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# Gender Parity within the Gender—Sustainability Paradigm: A Case Study on Management Structures of the Romanian Academia

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**Abstract:** Our study proposes a Romanian national perspective of the gender–sustainability paradigm in higher education under the Sustainable Development Goal 5 (SDG5) approach. The starting point is the interlinkage of the two concepts, gender parity and sustainability, depicted on a fundamental societal domain. Data collection was completed following a census approach, resulting in staffing data on 47 Romanian state-owned universities. Data collected envisaged the tenure teaching staff, divided into two gender groups; the count was focused on executive roles and collective managerial elected bodies for the 2015–2019 mandate. The gender situation was analyzed quantitatively by the number of teaching staff, their gender structure, and their representation in the executive functions and collective decision-making bodies. We calculated gender indexes and used statistical correlation coefficients to explain the relations between the different categories of personnel and their influence on establishing the management structures. The results of the gender configuration analysis were further associated with the latest national meta-ranking of Romanian universities. Our findings show that Romanian universities demonstrate sustainability under SDG5 through their institutional capacity to use either feminine majorities or a statistically detected pro-female voting propensity in order to construct optimally gendered management structures through vote only.

**Keywords:** gender parity; higher education; sustainable development; UN SDGs

## 1. Introduction

We start our research on the premise that there is a direct connection between the two notions: Sustainable development and gender equality (we use the definition of the concept as per the European Institute for Gender Equality, EIGE [1]). This connection has been confirmed by numerous studies that prove women play a positive role in maintaining and ensuring the sustainable development of the society and is also based on a new political approach that has been adopted worldwide since 1987, when the concept officially came into existence, becoming quasi axiomatic. Nowadays, the proponents of this approach are international organizations, governments, and public figures.

The 1987 approach, presented by its author Gro Harlem Brundtland, Prime Minister of Norway and President of the World Commission on Environment and Development (WCED) at the time, defined for the first time the concept of sustainable development in the report “Our Common Future” [2]. Based on this definition, the sustainable development index [3] was later introduced, grouping 21 indicators into eight categories under three pillars. The aforementioned approach claims that the three

pillars of sustainable development—economic, environmental, and social—are “relevant to discussions of gender equality” [4]. An increasing number of studies [5–10] also show that gender inequality generates costs that have a negative social impact and lead to environmental degradation. To verify these results, which are intuited based upon the existing political approach to the new social behavior, further research is required. As policy-makers already have established agendas to reduce what was defined as the “gender gap” (definition in [1]), an understanding of the state of matters could serve as a foundation for their success; moreover, such comprehension would serve to calibrate the efforts to achieve the objectives laid out in these agendas.

Of the three pillars, the social one, which refers to human well-being with an emphasis on educational opportunities and gender equality, is acknowledged as the most politically sensitive and, as a consequence, is the most difficult to address and manage.

Our study, guided by the ideas of the United Nations 2030 Agenda for Sustainable Development [11], is focused on analyzing gender aspects of a significant societal domain to promote evolved social behaviors, namely public universities. The geographical area of this study is Romania, which ensures a coherent framework of the economic, social, legal, and cultural context that public universities operate in. Moreover, the social status of persons associated with this professional area is highly regarded by the society; this fact offers a significant signal as to the social positioning of women in this field.

We begin our study by investigating the current state of gender parity (definition in [1]), as a first step towards gender equality of the academic staff in the Romanian universities, as well as understanding the configuration of its management structure. We assess whether there are any gender imbalances by analyzing data on the accession of women to executive positions, either via electoral processes or via direct appointment (en-suite of these electoral processes) for the last four-year mandate (2015–2019).

Based on the analysis of the collected data, our paper pursues two objectives: (1) We explore the formation and dissemination of executive power through the hierarchical pyramid, and (2) we identify the correlation between the gender structure of the staff and the propensity to replicate this structure into senior management positions through electoral and direct appointment processes.

The research phases are as follows: (a) We identified all the legal elements that may influence the gender parity and are likely to generate a discriminatory approach in the academic staff structure. At the same time, we depicted the electoral mechanism that leads to the formation of collective management bodies and tenured senior management positions in universities; (b) we examined the gender ratio of the management structures resulting from a direct vote by the academic staff. The research included a quantitative analysis of the voter-voted relationship focusing on gender; (c) we completed the research on executive structures resulting from appointing, as opposed to election, with the same emphasis on gender; (d) we summarized the results by the category of executives (elected or appointed) using index correlations; and (e) we concluded on the gender positioning of the Romanian academia in relation to a sustainable approach under the United Nations’ Sustainable Development Goal 5 (SDG5).

