	7	17,5	2	5,0	22,5
U. de los Andes	5	Yes	Yes	27	748	2	7,4	2	7,4	14,8
U. del Desarrollo	5	No	No	61	1817	3	4,9	2	3,3	8,2
U. Academia de Humanismo Cristiano	3	No	No	13	135	0	0	1	7,7	7,7
U. Central de Chile	3	No	No	27	533	0	0	2	7,4	7,4
U. Andrés Bello	4	Yes	No	70	2977	2	2,9	1	1,4	4,3
U. Arcis	0	No	No	16	36	0	0	0	0	0

U. Bolivariana	0	No	No	13	n/d	0	0	0	0	0
U. Sek	0	No	No	10	74	0	0	0	0	0
U. del Mar	0	No	No	8	s/i	0	0	0	0	0
UNIACC	0	No	No	6	102	0	0	0	0	0
UCINF	0	No	No	6	241	0	0	0	0	0
U. Pedro de Valdivia	0	No	No	4	13	0	0	0	0	0
U. La República	0	No	No	3	176	0	0	0	0	0
Unicyt	2	No	No	6	29	0	0	0	0	0
U. del Pacífico	2	No	No	5	130	0	0	0	0	0
U. Gabriela Mistral	2	No	No	4	55	0	0	0	0	0
U. Santo Tomás	3	No	No	123	935	0	0	0	0	0
U. Ber. Ohiggins	3	No	No	6	207	0	0	0	0	0
U. Tecnológica de Chile	3	No	No	5	90	0	0	0	0	0
U. Adventista de Chile	3	No	No	2	86	0	0	0	0	0
U. Finis Terrae	4	No	No	41	1199	0	0	0	0	0
U. Autónoma Chile	4	Yes	No	34	219	0	0	0	0	0
U. de Viña del Mar	4	No	No	8	78	0	0	0	0	0
Uc Cardenal Silva Henríquez	4	No	No	4	138	0	0	0	0	0
U. Mayor	5	No	No	117	3297	0	0	0	0	0
U. Adolfo Ibáñez	5	Yes	Yes	46	2654	0	0	0	0	0
U. Miguel de Cervantes	--	--	--	7	846	0	0	0	0	0
Private HEIs	2,6	21%	10%	744	19.763	26	3,5	11	1,5	5,0
HEIs Total	3,7	39%	23%	1580	40452	278	17,6	105	6,6	24,2

Source: Own work based on CNA-Chile accreditation data (as of November 4th, 2016) and Oferta de Programas de Magíster y Matrícula de Magíster SIES 2016 [Master's Programs on Offer and Enrollment Data - SIES 2016] (www.sies.cl).
Note: The acronym HEIs stands for Higher Education Institutions

Research is another optional accreditation area linked to various extents to postgraduate education. 38.6% of universities have been accredited in this area. 69.6% of CRUCH-affiliated universities have received accreditation for research, a rate reaching only 20.7% among the new private universities.

An indicator for analyzing the degree of regulation present and the quality assurance mechanisms implemented by universities at this educational level the involvement of Master's programs in accreditation processes. Considering the total number of Master's programs available in 2016, it should be noted that rates of participation in accreditation processes are uneven.

Only 24.2% of the Master's programs on offer in 2016 have participated in accreditation processes. Of these, 17.6% are currently accredited and 6.6% have no accreditation. CRUCH universities, as a whole, have received accreditation for 30.4% of their programs (N=252), whereas only 3.5% (N=26) of the programs offered by the new private universities are accredited.

Only seven institutions offer Master's programs with 50% or higher levels of participation in accreditation processes. This group is made up by the Universidad de Talca (73.3%), the Universidad de La Frontera (66.7%), the Universidad de Concepción (63.2%), the Universidad de Chile (62.1%), the Universidad Católica del Maule (56.3%), the Pontificia Universidad Católica de Chile (52,8%), and the Universidad de Santiago de Chile (50.0%), all of which belong to the CRUCH. However, as Table 1 shows, six CRUCH universities have yet to receive accreditation for their Master's programs: the Universidad Metropolitana de Ciencias de la Educación (UMCE), the Universidad Tecnológica Metropolitana (UTEM), the Universidad de Atacama, the Universidad Católica de Temuco, the Universidad de Tarapacá, and the Universidad Nacional Arturo Prat.

