ARE WE THERE YET? GENDER QUOTAS IN UNIVERSITY HIERARCHIES: THE CASE OF COLOMBIA

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ABSTRACT: *The year 2022 was set as the deadline in the Colombian National Development Plan for reaching gender parity in all public directives. As we approach the time limit, this study takes the lead on examining the impact of the national gender quota by comparing official reports and empirical data. Official records show ongoing growth in the rate of female representation among the top decision-making levels at reporting organizations, yet closer analyses of quota-regulated universities' performance identify divergent results. Moreover, records of job positions filled by women are systematically omitted, despite being required by law, which raises further questions about the quota's potential to foster gender equality at the organizational level. This research addresses this data gap by examining whether having a larger proportion of women among various organizational bodies influences their rate of election to decision-making roles and explores current corporate equality strategies to provide a more comprehensive analysis of the quota's impact.*

KEYWORDS: *gender equality, affirmative action, female directorship*

INTRODUCTION

Every year, the World Economic Forum measures the performance of hundreds of countries in four areas of gender equality: (1) political empowerment, (2) economic participation and opportunity, (3) educational attainment, and

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(4) health and survival. According to this international comparison, Colombia's performance is ranked as among the best on the American continent (WEF 2020). These results are corroborated by national statistical reports from the Public Administrative Department (*Departamento Administrativo de la Funcion Publica*) which assess compliance with the gender quota regulation (*Ley 581* 2000) on an annual basis. However, empirically collected data from quota-regulated universities reveal a significant mismatch with official records. To evaluate this presumed incongruence, a longitudinal comparison was conducted between official reports of women's participation in the maximum decision level (MDL) of regulated universities and empirical data elicited from the same target universities between the years 2012 and 2020. Institutional reports from the year 2021 could not be included in the assessment because they are not available yet in all regulated universities.

The paper is organized into two sections: First, a short historical overview is presented about women's access to decision-making positions in Colombian universities, followed by a detailed description of size, enforcement mechanisms, and assessment and report systems associated with the Colombian gender quota. In the second section, data is analyzed through three indicators that reveal: (1) the gender distribution at the maximum level of decision-making (MDL) of regulated universities, as well as the specific positions generally filled by women; (2) the impact of a larger proportion of women among students, teachers, and graduates on their rate of election to decision-making roles; and, (3) the actual contribution of supplementary gender-equality corporate strategies to universities' gender-related performance.

The assessment of data involves the calculation of the share of women on boards among quota-regulated universities through mean values and contingency tables to compare their outcomes over time. Then, polynomial regressions are applied to determine whether and to what extent the number of women in different organizational bodies influences the election of female representatives at the maximum level of decision-making. Finally, a discussion is provided along with the findings and conclusions, alongside suggestions for future research.

SECTION ONE: BACKGROUND INFORMATION

Historical overview of women's access to decision-making positions in Colombian public universities.

The first democratically oriented university in the country was created in 1867, but it was not until 1936 that the first female student was admitted to a Colombian university (Piñeres de la Ossa 2002) and it took another 26 years to get a woman appointed as university rector, in 1962. That was Irene Jara de Solórzano at the National Pedagogical University (*Universidad Pedagógica Nacional*). As a matter of fact, there were a few other female rectors at post-secondary educational institutions before 1962. However, those institutions were not categorized as higher education centers but simply as training centers for the development of 'female' skills such as nursing primary care, home finances, sewing, cooking classes, etc. (BCUPN n.d.).

Back then, the only socially acceptable profession for women was teaching. Hence, the appointment of a female rector at the National Pedagogical University did not challenge any social customs, as this institution was oriented around and still is a leader in teacher training programs. Fifteen more years had to pass before another woman took on the role of a public university rector, with the appointment of Cecilia Reyes de León as head of the Industrial University of Santander (*Universidad Industrial de Santander*) in 1977 (Diaz Jaramillo 2019). These numbers exemplify a rate of female representation of below ten per cent over three decades. Certainly, the presence of women in other administrative positions during that time is assumed – for example, as vice rectors, deans, program directors, or board members; but historical and comprehensive data on the subject is incomplete or missing in relation to most universities.

By 1992, the congress had enacted *Law 30*, which granted academic and administrative autonomy to higher education institutions, giving them the legal right to enact and to modify their own mechanisms and regulations in relation to designating or electing academic and administrative authorities, among other benefits (*Ley 30* 1992). Thus, this gave people the possibility to run for decision-making positions through merit-based contests instead of relying exclusively on direct appointments from external authorities. However, six years after the enactment of the law, the only female rector in service was Alicia Moyano de Iregui at the Major College University of Cundinamarca (*Universidad Colegio Mayor de Cundinamarca* or *Unicolmayor*), who led the institution since 1980, when it was still categorized as a female-only post-secondary school. Overall, between 1992 and 1998 circa twenty universities went through electoral processes for the position of rector, but only two women were elected, one

at the University of Sucre, and the other at the Online National University (*Universidad Nacional Abierta y a Distancia* or *UNAD*) (Leal Afanador 2015). Therefore, administrative independence did not seem to enhance the promotion of women to executive roles within public universities in Colombia.