This study contributes to the existing literature in several ways. Firstly, we carried out a quantitative research on the gender parity positioning of the academic staff in Romanian universities and mapped the mechanisms of power as well as the setup of collective decision-making bodies (senate and faculty council). The starting point is a voting system involving an almost egalitarian feminine electorate and a legislative context that contains neither discriminatory nor gender-based regulations.

Secondly, we conducted an analysis of the way in which women de facto elect structures based on direct vote, with no interference of glass ceiling [12] circumstances.

Thirdly, we revealed through data correlation the reaction of senior managers to the staff’s gender signals; it is a reaction reflected in the way the direct appointments of executives are made (data can be found in Section 4). We also discuss whether the introduction of gender quotas in the Romanian academia would possibly limit unsustainable gender-biased behaviors, given that similar initiatives in other European countries have generated mixed outcomes.

## 2. Sustainability and Gender: Literature Review

The sustainability—gender dyad has constantly influenced the development agenda since 1990. However, the transformation of gender-related goals into the Sustainable Development Goals (SDGs) and the creation of a plan that focuses on gender equality were achieved only after 2015, when the United Nations adopted the 17 SDGs, organized in 169 indicators for the main dimensions related with the sustainable development of one specific country [13]. This process was decisively marked by a political component, as part of the social pillar of the Brundtland domain triad set in 1987 [2].

Understanding the positioning of the gender approach as one of the determinant elements of sustainable development requires a brief review of the concepts in question. This analysis should also explain the political perspective that arises and leads to the establishment of certain objectives dictated by the behavioral model towards the distribution of power in society.

The basic reasoning that generates this approach is that sustainable development is based on the complete use of human resources, which implicitly means the maximum use of the planet's population of women.

It is noteworthy that the concept of sustainability was followed by that of sustainable development, and then by that of the politics of sustainable development, which finally involved the gender topic. As such, gender parity was introduced into the public agenda as a target of the 2030 Agenda for Sustainable Development. Many writings explain the evolution of sustainability and sustainable development in terms of concepts and practice. Of these, the works [14–16] for the first, respectively [17], and for the second category are most often quoted according to the citation indexes. The part devoted to the material aspects is usually predominant, while political and social aspects are not sufficiently addressed to explain the current state of matters.

The “materiality” of the discussion on sustainable development is marked by the initial association of the concept of sustainability with the management of forestry and agricultural production in Europe since the 17th and 18th centuries. These turned into the theoretical source for the ecological movement of the 1960s, including its related writings. The evolution of the ideas correlated to long-term development, which continued in 1972 with the classic report of the Rome Club [18].

For the gender–sustainability relationship, the framework adopted by Scoones [8] reveals itself as a bridge that partially explains the origin of the connection between politics and sustainable development.

The first part of this framework emphasizes the technical side elaborated by the economic theory focused on resource scarcity. Numerous economists, including Malthus and Marx, have discussed the imbalances related to economic growth and suggested a political solution. Within this economic approach, the evolution of ideas marks the concern for maintaining development within the boundaries of the biophysical and social balance [19] while understanding the geographically demarcated natural and social systems [20]. Even though concerns for important sectors, such as water, energy, and food, have begun to interconnect, political awareness as a determining factor has evolved from a relatively non-binding approach [21] to a clear political perspective. Political ecology, theorized in numerous papers [22], for example, has become a coherent trend of analysis with a clear political structure. It is worth noting a shift from the political analysis of the materiality of resources to an analysis that includes people in the category of resources, discussing a politics of people, which equally involves the politics of knowledge [23].

The entire process previously depicted, marked by political will and related actions in the governance of states and the management of international institutions, especially of those that gravitate around the United Nations (UN) system, has brought about the redefinition of benchmarks for the general discussion of resource scarcity. Essentially, it has been noted that all these primary benchmarks and their definitions, as well as the analytical benchmarks and the rest of the associated theories, are based on already configured frameworks by political criteria in the collective mind or general perception of the society.

The synthetic idea is that resources are “built” [24] as opposed to “given”. Scoones also points out that, “In this view, scarcity is not a fixed feature related to the amount of a commodity and its price in a

global market but has to be understood politically in relation to historically specific patterns and forces of production, distribution, and consumption. Resources are always constructed; they are generated through social and political processes and produced by people in different places" [8].