Only 26 of the programs offered by the new private universities have been part of accreditation processes. Among these, the Universidad Alberto Hurtado stands out with 40.6% (N=12) of participation in accreditation processes for Master's programs, followed by Universidad Diego Portales with 22.5% (N=7). Taken together, these universities have requested accreditation for 19 programs out of the 26 presented by the new private universities. In this group, only seven universities have submitted programs for accreditation, which explains the low participation rate observed. The 22 new private universities that have not taken part in any Master's-level accreditation processes currently offer 474 programs and have 10,605 enrollees in courses of study whose quality cannot be certified. Worryingly, 9 of these institutions also lack institutional accreditation. It must be noted that no information is available on the students attending the Universidad Bolivariana and the Universidad de la República, which suggests that this figure could be higher. This only corroborates the fact that many programs operate without being examined through assessment processes leading to accreditation.

It is interesting to note that the Universidad Adolfo Ibáñez, which offers 46 Master's programs with a total of 2,654 enrollees, has no accredited Master's programs despite being one of the three new private universities accredited for Postgraduate Teaching. The Universidad de Los Andes is in a similar situation: it has received accreditation for only 2 Master's programs out of the 27 that it currently offers, despite also being accredited for Postgraduate Teaching.

With respect to non-accredited programs (6.6%), it is not possible to determine whether their status is due to the fact that they are participating in an accreditation process for the first time, their accreditation has expired, or they were never accredited. CNA-Chile uses the "non-accredited" category for these 3 alternatives. Clearly, lacking accreditation due to being "in the process of obtaining accreditation" is not the same as not being accredited because an official assessment established that the program did not meet the minimum quality standards. This information is not transparent for the general public and could be misleading.

The institutions offering the largest number of Master's programs include the Universidad de Chile, with a total of 132 programs and 5,797 enrollees, and the Pontificia Universidad Católica de Chile, with a total of 106 programs and 3,755 students. Both universities received 7 years of institutional accreditation in all the areas assessed, that is, Undergraduate Teaching, Institutional Management, Research, Outreach, and Postgraduate Teaching.

Another institution with a large set of programs on offer is the Universidad Santo Tomás, which has 123 programs and 935 enrollees, and the Universidad Mayor, with 117 programs and 3,297 students. These two institutions are accredited for 3 and 5 years respectively in the obligatory areas (Undergraduate Teaching and Institutional Management), and also in Outreach in the case of the Universidad Mayor. None of these institutions have received accreditation in the optional areas of Postgraduate Teaching or Research, nor have they submitted any of their Master's programs for accreditation despite having many on offer. The Universidad Miguel de Cervantes is another noteworthy case, given that it has never taken part in an institutional accreditation process and has seven Master's programs on offer with a total of 846 students. Most of these programs are on-line and have a large number of students (approximately 121 enrollees per program). The Universidad de Aconcagua is in a similar situation: it has never participated in an institutional accreditation process and its website[3] advertises postgraduate programs in a considerable number of campuses across the country.

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[3]   www.uac.cl

Examining the data by subject area reveals that the number of programs on offer and enrollment have expanded mainly in 3 areas: Education, Management and Commerce, and Social Sciences. These areas represent 65.5% of the total number of enrollees in 2016. When disaggregating the enrollment figures between CRUCH-affiliated universities and new private institutions, a relative balance can be observed between Management and Commerce and Social Sciences. However, in Education, 73.6% of enrollees belong to the private sector, with the largest number of students attending the Universidad Mayor, the Universidad Andrés Bello, and the Universidad Miguel de Cervantes.

Table 2
Master's programs on offer by subject area - SIES 2016

Subject area	Programs on offer - SIES 2016						Master's accreditation					
	Total		CRUCH		Private		Yes		No		Total	
	N	Enrollment	N	Enrollment	N	Enrollment	N	%	N	%	N	%
Management and Commerce	277	9530	107	4424	170	5106	28	10.1%	13	4.7%	41	14.8%
Art and Architecture	50	1189	24	748	26	441	10	20.0%	9	18.0%	19	38.0%
Sciences	102	1377	89	1347	13	30	50	49.0%	9	8.8%	59	57.8%
Social Sciences	336	7237	163	3984	173	3253	46	13.7%	18	5.4%	64	19.0%
Law	87	2583	36	1560	51	1023	8	9.2%	2	2.3%	10	11.5%
Education	276	9757	100	2568	176	7189	27	9.8%	11	4.0%	38	13.8%
Humanities	47	1025	35	747	12	278	24	51.1%	13	27.7%	37	78.7%
Natural Resources	59	525	47	441	12	84	21	35.6%	6	10.2%	27	45.8%
Health	142	3260	75	1682	67	1578	21	14.8%	10	7.0%	31	21.8%
Technology	204	3969	160	3188	44	781	45	22.1%	14	6.9%	59	28.9%
TOTAL	1580	40452	836	20689	744	19763	280	17.7%	105	6.6%	385	24.4%

Source: Own work based on CNA-Chile accreditation data (as of November 4th, 2016) and Oferta de Programas de Magíster y Matrícula de Magíster SIES 2016 [Master's Programs on Offer and Enrollment Data - SIES 2016] (www.sies.cl).