In the year 2000, the global trend of applying gender quotas finally reached Colombia, when the related regulation was officially enacted by *Law 581* (*Ley 581* 2000). International evidence suggests that quotas have had little effect, since the average share of women in parliament is still twenty-four per cent, despite the prevalence of quotas in this setting (IPU 2019). The main argument against the application of the latter is people's resistance – not only from of men who refuse to accept their diminished chances of landing executive positions, but also from women who reject being granted the same roles solely on the basis of their sex (Ashcraft 2005). Hence, the impact of this measure on the share of women on the boards of Colombian public universities is further assessed in the second section of this study. First, it is necessary to describe the size, enforcement mechanisms, assessment, and reporting system associated with the Colombian gender quota.

The Colombian gender quota

Around the world, women face marked obstacles to professional promotion, particularly to obtain seats at the highest decision-making levels of organizations. In response, scholars have suggested that including a critical mass of women in decision-making (thirty-three per cent or more) could foster gender equality (Parsons–Priola 2013; Peterson 2015; Vinkenburg 2017) by reducing the effects of tokenism (Van den Brink 2010).

Historically, electoral gender quotas may be traced back to the 1930s in India and Pakistan. But it was not until the 1990s that significant candidate quotas started to be implemented worldwide, first in Argentina, but then spreading all over Latin America (Hughes et al. 2016). In Europe, "the turning point came in 2002, when Norway mandated forty per cent directorship representation [of] each gender" (Terjesen–Sealy 2016: 4).

In Colombia, the quota law (*Ley 581* 2000) was enacted more than twenty years ago to regulate the fair participation of women within all national and territorial agencies of public administration branches, electoral organizations, and autonomous entities. Sixteen public universities are listed as part of the autonomous entities regulated by this quota (DAFP 2021).

Design, enforcement mechanisms, monitoring and reporting

In compliance with constitutional mandates (*Ley 1257* 2008), the Colombian quota law requires thirty per cent participation of women in decision-making positions at all levels of public power organs and branches (*Ley 581* 2000: Articles 1 and 4). This applies to both the maximum decision-making level, which refers to the highest hierarchical roles of an organization such as directorships and academic board membership of a university, as well as to other decision-making levels (ODL), which refers to all positions that are freely appointed (*Ley 581* 2000: Articles 2 and 3), such as universities' vice rectors, and office and division heads. It is important to specify that positions associated with free appointment and removal are filled at the discretion of the employer, who may choose the person they consider most suitable for the role (Secretaria del Senado 1999).

In cases when the appointment process requires a shortlist, as is typically the case for faculty deans, at least one woman must be included in this group. With the use of extended list systems, the names of women and men must be included in equal proportion. Finally, in relation to hiring and promotions made through public contests that combine merit and testing, the equal participation of men and women is also mandatory, both for applicants and for evaluating authorities. But the rules listed above do not apply to careers for which appointment and promotion are based exclusively on merit, nor to positions designated exclusively through popular elections, (*Ley 581* 2000: Articles 5, 6, 7), as is the case for all the representative members of boards of directors.

Thus, at the maximum decision-level of regulated universities, quota compliance should be assessed based on the gender distribution of boards of directors and academic councils, which constitute the two highest hierarchical levels at these kind of organization. This gender distribution, based on the provisions previously explained, anticipates a high number of women among appointed positions such as delegated members of the board or directors, vice rectors, office and division heads; but a smaller female presence overall among elected board representatives, for which compliance with the quota is not mandatory.

Additionally, the regulation dictates the creation and implementation of female promotion plans at national and regional levels (*Ley 581* 2000: Articles 10 and 11), which include educational initiatives with non-sexist content and practices, as well as outreach information about gender equality, women's rights, protection schemes, and specialized leadership training for women. Those requirements are examined in this study based on the presence of organizational gender policies that include educational and training initiatives; on the presence of specific references to gender equality in the university's mission, values and

goals; on the publication of sex-disaggregated organizational reports; and on the presence of institutional gender equality monitoring committees.

As for *enforcement mechanisms*, "non-compliance will be charged with misconduct and penalized with a suspension of work-duties of up to 30 days and permanent dismissal if the noncompliance persists" (*Ley 581* 2000: Article 4, paragraph 1). Institutional performance is assessed by the High Judiciary Council (*Consejo Superior de la Judicatura*), the administrative office of Congress (*Dirección Administrativa del Congreso de la República*), and the Public Administrative Department (*Departamento Administrativo de la Función Pública*) and presented by the latter through official annual reports that list general job-related distribution data including female participation rates for every branch and organ of public administration (*Ley 581* 2000: Article 12).

The Law does not specify a limited period for the enactment of the gender quota; hence, the regulation is expected to remain in place indefinitely and to be complied with during every change in organizational governance. The objective of the National Development Plan is to achieve gender parity in all public directorship positions by the year 2022 (DAFP 2020). Hence, it is necessary to evaluate how close we are to reaching parity as the established deadline approaches.

SECTION TWO: ANALYSIS OF THE QUOTA'S IMPACT AMONG REGULATED UNIVERSITIES

To assess a gender quota's effectiveness, Schwindt-Bayer (2009) suggests appraising three crucial factors: (1) The *quota size* – the minimum proportion of female participation should be set at no less than thirty per cent; (2) whether it has *placement mandates* – for cases when seats are distributed according to candidates' rank on voting lists; and, (3) whether it includes the presence of strong *enforcement mechanisms* to prescribe consequences for those institutions that do not abide by the quota.