The partial conclusion of this turning point in the discussion about the long-term material balances of the planet is that their analysis is influenced by a political context. More specifically, scarcity is essentially a problem of interpersonal relations, hence a political problem [25].

If the balance of resources is defined and managed politically because this equilibrium is defined by the relations between people, then all the categories and concepts related to population segmentation become relevant. Analysis in this field must include a concrete contextual definition at a given time [26], starting with geographical positioning, then the clarification of the cultural environment, and finally the identification of all structural characteristics of the population involved. By elaborating on a part of these structural elements, we can assert that "class, gender, age, ethnicity, and inherited histories of location in a globalized world all become relevant in understanding scarcity in context" [8]. Bringing into discussion the ideas and concepts related to ethics, morals, and social justice [27] is a logical step towards obtaining a socially desirable state that should encompass the desired material progress and equilibrium.

Once a step in the direction of establishing social justice has been taken, the social pillar acquires a pivotal position in the management of societal resources by virtue of rights derived from the ideas of social justice [28].

The social perspective is also preserved in terms of resource distribution, which is done according to an arrangement primarily marked by social considerations before observing any technical or economic criteria [29]. Also, the social perspective should translate into a new way of seeking and promoting technical innovation and new technologies. [30]. Consequently, the innovations and technologies that are part of the chosen social approach will largely be selected [31].

From this perspective, we find that in real life, the options for social and material development are influenced by the existing cultural context, as well as by the direction in which the current social culture is evolving. A series of transnational social movements with global trends [32], which impose cultural characteristics that have a positive impact in relation to sustainable development, are identified and discussed [29,33,34]. The associated concept is citizen-led transformation, which induces a multitude of interaction forms, within the private and the public sector, by which community-generated initiatives are promoted [35,36].

Within these transformations, the structural characteristics of the population are reconsidered and re-valued. A significant position in this category of characteristics is held by gender. Starting from the community level and/or from the level of public institutions, which play a decisive role in supporting new development approaches, the gender structure is analyzed and molded as an implementation tool under the new paradigm of societal development. As such, allowing the aforementioned binding elements to step back into the background, the sustainability–gender connection becomes significant, especially as political direction of the next decade according to the 2030 Agenda [37].

As for the case of other structural characteristics of a population in a given geographical area—usually a state or a community of states with a similar set of foundations—the basic political idea is to accept that particular characteristic and to act towards its positive reflection in the political and social behavior. Acceptance means eliminating any form of negative discrimination while positive reflection is proportionate representation; the 2030 associated objective is gender equality.

The political objectives evolving from the sustainability–gender relationship have been justified not only based on ideas of social justice but also on the results of studies focusing on the impact of women in relation to the environment, primarily through natural resource management [38] or the economy at large [39]. More specifically, this impact on the economy is discussed by Goldin [39] through the prism of the gender gap.

As for the parity objective, it is desired that the gender gap [40] fades as a sign of the establishment of a fair society and as a prerequisite to the optimal use of human resources at the societal level for those

structures, preferably increasingly numerous, where the gender parity objective has been factored in and related policies are being implemented.

It is also worth noting that, in practice, as a sign of the application of the gender policy, various programs that aim at achieving gender equality in order to build a more equitable global society have surpassed the pre-findings from studies dedicated to the sustainability–gender linkage. The UN system, the World Bank, the European Institute for Gender Equality, and other international organizations actively support and implement internal programs that aim at achieving gender parity.

The consistency and intensity of this approach, essentially political in nature, is justified more thoroughly by studies on the social pillar and mainly on women’s political behavior. These studies have created the theoretical basis for the gender gap approach, first in politics and then in economics. Subsequently, the same material has contributed to guiding discussions on the necessity for global gender equality as a *sine qua non* condition for sustainability.

### *2.1. Gender Parity as a Political Tool for Sustainability*

The reconfiguration of the social structures as a consequence of the adoption by the UN of the 17 Sustainable Development Goals [37], especially SDG5 on gender equality, has been materialized in plans and actions. The latter are aimed at facilitating women’s access to executive positions, namely decision-making positions, particularly in public organizations. This entails removing formal and informal barriers, as the “glass ceiling” [12,41], and encouraging what could be considered “positive” discrimination. Public organizations have been given priority in the implementation of these actions because of their strict regulatory context and their major social impact.