Table 3
Students enrolled by university and subject area

Area	Man		Art		Sci		S. Sci		Law		Edu		Hum		Nat R		Health		Tech		Total	
CRUCH HEIs	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
PUC	865	19,6	285	38,1	136	10,1	723	18,1	317	20,3	242	9,4	102	13,7	17	3,9	176	10,5	892	28,0	3755	18,1
PUCV	88	2,0	15	2,0	79	5,9	141	3,5	91	5,8	218	8,5	42	5,6	45	10,2	--	--	209	6,6	928	4,5
U.A.PRAT	475	10,7	--	--	--	--	56	1,4	--	--	194	7,6	--	--	--	--	--	--	--	--	725	3,5
UACH	97	2,2	--	--	78	5,8	72	1,8	106	6,8	23	0,9	21	2,8	54	12,2	20	1,2	32	1,0	503	2,4
UCSC	74	1,7	--	--	3	0,2	56	1,4	127	8,1	181	7,0	12	1,6	14	3,2	35	2,1	57	1,8	559	2,7
UCT	--	--	22	2,9	15	1,1	68	1,7	20	1,3	94	3,7	--	--	26	5,9	--	--	22	0,7	267	1,3
UCM	--	--	--	--	--	--	--	--	--	--	351	13,7	22	2,9	--	--	126	7,5	19	0,6	518	2,5
UCN	120	2,7	1	0,1	40	3,0	24	0,6	60	3,8	--	--	5	0,7	--	--	22	1,3	63	2,0	335	1,6
UA	--	--	--	--	29	2,2	27	0,7	--	--	49	1,9	--	--	12	2,7	24	1,4	71	2,2	212	1,0
U.CHILE	1521	34,4	320	42,8	443	32,9	1317	33,1	477	30,6	122	4,8	196	26,2	135	30,6	679	40,4	587	18,4	5797	28,0
UDEC	46	1,0	24	3,2	168	12,5	222	5,6	142	9,1	215	8,4	69	9,2	78	17,7	162	9,6	380	11,9	1506	7,3
UFRO	29	0,7	--	--	20	1,5	196	4,9	27	1,7	104	4,0	--	--	--	--	105	6,2	43	1,3	524	2,5
ULS	--	--	--	--	27	2,0	50	1,3	--	--	--	--	25	3,3	--	--	--	--	17	0,5	119	0,6
ULL	4	0,1	--	--	--	--	29	0,7	--	--	55	2,1	--	--	--	--	--	--	3	0,1	91	0,4
UMAG	2	0,0	--	--	37	2,7	39	1,0	--	--	3	0,1	--	--	--	--	--	--	--	--	81	0,4
UPLA	--	--	19	2,5	--	--	52	1,3	--	--	210	8,2	68	9,1	--	--	34	2,0	--	--	383	1,9
USACH	177	4,0	22	2,9	26	1,9	417	10,5	--	--	100	3,9	88	11,8	--	--	47	2,8	345	10,8	1222	5,9
U.TALCA	201	4,5	11	1,5	39	2,9	180	4,5	130	8,3	101	3,9	47	6,3	28	6,3	6	0,4	43	1,3	786	3,8
UTA	3	0,1	--	--	--	--	5	0,1	--	--	--	--	6	0,8	--	--	29	1,7	1	0,0	44	0,2
UV	151	3,4	--	--	132	9,8	167	4,2	63	4,0	--	--	42	5,6	--	--	169	10,0	42	1,3	766	3,7
UBB	54	1,2	29	3,9	34	2,5	30	0,8	--	--	108	4,2	--	--	--	--	48	2,9	84	2,6	387	1,9
UMCE	--	--	--	--	6	0,4	6	0,2	--	--	185	7,2	2	0,3	--	--	--	--	--	--	199	1,0
UTFSM	517	11,7	--	--	35	2,6	44	1,1	--	--	--	--	--	--	32	7,3	--	--	269	8,4	897	4,3