Placement mandates are not relevant in this study since none of the seats on boards of directors at regulated universities are distributed according to candidates' ranking on voting lists. For the remaining two factors, a document review of the Colombian quota law indicates an adequate share of thirty percent female representation to reduce the effect of tokenism (Van den Brink 2010). However, it has weak sanctions for non-compliance. Thus, preliminary findings reinforce Helen Kowalewska's (2019) argument that "opting for non-binding 'soft' quotas for women's board representation [leads] to lower levels of success" (ibid. 14). The main assumption of the present study is that the quota has only

been minimally complied with, and that results presented in official reports do not accurately reflect the gender distribution in the organizational hierarchy of public universities; hence, empirical data should be evaluated to compare these results over time.

For that purpose, the elicited data is compared to official records based on (1) the overall gender distribution and specific positions filled by women at the maximum level of decision-making of regulated universities. Then, regulated universities that issue sex-discriminated statistical reports are compared to determine: (2) whether having a larger proportion of female students, teachers, and graduates is connected with the more frequent election of female board representatives; and (3) the impact of diverse supplementary gender-equality corporate strategies on universities' performance.

Data

Longitudinal data on the share of women on boards were reviewed for all sixteen public universities regulated by the quota using the annual reports of the Public Administrative Department. It must be noted that the first report of the Public Administrative Department was published in 2003, three years after the enactment of the gender quota. That first report, as well as reports from the following three years, presented total averages that clustered all autonomous entities or all regulated universities' performances into one single unit (see Table A1.1 in Appendix).

By 2007, reports had become more specific as they listed the performance of regulated universities individually. However, their aggregation of data from maximum decision levels and other decision levels into one single unit restricted comparison with empirical data since ODL information is generally omitted from organizational reports and publications. Fortunately, from 2012 onwards the performance of regulated universities was officially presented in two separate sections, differentiating MDL from ODL. Therefore, the lack of comparative data in official records before 2012 (see Table A1.1 in Appendix) imposed the initial delimitation of a timeframe of 2012–2021 for the present study. However, given that institutional reports from the year 2021 have still not been published in all regulated universities, the comparative timeframe was finally set as between 2012 and 2020.

Moreover, the study focuses exclusively on the maximum level of decision-making, which in the organizational setting of universities corresponds to the board of directors and the academic council. The reasoning behind this choice is based on formal statistical evidence that proves the presence of fewer females on

boards than at other levels of the organizational hierarchy. In Latin America, for instance, the share of women on boards is currently 12.7 per cent (CSRI 2021). Therefore, female underrepresentation is expected to be more evident in this hierarchical layer than at other decision-making levels.

Method

Women's representation in quota-regulated universities' boards is investigated by comparing official statistics and empirically elicited data. The study focuses not only on women's share on boards of directors, but it also fills the data gap in relation to specific positions generally held by women between the years 2012 and 2020. Then, quota-regulated universities' statistical reports, management reports, and boards' resolutions and agreements (*Resoluciones y Acuerdos*) are further reviewed. The goal was to determine whether and to what extent supplementary corporate strategies for gender equality and/or a larger proportion of women among students, teachers, and graduates impacts the election of women to decision-making roles. Mean values are examined to determine universities' average performance over time, and contingency tables and polynomial regressions are used to assess the interactions between different variables.

Results

Indicator 1: Gender distribution and female-dominated job positions at the maximum level of decision-making (MDL) of regulated universities

According to the information published by the Administrative Department Office, in 2020 twelve out of sixteen universities complied with the gender quota, the majority of which had reached or nearly reached gender parity at the maximum level of decision-making (see Table A1.1 in Appendix for detailed data). Official records from earlier years also show positive outcomes for women on university boards, ranging from thirty-four per cent to fifty-six per cent, which indicates consistent compliance with the gender quota over time (see Table 1).

However, empirical data from universities' statistical reports, management reports, and board meeting minutes disclose different results. The collected data show average representation rates at the maximum decision level that oscillate between thirteen per cent and thirty-one percent (see Table 1). Thus, the number

of non-complying universities is actually higher than the number of universities that fulfil the gender quota. On top of that, only one of the regulated universities has successfully achieved and sustained gender parity within its board of directors over time (see Table A1.2 in Appendix).

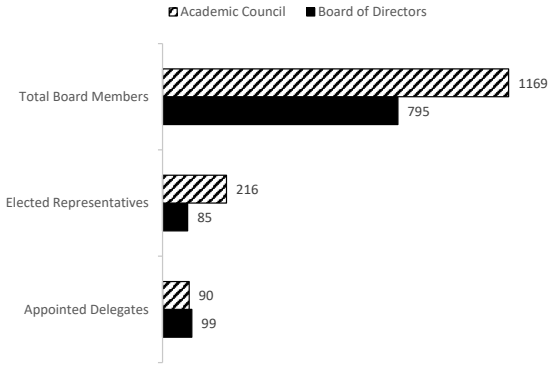
Table 1. *Share of women on boards at regulated universities in Colombia (2012–2020), (%)*

	2012	2013	2014	2015	2016	2017	2018	2019	2020	Mean
Official reports	44.7	56.0	–	35.0	38.0	34.0	36.0	37.0	41.0	36.0
Empirical data	13.4	–	21.2	–	20.7	27.2	31.0	28.2	24.5	19.6
Difference	31.3	–	–	–	17.3	6.8	5.0	8.8	16.5	16.1

Sources: Administrative Department Office and universities' statistical and management reports.