In the logic of the programmatic consolidation of the social pillar, the first to be targeted by gender policies are the institutions most plainly impacted by the principle of representation, ensuing from voting. They include parliament-like institutions at the state level, as well as council-type institutions at the local level.

At a later stage, the plans for gender objective SDG5 are customized for different sectors of activity and different types of institutions. However, we see that the concern for public organizations with social impact is maintained. The latter includes the education sector, with a special role for universities. An increasing number of countries show a preoccupation in shaping the gender structure within universities as a necessary step for building social equity.

Understanding the factual status of the universities and the perspective envisaged for them regarding that matter translates into studying the political “coverage” around them. The latter would designate how women are involved in modern political systems, including the way parity objectives in these systems are put into practice via political willpower.

Although famous women have left their mark in world history for several thousand years from positions of executive power, women’s voting rights have only been instituted over the last 130 years. The first country to grant women the right to vote was New Zealand in 1893, whereas the United States did so only in 1920. Among European countries, the United Kingdom granted women the right to vote in 1918, followed by Germany, the Netherlands, Poland, and Austria in 1920. France did the same, but in 1944, Japan in 1947, Greece in 1952, Switzerland in 1971, and Portugal in 1976. In Romania, universal suffrage was introduced in 1938, but it has only been operational since 1948.

Despite the existence of universal suffrage, the representation of women in parliaments and other political bodies resulting from the electoral process was disproportionate, with high deviations compared to the proportion of voters. In many countries, the first women parliamentarians appeared before the introduction of the universal vote; nevertheless, even if the proportion of women has grown steadily, it is still considered unsatisfactory. These gender inequalities, first in the political system and second in other social systems, undermine the quality of deliberation, representation, and legitimacy in the democratic process [42].

The analysis of underrepresentation of women in institutions resulting from a universal vote shows that the political behavior of women differs from that of men [43] in relation to many criteria,

such as voting involvement [44], non-electoral participation [45], and the understanding of the political process related to voting [46]. It has been found that knowledge depends on the available resources that can be personally allocated by the voter, which disadvantages women [47].

In summary, it can be inferred that, starting from an initial difference as to the resources available—a difference generated by a historical context—women are disadvantaged in terms of involvement in voting-based political processes. This fact, judged within the paradigm presented above, has a negative effect on the legitimacy of their decisions and finally on the sustainable development of the society.

Considering that the process of achieving gender parity is unsatisfactory, in the last two decades, a sharper reforming political approach has been crystallized. In the EU, this approach is explained in a note [48] issued by the European Parliament: “Given the slow speed by which the number of women in politics has been growing, there have been increased calls for more efficient methods to address the problem of women’s under-representation and reach a gender balance in political institutions. Electoral gender quotas represent one such mechanism . . .”. In the same document is also shown that “legislated quotas are implemented in 8 (eight) countries and party quotas in 14 (additional) countries” and that “some gender quotas have resulted in major leaps in women’s representation, while others had led to almost no change. In general, the note reveals a mixed picture in Europe when it comes to women’s representation” [48]. Legislated quotas are considered to have had a significant impact in Slovenia, Portugal, and France. Finland has over 40% female representation in politics without a quota usage; in a similar situation, we find Sweden, which uses party quotas though. The same note [48] clarifies that, “Legal quotas and party quotas may target any of the three stages in the candidate selection process: aspirants, candidates and elected representatives”.

Currently, more than 130 countries use this system [49]. Given the way it is imposed, the interest in its origins and forms of implementation, especially its effects, becomes natural [50]. The effects of the introduction of gender quotas seem to incur more complicated effects than just increasing the number of elected women [51]. The results are studied in terms of the way in which women’s careers are affected, starting with the recruitment stage [52], which requires discussing access to professions and organizations that have traditionally been dominated by men.

On the other hand, changes in women’s participatory behavior have been studied, both at the level of involvement and at the decision-making level, after being assigned a representation mandate. Studies conducted in Latin America, where the introduction of gender quotas in politics has been extremely abrupt, show that the participation of women in electoral processes has not undergone significant changes [53]. Similar findings related to women’s interest in voting-related issues or campaigns have also been reached in a set of other states [42].

As for the effects of this political approach, in our study, the impact on universities is of interest. Relevant publications elucidate the success in obtaining gender parity in Austria [54] and Sweden [55]. We will further discuss in the next section these countries’ approach related to academia.