	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
UTEM	--	--	--	--	--	--	63	1,6	--	--	13	0,5	--	--	--	--	--	--	9	0,3	85	0,4
CRUCH TOTAL	4424	100,0	748	100,0	1347	100,0	3984	100,0	1560	100,0	2568	100,0	747	100,0	441	100,0	1682	100,0	3188	100,0	20689	100,0
Private HEIs	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
ACADEMIA	--	--	1	0,2	--	--	90	2,8	--	--	44	0,6	--	--	--	--	--	--	--	--	135	0,7
UAI	1835	19,3	36	8,2	--	--	543	16,7	148	14,5	--	--	39	14,0	--	--	--	--	53	6,8	2654	13,4
ADVENTISTA	--	--	--	--	--	--	--	--	--	--	68	0,9	--	--	--	--	18	1,1	--	--	86	0,4
UAH	74	0,8	58	13,2	--	--	518	15,9	20	2,0	291	4,0	69	24,8	--	--	--	--	17	2,2	1047	5,3
UNAB	274	2,9	--	--	2	6,7	47	1,4	27	2,6	1836	25,5	--	--	--	--	500	31,7	291	37,3	2977	15,1
AUTONOMA	44	0,5	--	--	--	--	43	1,3	30	2,9	71	1,0	--	--	--	--	31	2,0	--	--	219	1,1
UBO	24	0,3	--	--	13	43,3	2	0,1	31	3,0	83	1,2	--	--	--	--	--	--	54	6,9	207	1,0
UCSH	--	--	--	--	--	--	31	1,0	--	--	107	1,5	--	--	--	--	--	--	--	--	138	0,7
UCEN	43	0,5	--	--	--	--	63	1,9	11	1,1	331	4,6	--	--	--	--	64	4,1	21	2,7	533	2,7
ARCIS	--	--	--	--	--	--	18	0,6	--	--	18	0,3	--	--	--	--	--	--	--	--	36	0,2
UNIACC	45	0,5	--	--	--	--	--	--	33	3,2	24	0,3	--	--	--	--	--	--	--	--	102	0,5
UANDES	245	2,6	--	--	--	--	168	5,2	27	2,6	180	2,5	64	23,0	--	--	64	4,1	--	--	748	3,8
UVM	42	0,4	--	--	--	--	--	--	--	--	20	0,3	--	--	--	--	--	--	16	2,0	78	0,4
UDD	348	3,7	118	26,8	--	--	476	14,6	175	17,1	428	6,0	40	14,4	--	--	49	3,1	183	23,4	1817	9,2
PACIFICO	8	0,1	--	--	--	--	122	3,8	--	--	--	--	--	--	--	--	--	--	--	--	130	0,7
UDP	837	8,8	55	12,5	--	--	685	21,1	187	18,3	39	0,5	66	23,7	--	--	--	--	32	4,1	1901	9,6
UFT	192	2,0	75	17,0	--	--	72	2,2	219	21,4	481	6,7	--	--	--	--	119	7,5	41	5,2	1199	6,1
UGM	55	0,6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	0,3
UNICYT	29	0,3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29	0,1
REPUBLICA	--	--	--	--	--	--	--	--	--	--	171	2,4	--	--	--	--	--	--	5	0,6	176	0,9
U.MAYOR	863	9,1	98	22,2	1	3,3	222	6,8	66	6,5	1425	19,8	--	--	47	56,0	548	34,7	27	3,5	3297	16,7
M.CERVANTES	--	--	--	--	--	--	35	1,1	--	--	811	11,3	--	--	--	--	--	--	--	--	846	4,3
UPV	--	--	--	--	--	--	--	--	--	--	13	0,2	--	--	--	--	--	--	--	--	13	0,1
S.TOMAS	127	1,3	--	--	14	46,7	40	1,2	36	3,5	496	6,9	--	--	37	44,0	185	11,7	--	--	935	4,7
SEK	13	0,1	--	--	--	--	17	0,5	--	--	44	0,6	--	--	--	--	--	--	--	--	74	0,4
INACAP	8	0,1	--	--	--	--	--	--	--	--	41	0,6	--	--	--	--	--	--	41	5,2	90	0,5
UCINF	--	--	--	--	--	--	61	1,9	13	1,3	167	2,3	--	--	--	--	--	--	--	--	241	1,2
TOTAL IES PRIVADAS	5106	100	441	100	30	100	3253	100	1023	100	7189	100	278	100	84	100	1578	100	781	100	19763	100
HEIs TOTAL	9530	100	1189	100	1377	100	7237	100	2583	100	9757	100	1025	100	525	100	3260	100	3696	100	40452	100

Source: Own work based on Enrollment in Master's Programs, SIES 2016.

These three areas, which have more programs on offer and a larger number of students, display low participation rates in Master's-level accreditation processes, ranging from 14% to 19%. In Education and Management and Commerce, only 9.8% and 10.1% of programs are accredited, while a higher figure is observed in Social Sciences (13.7%).