Moreover, the difference between the averages of official records and averages calculated using empirical data were smaller in the past five years than in 2012. However, the divergence between the two datasets slowly increased again within the past three years, which opens the door to speculation about the accuracy and comprehensiveness of the information provided by regulated organizations to the Administrative Department Office. This is not to mention the omission of specific job positions filled by women, even though the gender quota stipulates that all reporting organizations must present not only the percentage of female participation in every branch and organ of public administration, but also a list of general job distributions (*Ley 581* 2000: Article 12).

Figure 1. *Number of women on regulated universities' boards of directors between 2012 and 2020*



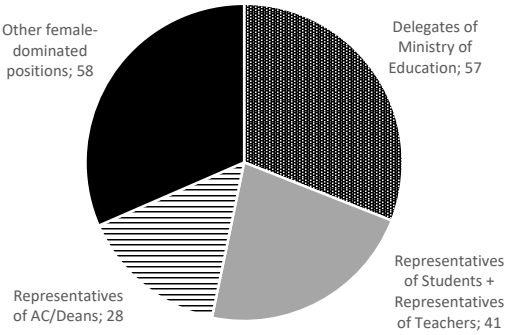
Source: Empirical data from institutional reports of regulated universities' boards of directors, author's calculations.

Considering those indications, the subsequent data analysis focuses on the data gap for varieties of job during the timeframe under observation. The results for academic councils and boards of directors are presented separately since women's distribution and specific roles are different, particularly among delegated members. Findings reveal that between 2012 and 2020 the forecasted smaller female presence among elected board representatives was indeed erroneous (see Figure 1).

Figure 1 indicates that there is a similar number of appointed delegates on both types of board (academic councils and boards of directors) and that the number of elected representatives on boards of directors is similar to that of appointed delegates. Nonetheless, the number of women elected as representatives on academic councils was two times higher than the number of delegates (also see Tables A2 and A3 in Appendix). Therefore, the initial expectation of a smaller female presence among elected members due to their exemption from compliance with the quota was proven wrong. However, when compared to the total number of board members over the observed period of time, the total share of women remains remarkably small, regardless of their position as delegates or elected representatives.

As for specific job positions consistently filled by women, empirical data show that the top three positions frequently dominated by women on boards of directors were delegates of the Ministry of Education, followed by representatives of students, teachers, and deans (see Figure 2).

Figure 2. *Top three female-dominated roles on boards of directors between 2012 and 2020*

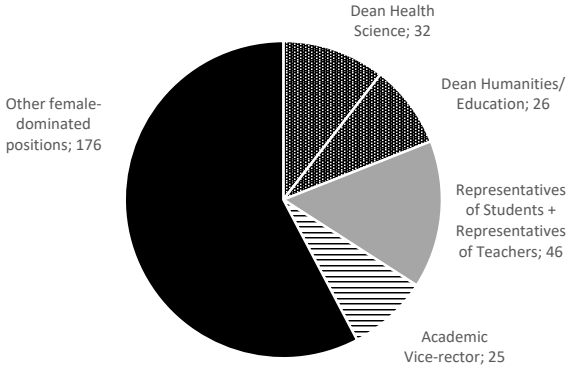


Source: Empirical data from institutional reports of regulated universities' boards of directors.

On academic councils, students and teachers' representatives were also among the top three female-dominated board roles alongside the role of academic vice-

rector and deans of faculties of health sciences and faculties of humanities and education, who share first position on the list with similar numbers of women represented during the timeframe under investigation (see Figure 3).

Figure 3. *Top three female-dominated roles on academic councils in Colombia between 2012 and 2020*



Source: Empirical data from institutional reports of regulated universities' boards of directors.

In addition to these positions, women were also present as delegates of productive sectors, as graduate representatives, as research vice-rectors, and as deans of engineering, arts, and law faculties, among others. But their number over the observed timeframe was notably smaller in comparison to the top-listed positions (see Tables A2 and A3 in Appendix), thus they are presented in Figures 2 and 3 as clustered units for other female-dominated positions. Finally, it is relevant to note that for academic councils the number of women in other female-dominated positions is only higher than those in the top three positions listed as female-dominated because the number of academic council members is extensive, including up to thirty-one seats as opposed to the standard number of members of boards of directors, which is ten. Thus, the gender distribution in academic councils is more scattered.

Indicator 2: Impact of a larger proportion of women among students, graduates, and teachers on women's election as representatives on boards

The assessment of this indicator is based on the hypothesis that the number of female students, graduates and teachers has no effect on the amount of females elected representatives on boards of directors. The analysis was based on thirty-

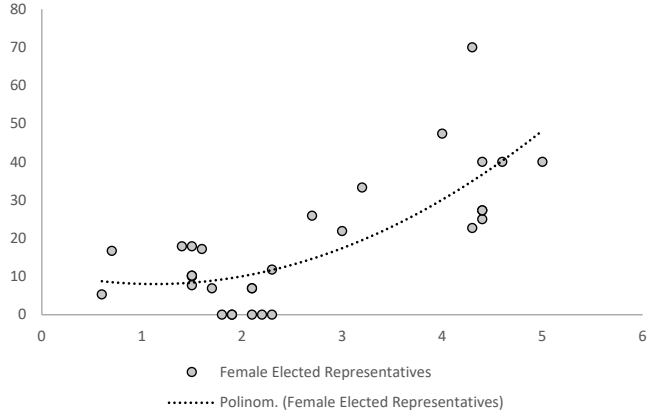
one observations that revealed how the number of female students and graduates is, on average, only slightly less than the number of male students and graduates, while the number of male teachers is significantly greater than the number of female teachers (see Table A6 in Appendix).