A partial conclusion would be that the enrolment of an institution in sustainable development trendsetters can be achieved by addressing *all* the hierarchical stages that could be affected by the gender gap. Effort must be focused not only on changing the general cultural background and the specific context of the institution but also on the overall operational process. It starts with the recruitment stage and ends with how the top executives are selected.

## 2.2. Targeting Gender Parity in Academia Worldwide

The reform of universities in the direction of decreasing the gender gap in order to achieve gender parity materialized in different forms in numerous countries, where special laws that promote gender equality in academia dictate a concrete approach [56,57]. However, underrepresentation remains a problem in research and academia. In Europe, women account for 46% of Ph.D. graduates, 37% of associate professors, and a mere 20% of full professors [58]. Studies point to a multitude of reasons for the underrepresentation, but, in our opinion, a starting point consists in the predominantly male structure of selection committees and evaluation panels. Consequently, “a number of countries

have introduced quotas requiring the presence of at least 40% of women (and men) in all scientific committees" [59]. Finland, for example, introduced academic gender quotas in 1995. Spain adopted academic gender quotas in 2007 [60], and in 2014, France introduced gender quotas for all scientific communities [61].

The case of Austrian academia is considered to be a success of gender quotas usage. Austrian quota regulation came into effect in 2009, meaning that initially at least 40% of the members of university bodies must be women, and at least 50%, after 2015. Wroblewsky explains: "Law formulates sanctions for failure to comply. In the event that a university body does not meet the required quota for female members . . . the body is deemed to be incorrectly constituted, cannot make decisions, and must be reconstituted" [54].

Another successful approach in obtaining gender parity is the Swedish academia, where Peterson [55] elucidates that the gender equality in the universities' management has been addressed with a gender mix policy. Mentioning a Swedish study [62], Peterson underlines the fact that: "The relatively high proportion of female vice-chancellors in Sweden is probably a result of political pressure in the form of goals and policies. In Sweden, vice-chancellors at government funded higher education institutions are appointed by the government for a six-year period, a quite unusual process compared with other countries" [55].

Other relevant studies addressing gender equality in academia have described national depictions of the matter using a comparative approach. A British–German comparison [63] regarding the vice-rectors' situation in these countries pinpoint that "women are in significant minority in senior academic positions". Another study [64], which aligns in comparison Turkish and New Zealand universities, discusses organizational barriers. However, both studies focus on the top management positions, without a discussion about elected collective bodies.

What is striking are the cases where even sharp legislative constraints are considered insufficient to obtain targeted quantitative representation. Therefore, in order to attain the desired parity, acts of positive discrimination are resorted to.

Australia presents a range of interesting examples related to gender equality policies, without explicitly using quotas. An interesting case [65] has generated polemics in academia, when the Australian government promoted an "Affirmative Action (Equal Employment Opportunity for Women) Act" in 1986 (replaced by "Equal Opportunity for Women in the Workplace Act 1999") and went towards modelling universities' management using action plans that stated clear objectives in order to attain gender parity and gender equality [66]. Although it enacted the universal vote for women in 1902 and has had gender equality legislation in place for three decades now, in 2014, women constituted only 44% of the academic staff and held 31% of senior positions [66], while in 2018, only 27% of full professors and 32% of vice-rectors in public universities were women. When it comes to science, technology, engineering, and mathematics (STEM institutions), women's academic employment in these disciplines at the senior level is particularly low at 17%, according to an Australian study [67].

Even in Europe there is significant political pressure for shaping some university fields by gender quotas. Carlos Moedas, the EU commissioner for Research, Science, and Innovation from 2014 to present, calls for gender quotas in university management [68]. He also states that European Parliament institutions should introduce "allocations for female academics at some point". In favor of this intervention, Moedas brings up arguments based on individual cases of famous women and on studies [55,69], referring to negative developments in certain fields considered "fashionable" and essential for sustainable development. Additionally, summarizing theories related to negative developments, when a position is labelled "feminine", it does not necessarily mean that the women who occupy it are empowered but instead that the position has devalued in status and power as per [70,71].