This suggests that there is high demand for specialization and continuing education in these three areas, which institutions can cover without incurring high costs. It can be inferred that such programs do not entail large investments in terms of laboratories, workshops, or equipment, because they are geared towards professional specialization and not scientific research, which explains their high enrollment figures.

Demand for professionally-oriented postgraduate education is increasing:

in all subject areas, the economic dimension of professionalization is linked to the pressures exerted by the labor market on individuals to obtain further qualifications. This results in professional demand by individuals with no academic interests, but with a desire to obtain an academic degree in order to gain a better strategic position in their field of work, either by meeting promotion requirements or gaining power. This generates incentives for universities to reproduce thematic postgraduate programs instead of disciplinary ones (Matus, Mascareño, & Kaulino, 2008, p. 164).

The Technology area also has a large set of programs on offer. It makes available 204 Master's programs and has 3,969 enrollees. CRUCH-affiliated universities offer the most programs (N=160) and represent the largest part of the total enrollment (N=3,188). Half of these enrollees attend the Pontificia Universidad Católica de Chile (28.0%), the Universidad de Chile (18.4%), and the Universidad de Concepción (11.9%). On the other hand, the new private universities offer 44 programs and have 781 students in total. 37.3% of these students attend the Universidad Andrés Bello, while 23.4% belong to the Universidad del Desarrollo. These programs' rate of participation in accreditation processes is higher than that of the previously mentioned areas (28.9%), and 22.1% of them are accredited.

The Health area is in a relatively similar situation: it has 142 Master's programs on offer and a total of 3,260 students. Its rate of participation in Master's-level accreditation processes is 21.8%, and 14.8% of the programs offered are accredited.

Humanities, Sciences, and Natural Resources configure a different case. The Humanities area offers the lowest number of Master's programs (N=47) and has a total of 1,025 students. These programs display the highest rates of participation in accreditation processes (78.7%); 51.1% of them are already accredited. Humanities programs are mostly offered by CRUCH institutions and private universities accredited in the Research area and 5 years of institutional accreditation.

For its part, the Sciences area offers 102 Master's programs and has a total of 1,377 enrollees. Regarding their rate of participation in accreditation processes, the figure is high for the Sciences area (57.8%), 49.0% of whose programs are accredited, all of them offered by CRUCH-affiliated universities.

Most programs in the Sciences area are offered by CRUCH universities (N=89). Among these, the largest number of enrollees (1,347) attend the Universidad de Chile (32.9%), the Universidad de Concepción (12.5%), the Pontificia Universidad Católica de Chile (10.1%), and the Universidad de Valparaíso (9.8%). With respect to private universities, only 13 programs are on offer with 30 students on average. Half of these students attend the Universidad Santo Tomás (46.7%) and the other half belong to the Universidad Bernardo O'Higgins (43.3%). In this regard, it is interesting to note that these two institutions, accredited for 3 years and which have not sought accreditation in Research and Postgraduate Teaching areas, offer Master's programs in the Sciences area. Scientific disciplines are academic in nature and require a minimum number of full-time faculty who are active in the research field and have an established trajectory in it, traits that are usually not found in institutions of this type, which define themselves as teaching universities.

In the Natural Resources Area, 59 Master's programs are on offer. They display the lowest enrollment figures of all subject areas (N=525). Most of the programs on offer (N=47) and the largest number of enrollees (N=441) attend CRUCH universities, mainly the Universidad de Chile (30.6%), the Universidad de Concepción (17.7%), the Universidad Austral de Chile (12.2%), and the Pontificia Universidad Católica de Valparaíso (10.2%). For their part, private universities offer 12 programs and have a total of 84 students, most of whom attend the Universidad Mayor (56.0%) and the Universidad Santo Tomás (44.0%). The Natural Resources area is placed third in terms of participation in accreditation processes (45.8%) and number of accredited programs (35.6%). In this specific case, all the accredited programs are offered by CRUCH-affiliated institutions.

These three areas, Humanities, Sciences, and Natural Resources, are dominated by academic programs, geared towards training students in scientific-disciplinary research. This requires academics who are highly dedicated to the program, are recognizedly productive, and have a well-established career, manifested through the assignment of competitive State or private funding for their projects and indexed publications. In addition, such programs require material support (infrastructure, equipment, databases, laboratories, etc.) for the research work conducted by academics and students. All the above explains their concentration in institutions with policies and mechanisms aimed at developing academic research.

The fact that fewer programs are on offer in these areas —especially in the case of Humanities and Sciences— can also be due to the lower enrollment levels in related undergraduate programs. The high rates of participation in accreditation processes observed in these areas are linked to the possibility of applying for scholarships: since these programs are costly and academically oriented, they demand nearly exclusive dedication, which limits students' ability to balance their studies with their work duties.