Data were initially assessed through linear regressions. However, the results showed very low R-squared values, particularly for the number of female students and female graduates, which only explained 37.8 per cent of the variation in the dependent variable. Therefore, this model was not the best approximation of the relationships between variables. As an alternative, polynomial regressions were applied to reduce the error rate and to provide a more defined trajectory among the data points. The overall regression model was significant for both independent variables:

$$F(2, 28)=13.97, p<0.001, R^2=0.499$$
$$F(2, 28)=20.27, p<0.001, R^2=0.591$$

With this model the number of female students, female graduates, and female teachers predicts at least half of the variance in the number of female board representatives. Figures 4 and 5 illustrate the non-linear relationship between the variables, where it can be distinguished how the share of females elected as board representatives increases in relation to the number of female teachers, students, and graduates.

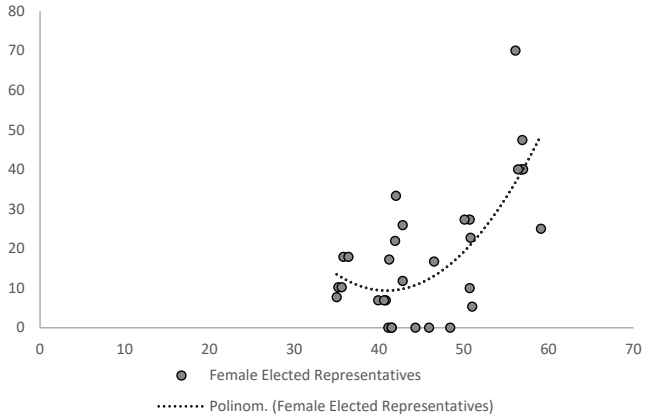
Figure 4. *The impact of the number of female teachers on the election of female representatives*



Source: Regulated universities' sex-disaggregated statistical reports, author's calculations.

The statistical significance of the model ($p<0.001$) indicates that changes in the independent variables are correlated with shifts in the dependent variable. Yet, in the case of students and graduate bodies, it is clear that there needs to be a critical number of female students and graduates before one can see the impact in terms of the number of females elected as representatives. This critical threshold is around a fifty per cent female presence. Thus, even if the position of board representatives is regulated by a quota, the required minimum thirty percent would not generate much change in current outcomes (see Figure 5).

Figure 5. *The impact of the number of female students and graduates on the election of female representatives*



Source: Regulated universities' sex-disaggregated statistical reports, author's calculations.

For female teachers, the graphical representation also shows a growing tendency but with a 0.510 P-value (see Table A5 in Appendix), suggesting that this factor is not a significant predictor of the number of female representatives at the maximum level of decision-making – as opposed to the correlation with female students and female graduates, whose 0.032 P-value categorizes the group as a significant predictor of the number of women elected as representatives on boards of directors (see Table A4 in Appendix). In other words, the null hypothesis cannot be rejected in relation to the number of female teachers.

Indicator 3: Influence of corporate strategies on gender equality in regulated universities' performance

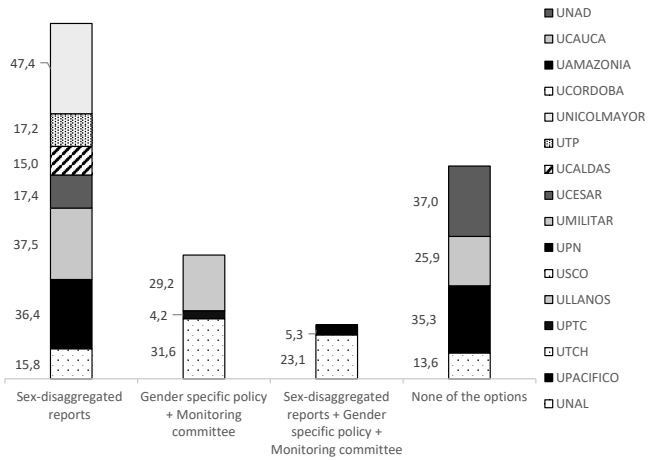
The last indicator examined in this study is related to the gender quota's prescription for gender equality strategies and promotion plans (see *Ley 581* 2000: Articles 10 and 11). Thus, the study examined whether and to what extent regulated universities with sex-disaggregated organizational reports, explicit gender-equality organizational policies, and/or institutional gender equality monitoring committees, are associated with a larger female share on decision-making boards.

At first, the analysis also covered explicit references to gender equality in universities' missions, values, and goals, and direct precepts concerning positive discrimination in the appointment of women to decision-making bodies. However, only the University of the Amazonas (*Universidad de la Amazonía*) met the former condition and only the Pedagogical and Technological University of Colombia (*Resolución 2933* 2019) adhered to the second condition, and in both cases their share of women on boards is below the minimum required by the quota. As a result, both conditions were excluded from further analyses due to the lack of comparative data and minimal (if any) impact on the outcomes. Finally, observations of corporate strategies were focused on universities' most recent performance since most of the latter had only recently implemented gender-equality policies. Consequently, specific corporate strategies were compared using the most recently available records from the year 2020.