As for the criteria for representation in political institutions, the legal obligations in place are accompanied by overall pressure for actions towards reaching gender parity. For example, in [63], the authors describe the governmental mechanism used to obtain the desired figures in universities:

“Higher education leadership in Germany is strongly influenced by state policies and because German higher education institutions still receive about 80% of their budget from the state the responsible Ministry can exert a certain amount of direct pressure”. On the one hand, the tendency to use studies to demonstrate that this particular approach is moral and economically efficient is emphasized; on the other hand, even without proving indubitably positive effects, the number of gender regulations is on the rise. Their coverage area spreads from the public to the private sector; in other words, the type of representation quota imposed in public universities, for example, is then to be found on the boards of some private companies. A failure to comply with these quotas prompts penalties from the state.

The current situation regarding women’s representation shows the most positive cases in the Western democracies, but even here, gender gaps are still to be found [40]. Leading democracies, such as the USA, Germany, and France, face consistent gender gaps in practice and unimpeded approaches are still dominant, even though gender regulations continue to rise. More important is, in our opinion, the observation that gender parity could be rapidly implemented in practice from the top to bottom level in the case of academic management structures, via ministerial or legislative actions. However, that may regrettably affect the exercise of a democratic vote of the entire teaching staff, with unpredictable consequences.

We note that from the point of view of the 2030 Agenda for Sustainable Development, as much as the universities play a core role in society, they represent an area of secondary interest, being slightly overtaken by other institutions with immediate political impact. However, universities represent an area where both electoral-type political models and knowledge-based hierarchical models coexist. Consequently, in Sections 3 and 4, we observe and assess the ratio of women in higher education accessing executive positions via electoral processes in Romanian universities. For our study, benchmarks are then utilized: Both vertically, within the structures of the society, and horizontally, between Romania and other countries.

### 3. Data Collection and Methods

The gender situation (M/F balance) in the Romanian universities was analyzed in terms of the quantitative aspects reflected by the number of teaching staff, their gender structure, and their representation in the executive functions and collective decision-making bodies, namely the senate and the faculty councils. These positions are granted as the result of electoral processes.

We also considered the staff appointed to executive functions (vice-rector, dean, and vice-dean) and studied the correlation between the two ways of accessing such functions, in terms of gender.

The assessment was based on data collected between February and July 2019. We describe the current situation resulting from elections in the Romanian universities held under the stipulations of the Education Law No. 1/2011. This vote took place in the interval 2015–2016 and its results are valid for the current mandate (2015–2019) with slight adjustments reflected in partial elections caused by local circumstances, which affected a limited number of positions. The voters are the teachers and the elected representatives of the students; auxiliary non-tenured teaching staff and technical-administrative staff do not have voting rights for the academic executive structures.

The quantitative database was formed by counting the number of members in significant units and at particular levels in the organizational hierarchy of the university: Rectorate, faculties, and departments. The same counting was completed for senate and faculty councils. We considered two genders and everyone’s affiliation thereto was determined based on their first name. We collected the data published on the universities’ websites under the stipulations of a law sustaining transparency in state-owned organizations. We obtained further clarification from relevant staff during phone interviews. Since our research covered more than 22,000 teaching staff, any incongruencies that may have appeared on the figures published on the universities’ websites fall under the statistical thresholds’ risks.

In order to collect quantitative data, we chose a census approach, meaning that we processed all data on Romanian state-owned universities (except military academies), without sampling. Hence, we



conducted in-depth research, leading to the formation of a complete quantitative gender picture of every university organizational chart in the designated area.

This group comprised 47 universities that meet the current Romanian quality standards, i.e., that are accredited to function in the Romanian higher education system (data shown in Appendix A).

The 47 universities were clustered in our study into six broad groups based on their profile, which reflects the general accepted partitioning by function:

1. Comprehensive (non-specialized) universities—17 units;
2. Humanities (social sciences, law, business) universities—6 units;
3. Polytechnic universities—6 units;
4. Universities of agronomy, forestry, and veterinary medicine—4 units;
5. Medical universities—5 units; and
6. Universities of arts—9 units.

This assemblage was used in order to facilitate comparisons between entities with close characteristics imposed by their profile, marked by an individual history determined by social and/or organizational needs. We note that the universities that belong to the “comprehensive” group contain faculties that are included in all the other five categories but are not differentiated as a specialized university (Table 1).