Lastly, the Art/Architecture and Law areas behave in a slightly dissimilar way, which can be explained with reference to the uniqueness of the disciplines that they host. The Art and Architecture area has 50 programs on offer and 1,189 students in total. 38% of the Master's programs in this area have taken part in accreditation processes, with 20% of those on offer being accredited. Despite the small number of programs on offer compared with other areas, their rate of participation in accreditation processes is significant. This is explained by the contribution of Architecture programs, a discipline with an established trajectory in the field of accreditation, even at an international level.

In the Law area, 87 programs are on offer with 2,583 enrollees. Even though the new private universities have more programs on offer (N=51), their number of students is lower than that of CRUCH-affiliated institutions (N=1,023). Law has the lowest rate of participation in accreditation processes across the whole system (11.5%), and has received accreditation for only 9.2% of its programs. In general — including undergraduate programs— the Law area has belatedly adopted the dynamics that characterize accreditation.

The above suggests that the quality assurance policies and mechanisms employed in Master's programs, using accreditation as a unit of measurement, are not consolidated in the higher education system. Universities have prioritized strengthening the obligatory institutional accreditation areas (Undergraduate Teaching and Institutional Management), postponing for a later phase of development the consolidation of optional accreditation areas (which include Postgraduate Teaching and Research).

Out of the total number of students attending private universities, 78.6% are enrolled in programs in the Education, Social Sciences, and Management and Commerce areas. The explosive expansion of Master's programs in these areas could be due to the low regulation of the system at this educational level, given that obtaining institutional accreditation for the Postgraduate Teaching area and Master's programs is voluntary. The bill currently being reviewed in Congress does not help solve this problem, because it omits the accreditation of Master's programs, overlooking the issue of unregulated growth in terms of offerings and enrollment.

Critical points and best practices in the accreditation of Master's programs

Examining a sample of accreditation agreements for Master's programs —both accredited and non-accredited— reveals certain critically important aspects in the assessment process leading to accreditation, as well as best practices that produce good results. We have identified three predominant critical points.

Definition of the program's nature. Even though this may seem simple, because it is only a conceptual definition, it becomes a complex issue when the program has a long history, in some cases over 30 years; that is, when it has a history that precedes the establishment of assessment criteria and must be taken into account. In such cases, the definition generated is often at odds with the program's actual history. Thus, if the program reports being academic in nature, but has failed to generate the devices and mechanisms needed for a program of this type, said definition becomes inconsistent. This difficulty is less often present in newer programs, which are usually created considering that they will require accreditation; therefore, they are designed taking assessment criteria into account.

Also regarding the programs' nature, another difficulty can be identified: the profile and expectations of the students enrolling in them. This is because such expectations often do not involve pursuing an academic career, but gaining tools to perform better in the professional field or even obtain a promotion. Such a perspective is also linked to a type of student who seeks to combine his/her postgraduate studies with his/her job, which leaves less time available to dedicate to the program. All the above sometimes clashes with the profile of professors devoted to strictly academic and research duties, and who are therefore unable to respond to students' expectations. Therefore, a point of tension is revealed in academically-oriented programs which admit students whose interests are focused on professional development.

Similarly, another difficulty for defining a program's nature results from a traditionalistic view that predominates in some academic spheres, where professionally-oriented programs are inconceivable or regarded as second-rate. In this case, even though demand for the program could push it in a professional direction, the academic team stubbornly declares it to be research-oriented. This situation often results from the fact that institutions only provide economic support to their academic programs, while professional ones must fund themselves.

Student progression and graduation activity. Another evident problem is the timely graduation index. Even though programs manage to make students complete their study cycle, graduation rates tend to be low, with differences being observed depending on the subject area and the nature of the Master's program; in general, less than 50% of the students initially enrolled eventually graduate. Another critical aspect is the time of permanence. In most cases, students take 4 or more years to complete a program that

generally lasts 2 years. Explanations include the complexity of the graduation activity, which is highly demanding for students —considering the limited time that they are able to devote to the program— or inordinately extensive for this educational level. Even professionally-oriented programs have been unable to distance themselves from the classical thesis model, despite including insufficient training in research methods in their syllabuses.

Profile of faculty members. Academic staff is assessed considering its number, dedication to the program in terms of time, alignment with the program's lines of research or areas of development, trajectory, and productivity. Therefore, this is a key factor in the process. Multiple difficulties can be observed in this regard.