Figure 5 categorizes all observed universities according to the specific corporate strategies they are implementing. The first column clusters universities whose sole strategy is the publication of sex disaggregated reports. The second column includes universities whose approach is a combination of gender equality policies with their respective monitoring committees, the third column denotes universities with a wider set of strategies while column four clusters universities with no equality strategy whatsoever. The numbers of the side of the columns represent women's share on boards for every respective university.

Thus, Figure 5 reveals that only two universities meet all conditions: sex-disaggregated reports, gender-specific policies, and monitoring committees. These are the National University of Colombia (*Acuerdo 035* 2012), and the University of the Pacific (*Acuerdo 116* 2021). Another three universities do not publish sex-disaggregated reports but have a combination of gender-specific internal policies and monitoring committees (*Acuerdo 008* 2021; *Acuerdo 0024* 2020; *Resolución 2933* 2019). Finally, seven universities only include sex-disaggregated data in their annual reports and the remaining four universities do not fulfil any of the criteria.

Figure 6. *Female share on boards in relation to corporate strategies for gender equality (%)*



Source: Regulated universities' management reports, board resolutions and agreements, author's calculations.

Nonetheless, the largest share of women on boards was found in universities that only comply with the call for the publication of sex-disaggregated reports, with a share oscillating between thirty-six, thirty-seven and forty-seven percent. This is followed by universities that do not meet any of the conditions, with shares of thirty-seven and thirty-five percent on average. Only one of the universities with internal gender policies, the Technological University of Chocó (*Acuerdo 0024* 2020), maintains the minimum of thirty per cent female representation required by the quota (see Figure 6). Therefore, supplementary gender equality corporate strategies do not seem to foster a greater share of representation on boards for women in Colombian universities regulated by the quota.

Analysis

This research revealed that even two decades following the enactment of the gender quota overall compliance remains below the minimum, and without fostering significant gender-equality oriented organizational change. Even among top-performing universities, such as the National Pedagogical University and the Major College University of Cundinamarca, a review of historical referents revealed that both universities were founded as female-only post-

secondary schools. Consequently, both organizations had traditions of female directorship that date back years before the gender quota came into place, and to this day the only component of their gender-equality organizational strategy is the publication of sex-disaggregated statistics. As for the National Online University, whose average proportion of females in directorship positions of forty-four percent was also outstanding, it must be noted that the university does not have any gender-equality organizational strategy and that its organizational structure was defined, years before the quota, as providing inclusive educational access to historically limited communities. Thus, their remarkable performance cannot be directly attributed to the influence of the gender quota nor to supplementary gender-equality corporate strategies.

Moreover, a closer look at female-dominated job positions discloses their recurrent presence in seats that align with historically "acceptable" female social roles as educators and caregivers. For instance, women were generally found as delegates of the Ministry of Education, as academic vice rectors, as elected representatives of students, teachers, and the academic council, and as deans of the faculties of health, humanities, and education.

Now, consider that among all members of boards of directors only elected representatives are not quota regulated. It was assumed that the high numbers of female representatives of students and teachers identified in the study could be linked to a greater share of female students, graduates, and teachers. The analysis supported this premise only when the proportion of female students and graduates reached or exceeded fifty per cent of all students. Thus, this parameter only influences the share of female elected representatives when the number of female voters is at least equal to the number of male voters. For teachers, however, the relationship was not significant. These findings align with the proposition of the scholarly literature that a critical mass is needed to foster gender equality (Parsons–Priola 2013; Peterson 2015; Vinkenburg 2017). Still, since the gender quota does not apply to the recruitment of teachers and students nor to the election of each group's board representatives, it may be assumed that women's greater presence in these positions is not associated with the quota.

RESEARCH LIMITATIONS

A comparison of university performance before and after the enactment of the gender quota would have been helpful for assessing the impact of the regulation. However, such an analysis could not be executed because a significant amount of pre-quota data is missing in the case of over eighty per cent of all regulated universities.

CONCLUSION

To answer the question: "are we there yet?" regarding achieving parity in 2022, it has been determined that, in fact, we are not. Thus, having an adequate quota size and well-defined enforcement mechanisms are not enough to ensure favorable results. In the Colombian case, the failure of the gender quota could be, ironically, attributed to enforcement mechanisms which are explicit but weak. However, these will not be revised if official records consistently show positive outcomes among regulated institutions – as the popular proverb expresses: "if it ain't broke, don't fix it."

This study has shown how official compliance reports may in fact be incorrect – not only in terms of the representation rates that are provided, but also regarding the actual potential of the regulation to foster gender equality at the organizational level. Therefore, further empirical analysis is necessary to determine whether these inaccurate records are also associated with other regulated organizations. For the time being, we can only assume that the gender quota has not succeeded in fostering growth in the share of women at the maximum level of decision-making. At least, this is manifestly the case among regulated universities.

Further in-depth analysis should be conducted to examine the performance of universities whose female representation in executive roles has successfully reached parity among both quota-regulated and non-regulated universities in order to determine what non-mandatory strategies, programs, or initiatives promote better outcomes. Through doing this, we could define context-specific suggestions for improvement.