One of them is the number of faculty members. Even though at least four full-time academics must be employed by the institution, this core group is insufficient when a large number of students or graduation activities must be supervised. For example, it is complicated for a handful of academics to guide multiple graduation projects. In addition, considering that this team also performs management and teaching tasks in other programs of the faculty to which they belong, their dedication to the program becomes even more limited. This constitutes the first problem.

Likewise, the productivity of the program's lines of research or areas of development is another critical factor. In this regard, the productivity guidelines published by CNA-Chile gain relevance. If the program does not meet them, or if it does not engage in self-critical assessment or propose actions to solve its problems, it is unlikely to receive accreditation. In the case of professional programs, it is also relevant for academics to participate in the labor market by providing consultancy or professional advice services, a requirement that is infrequently met in some fields.

Regarding best practices, several policies and mechanisms can be adopted in order to improve the quality of Master's programs. Four aspects have been identified:

Generation of specific policies and management structures for developing quality assurance in postgraduate programs. Universities have established specific policies, norms, and management structures to orient the development of their postgraduate programs. This is a result of the uniqueness of these programs and their requirements, which differentiate them from the policies aimed at undergraduate programs. Thus, institutions have created Research and Postgraduate Agencies, Postgraduate Offices, and Postgraduate Schools, among other bodies.

Investment in faculty and encouragement of research. Given the importance of the assessment of professors, the institutions whose Master's programs are accredited have made large investments to strengthen their academic staff. In addition, they have allotted funding for research projects, academic internships, and international mobility, and have reserved time for the preparation of projects for securing external grants.

Definition of the admission profile of the students selected. One of the key elements for students' adequate progress in their academic programs results form a suitable selection process. For this to happen, students' entry profile must be clearly defined. This involves, at least, determining admission conditions, prior studies in the relevant subject area, and, in the case of academic programs, proper training in the application of research methods and a clear research project. This will facilitate their progression and make timely graduation more likely.

Institutional support. This is a key aspect that translates into material resources for conducting academic activities: infrastructure and equipment, scholarships for students, and support for management tasks. The program is not an island within the university; instead, it is located within an institutional space that provides support and backs its strategic action plans and its improvement initiatives.

Both the critical factors identified and what we have labeled "best practices" are elements that prefigure an information gathering mechanism of sorts that can guide a self-assessment process in a Master's program.

Thus, it can be asserted that quality assurance policies and mechanisms constitute a response to social and political demands resulting from the need to address the deep transformations experienced by Chilean higher education. However, nowadays these policies and mechanisms have only started to be applied in the Master's area, lagging behind the explosive expansion in the number of programs offered and the growth in enrollment figures at this educational level.

In this context, quality assurance in Chilean Master's programs Chile still needs to be strengthened. At present, the lack of a mature system at this educational level suggests that solid policies and mechanisms are also absent. What can be projected, based on the evidence of the accreditation coverage and outcomes of Master's programs and universities in the optional Postgraduate Teaching area, is that institutional quality assurance policies and mechanisms have been mostly implemented in the undergraduate area, to the detriment of postgraduate programs. This suggests that the boundless expansion of the programs on offer at this level is directly linked to low regulation levels.

Conclusions

As this study has shown, from the 2000s onwards, Master's programs have expanded in terms of quantity and enrollment levels. While 6,632 students were enrolled in Master's programs in the year 2000, by 2016 this figure had reached 40,452.

Some conclusions can be drawn from this observation:

Growth has been mainly taken place in the private sector, with low rates of participation in the accreditation system

This rapid expansion has been led by private universities founded after 1981, which went from 1,214 enrollees in 2000 to 19,763 in 2016. It should be noted that only three of these universities have received institutional accreditation in the Postgraduate Teaching area and that only 5% of the programs offered by them have taken part in the accreditation system for Master's programs.

It is interesting to note that even universities without institutional accreditation offer postgraduate programs. Such institutions include Universidad Miguel de Cervantes, Bolivariana, La República, SEK, ARCIS, UCINF, Pedro de Valdivia, UNIACC, and de Aconcagua. Even though they are not strictly forbidden from doing so, it is logical to assume that they lack mechanisms allowing them to guarantee the quality of their programs.

The increase in Master's-level offerings and enrollment figures has mainly taken place in professional programs in certain subject areas

A second conclusion arrived at is that the bulk of the expansion of Master's programs has occurred in 3 subject areas: Management and Commerce, Education, and Social Sciences. This can be explained by the growing demand for professionally-oriented programs with a low implementation cost, because they do not involve major investments in equipment, laboratories, or groups of research-focused academics. The case of the Education area is especially complex: here, 78% of Master's programs are offered by private institutions which, as previously noted, do not submit their programs for accreditation. In fact, only 10% of the total number of programs offered in this subject area have ever been part of an accreditation process.