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APPENDIX

Detailed tables

Table A1.1. *Official reports – gender-quota compliance among regulated universities, 2003–2021 (%)*

University	Clustered Maximum Decision Level + Other Decision Levels (ODL)							Maximum Decision Level (MDL) Specific Data													
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ucordoba	Clustered data (All autonomous entities)				33	30	31	31	69	–	MDL + ODL data (All autonomous entities)	34	MDL data (All autonomous entities)	33	–	–	–	0	0
UPTC					40	17	38	27	64	50		7		33	25	25	0	0	0
USCO					28	26	22	24	73	–		–		–	–	–	18	20	50
Uamazonia					11	13	13	13	80	50		43		25	0	25	25	25	27
UNAL					33	25	35	35	66	–		14		–	21	36	36	33	20
Ullanos					44	40	40	33	70	–		–		–	–	38	33	33	38
UPacifico					–	–	–	–	–	–		23		0	25	0	33	33	33
Ucauca					25	25	28	33	68	–		29		50	20	20	20	40	100
UPN					35	43	30	30	65	–		–		–	20	20	40	40	50
UTCH					35	42	42	42	52	–		27		–	–	40	40	40	40
Umilitar					20	20	17	18	69	–		30		40	40	40	40	40	40
UNAD					–	55	50	49	48	–		29		29	29	29	29	43	43
Ucesar					38	37	27	44	62	48		47		43	43	30	51	51	42
Ucaldas					31	31	31	31	69	–		38		–	33	33	57	58	83
UTP					–	–	–	–	–	17		17		40	24	20	25	60	60
Unicolmayor					46	46	54	50	46	–		67		56	67	67	100	75	67
Total	*27*	*21*	*30*	*33*						*44.7*	*56*	–	*35*	*38*	*34*	*36*	*37*	*41*	*37*

Source: Annual reports – Departamento Administrativo de la Función Pública (2003–2021).

Table A1.2. *Demographic empirical data, 2012–2020 – female presence in regulated universities at Maximum Decision Level (MDL)*

University	2012	2013	2014	2015	2016	2017	2018	2019	2020	Mean
Ucordoba	–	–	23.8	–	18.2	–	–	–	13.6	18.5
UPTC	4.0	–	8.0	–	8.0	27.3	27.3	0.0	4.2	11.3
USCO	–	–		–	–	–	–	20.0	15.8	17.9
Uamazonia	17.6	–	22.2	–	16.7	26.3	38.9	33.3	35.3	27.2
UNAL	–	–	15.4	–	–	17.9	17.9	23.1	23.1	19.5
Ullanos	–	–		–	–	–	29.2	21.7	29.2	26.7
UPacifico	–	–	17.6	–	11.1	10.0	13.3	14.3	5.3	11.9
Ucauca	–	–	20.7	–	13.8	28.0	20.0	25.0	25.9	22.2
UPN	–	–		–	–	45.3	45.3	36.4	36.4	40.9
UTCH	–	–	24.0	–	–	–	31.6	31.6	31.6	29.7
Umilitar	–	–	23.3	–	–	–	40.7	44.4	37.5	36.5
UNAD	–	–	28.6	–	57.1	51.7	51.7	37.0	37.0	43.9
Ucesar	18.2	–	18.2	–	4.3	8.7	21.7	21.7	17.4	15.7
Ucaldas	–	–	9.5	–	–	23.5	35.3	27.3	15.0	22.1
UTP	13.8	–	24.1	–	6.9	10.3	10.7	17.2	17.2	14.3
Unicolmayor	–	–	40.0	–	50.0	50.0	50.0	70.0	47.4	51.2
Total	*13.4*	–	*21.2*	–	*20.7*	*27.2*	*31.0*	*28.2*	*24.5*	

Sources: Universities' annual statistical reports, author's calculations.

Table A2. *Number of women on boards of directors, 2012–2020*

	2012	2014	2016	2017	2018	2019	2020	Total
Minister of Education (MEN)	–	1	–	1	1	1	1	5
Vice minister of Education	–	1	–	–	–	–	–	1
Vice minister Higher Education	–	1	–	1	1	–	–	3
Delegate Ministry of Defence	–	–	–	–	1	–	–	1
Delegate MEN	3	8	5	10	10	11	10	57
Delegate of Regional Governor	–	2	–	2	2	3	4	13
Delegate of the Nation's President	–	–	1	1	1	–	2	5
Rector	–	1	–	1	1	2	2	7
Representative Productive Sector	1	2	1	1	1	2	3	11
Representative Students	1	2	3	2	6	4	5	23
Representative Teachers	–	2	2	4	3	4	3	18
Representative Graduates	–	–	2	1	1	2	2	8
Representative National Federation of Depts.	–	1	1	1	–	–	–	3
Representative Administrative Staff	–	1	–	–	–	–	–	1
Representative Academic Council/Deans	1	2	1	5	7	6	6	28
Total number of women	*6*	*24*	*16*	*30*	*35*	*35*	*38*	*184*

Source: Universities' annual statistical reports, author's calculations.

Table A3. *Number of women on academic councils, 2012–2020*

	2012	2014	2016	2017	2018	2019	2020	Total
Representative of Students	1	5	1	3	3	5	5	23
Representative of Teachers	–	2	3	4	5	4	5	23
Representative of Graduates	–	–	1	1	1	2	1	6
Dean/Dir. Online Education	–	2	1	–	1	1	–	5
Representative Centers	–	1	–	–	–	–	–	1
Representative Programs/Depts. Directors	1	3	–	1	2	4	4	15
Dean Engineering	1	2	–	2	6	3	1	15
Dean Health Sciences	1	5	4	4	5	6	7	32
Dean Humanities/Education	1	4	4	2	3	6	6	26
Dean Nursing	–	1	–	1	1	1	1	5
Dean Veterinary	–	1	–	–	–	–	–	1
Dean Agricultural Sc./Aquiculture	–	3	1	1	1	2	–	8
Dean Arts	–	1	1	3	3	2	2	12
Dean Social Sciences	–	1	1	2	1	1	1	7
Dean Law	–	1	1	2	4	3	–	11
Dean Administrative Sciences	–	–	1	1	1	2	1	6
Dean Sports	–	–	–	1	1	1	1	4
Dean Science & Technology	–	–	–	1	1	–	–	2
Dean Political Sciences	–	–	–	1	1	1	1	4
Dean Economic Sciences	–	–	–	–	2	2	–	4
Dean International Relations	–	–	–	–	1	1	1	3
Dean Natural Sciences	–	–	–	–	1	–	–	1
Dean Mining	–	–	–	–	–	1	1	2
Director Graduate Center/Schools	–	1	1	1	2	1	3	9
Director Computer Engineer Program	–	–	1	1	1	1	–	4
Director Agronomy Program	–	–	–	–	–	1	–	1
Director Curriculum	–	–	–	–	1	–	–	1
National Coordinator: Continuing Educ.	–	–	1	1	1	–	–	3
Director Extension	–	–	–	1	1	–	–	2
Academic Vice-rector	–	4	1	3	6	6	5	25
Research Vice-rector	–	2	2	3	4	4	3	18
General Vice-rector	–	–	–	–	–	–	–	0
Branch Campus Vice-rector	–	1	–	–	1	1	–	3
Administrative Vice-rector	–	2	1	–	2	3	3	11
Extension/Projection Vice-rector	–	–	–	–	1	1	2	4
Media Vice-rector	–	1	–	–	–	–	–	1
Wellbeing Vice-rector	1	2	1	1	1	1	1	8
Total number of women	*6*	*45*	*27*	*41*	*65*	*67*	*55*	*306*

Source: Universities' annual statistical reports, author's calculations.

Table A4. *Summary output 1: Impact of proportion of female students and graduates on that of female elected representatives*

Regression Statistics	
Multiple R	0.71
R-squared	0.50
Adjusted R-squared	0.46
Standard Error	12.24
Observations	31

ANOVA	df	SS	MS	F	Significance F
Regression	2	4186.27	2093.14	13.97	6.19E-05
Residual	28	4195.07	149.82		
Total	30	8381.34			

	Coefficients	Standard Error	t-statistics	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	207.60	99.03	2.10	0.045	4.75	410.46	4.75	410.46
SS+A1	–9.69	4.31	–2.25	0.032	–18.51	–0.87	–18.51	–0.87
SS+Al Squared	0.12	0.05	2.58	0.015	0.02	0.21	0.02	0.21

Source: Regulated universities' sex-disaggregated statistical reports, author's calculations.

Table A5. *Summary output– Impact of number of female teachers on proportion of female elected representatives*

Regression Statistics	
Multiple R	0.77
R-squared	0.59
Adjusted R-squared	0.56
Standard Error	11.06
Observations	31

ANOVA	df	SS	MS	F	Significance F
Regression	2	4958.04	2479.02	20.28	3.60E-06
Residual	28	3423.31	122.26		
Total	30	8381.34			

	Coefficients	Standard Error	t-statistics	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	11.43	11.28	1.01	0.319	–11.68	34.54	–11.68	34.54
TS-squared	2.68	1.54	1.74	0.092	–0.47	5.83	–0.47	5.83
TS	–6.05	9.07	–0.67	0.510	–24.63	12.54	–24.63	12.54

Source: Regulated universities' sex-disaggregated statistical reports, author's calculations.

Table A6. *Number of females among students, graduates, teachers, and elected board representatives*

Students and Graduates	Teachers	MDL Representatives
50.7	1.5	10.0
51.0	0.6	5.3
59.1	4.4	25.0
56.8	4.4	40.0
57.0	4.6	40.0
56.4	5.0	40.0
56.1	4.3	70.0
56.9	4,0	47.4
46.5	0.7	16.7
42.8	2.7	25.9
42.0	3.2	33.3
41.9	3.0	21.9
35.0	1.5	7.7
35.2	1.5	10.2
35.6	1.5	10.2
35.8	1.4	17.9
36.4	1.5	17.9
42.8	2.3	11.8
44.3	2.3	0.0
45.9	2.2	0.0
48.4	2.1	0.0
39.9	1.7	6.9
41.2	1.6	17.2
41.1	1.8	0.0
41.5	1.9	0.0
41.8	1.9	0.0
40.8	2.1	6.9
40.6	2.1	6.9
50.7	4.4	27.3
50.1	4.4	27.3
50.8	4.3	22.7
Mean: 45.6	*2.6*	*18.3*

Source: Regulated universities' sex-disaggregated statistical reports, author's calculations.