In contrast, fewer programs are on offer in the Sciences, Humanities, and Natural Resources areas, most them hosted by CRUCH-affiliated universities. Also, these three areas display the highest rates of participation in Master's-level accreditation processes, which can be explained by the predominance of academically-oriented programs geared towards scientific-disciplinary research. This supports the assumption that universities with more developed research areas are able to offer such programs. It should be noted that these programs, which have fewer students, are often subsidized by their host university or require external funding sources (scholarships) for enrollees. This encourages participation in accreditation processes.

Universities with higher rates of participation in Master's-level accreditation processes have generated specific support policies and structures for this area

Several universities whose Postgraduate Teaching areas are accredited, and which also display a high rate of accredited Master's programs, have gradually consolidated structures of this type. For instance, at the Universidad de Chile, postgraduate programs are managed by the Postgraduate Department of the Academic Affairs Office. This unit seeks to ensure the quality of postgraduate programs. In addition, each Faculty has a Postgraduate School, with which it works in tandem. The Universidad de Talca, as part of its Academic Office, has a Graduate School, which is in charge of a Postgraduate Quality Assurance Unit and a Postgraduate Curricular Management Unit.

In addition to the cases mentioned, the Universidad de La Frontera has a Research and Postgraduate Office whose aim is to generate policies and instruments that allow the institution to assign resources to high-performance areas linked to research, postgraduate studies, international cooperation, and technological exchange; also, this Office is complemented by a Postgraduate Academic Unit. The Universidad de Concepción has a Postgraduate Unit, part of the Postgraduate Office, as well as a Research and Development Office. The Pontificia Universidad Católica de Valparaíso, for its part, has an Advanced Studies Unit, which depends on the Research and Advanced Studies Office, a body that has allowed this institution to increase the accreditation rate of its programs.

It should be noted that the Universidad de Talca, the Universidad de La Frontera, and the Universidad de Concepción have increased their rate of accredited programs over the last years, which is a consequence of a policy consistently geared towards that objective. It is interesting to see that the Universidad Católica del Maule is among the five universities with the highest rates of accredited Master's programs (56%). Even though its Postgraduate Teaching and Research areas are not accredited, it created a Research and Postgraduate Studies Office in 2012 in order to make progress in this regard. This institution's indexes reflect the implementation of policies aimed at meeting this objective.

Among the new private universities, the Universidad Alberto Hurtado (UAH) and the Universidad Diego Portales (UDP) stand out. The UAH has a well-established Postgraduate Studies Unit, whose impact is illustrated by the fact that 41% of its Master's programs are accredited. Similarly, 23% of the programs offered by the UDP have received accreditation, which is the product of a policy implemented by its General Office for Postgraduate Studies and Research. One step below, the Universidad de Los Andes, which has a Research and Postgraduate Studies Office, displays 15% of participation in accreditation processes, but as of this writing only 2 of its Master's programs have been accredited.

In sum, institutions that have gradually consolidated specific policies, mechanisms, and management structures for their postgraduate area have managed to make progress towards the accreditation of their programs; therefore, this factor can be considered to be essential for assessing the quality of Master's-level education at these institutions.

Closing remarks

Even though accreditation is not intended to be a form of regulation in itself, it can reveal the existence of quality assurance policies and mechanisms. The bill being discussed in Congress focuses on quality assurance in undergraduate and doctoral programs, leaving Master's programs in "no man's land".

This is contradictory, because the project also states that institutional accreditation must include the Research area —currently optional—, which is based on the assumption that universities will implement development policies in this area and generate critical mass to strengthen it. However, the first phase of the generation of this critical mass —Master's programs— appears to be free from this regulation.

If accreditation for the Postgraduate Teaching area continues to be voluntary, or if the accreditation of Master's programs is omitted, programs currently lying outside of the national quality assurance system will retain some leeway to keep avoiding accreditation processes.

In our opinion, strengthening the accreditation of Master's programs is a necessity in terms of public policy. If universities are not obligated to present their policies in the Postgraduate Teaching area when applying for accreditation, they will be free to regard postgraduate education as an unregulated field and as a way to diversify their income matrix by increasing their enrollment figures. This means that, when expanding their academic offerings, these institutions could prioritize market-based criteria to the detriment of quality-related ones, which would be undesirable.

As this study has revealed, demand for specialization encourages many individuals to spend their own funds to enroll in non-accredited Master's programs in universities with no accreditation in this area; that is, they incur debts to obtain an academic degree through a program whose quality has not been certified. This situation highlights the importance of implementing regulation mechanisms.

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