**Table 1.** Data collection per staff functions and university groups.

University Categories	Students	Teaching Staff		Rector (R)	Vice-Rector (VR)		Senators (S)		Dean (D)		Vice-Dean (VD)		Faculty Council (FC) Member		Department Director (DD)	
	Total	Total	Female (F)	Male (M)	Total	(F)	Total	(F)	Total	(F)	Total	(F)	Total	(F)	Total	(F)
Total	450,431	22,431	11,116	44	201	77	1939	722	350	113	711	317	4916	2114	927	380
Comprehensive	152,200	6702	3440	16	71	35	721	307	150	51	245	113	1761	848	316	146
Humanities	132,400	5191	2681	6	37	11	356	121	82	22	195	89	1208	510	226	92
Polytechnics	85,631	3975	1462	6	29	7	322	83	57	8	154	48	1050	306	161	35
Agronomy	27,650	1155	618	4	19	3	109	33	22	7	56	36	281	131	58	23
Medicine	39,700	4041	2323	5	26	11	220	90	18	13	47	26	398	206	94	45
Art	10,450	1367	592	7	19	10	211	88	21	12	14	5	218	113	72	39
F/Total (%)	x	x	49.56	x	x	38.31	x	37.24	x	32.29	x	44.59	x	43.00	x	40.99

Data was collected with the aim of dividing the tenure teaching staff (as defined by L1/2011 with subsequent amendments) into two gender groups. The study focused on the category of main executive roles (rector, vice-rectors, deans, vice-deans, and department directors) as well as the category of collective managerial-elected bodies (senate and faculty councils). Doctoral schools were not included due to the non-voting status of the doctorate candidates.

Based on the figures obtained from the census, we calculated a series of gender shares, for each university, as a ratio of the number of women to the total number of one defined organizational category of teaching staff, i.e., faculty council members, senators, or deans. The ratios have the general format  $\frac{x}{y}$ , where  $x$  is the number of women and  $y$  is the total staff for each organizational category with significance in our study, as defined below.

The significant organizational categories were all the teaching staff (labelled with the acronym G); the direct elected executives and collective bodies: Rectors (acronym R), department directors (acronym DD), respectively senate members (acronym S), and faculty council members (acronym FC); as well as appointed executives: Vice-rectors (acronym VR), deans (acronym D), and vice-deans (acronym VD).

Although, initially, an attempt was made to operate with the same type of indicators that international organizations operate with (that is, a ratio of women to men in a defined category), for Romanian universities, the number of mathematically inoperable situations (null denominators or indeterminate ratios) excluded this option.

In order to reflect the gender structure of an organizational category of personnel according to the management position they occupy, i.e., senate member, vice-rector, vice dean etc., we used a gender index ( $I_x$ ) that represents the unweighted average of the women's share in each of the mentioned substructures. We calculated this average for each of the six groups of universities, using the formula:

$$I_x(achr) = \frac{\sum_i^n (x/y)_i}{n}, \quad (1)$$

where:

- ( $achr$ ) is replaced by the acronym of every category, i.e., G for general or DD for department directors;
- $\frac{x}{y}$  is the ratio of women for each of the categories identified by the acronym; and
- $n$  is the number of universities considered in every group ( $n = 47$  for all the universities, and  $n$  takes values of 17, 6, 6, 4, 5, and 9, respectively, for the six groups stated above (see Table 1).

In order to statistically highlight a series of correlations, we further calculated the average, median, and standard deviations for all the  $\frac{x}{y}$  ratios envisaged in relation to the executive and decision-making functions, for the total of the 47 universities, and for each of the 6 groups. We subsequently used the correlation coefficients (Pearson) to explain how the links between the different categories of personnel (G, S, FC, DD, etc.) influence the process of establishing the management structures. The coefficients were calculated for pairs of indexes belonging to the same group of universities. The results are shown in Appendix D.

From the appendices, we selected in the tables (Tables 2–8) only the correlations that were causally relevant, in relation to the characteristics of the electoral process. Supplementary data is, however, presented in full via the appendices.

**Table 2.** Data on Department Director index (IxDD) correlated with the General index (IxG) per total and per groups of universities.

	IxG	DD	DDf	IxDD	Correl $\frac{x}{y}G \rightarrow \frac{x}{y}DD$	ProM(+)/F(-)
All categories	0.492	927	380	0.447	0.384	0.045
Comprehensive	0.514	316	146	0.483	0.524	0.031
Humanities	0.509	226	92	0.416	0.238	0.093
Polytechnics	0.382	154	34	0.203	-0.894	0.179
Agronomy	0.521	65	24	0.378	0.925	0.143
Medicine	0.571	94	45	0.487	0.221	0.084
Arts	0.454	72	39	0.574	0.254	-0.120

Note. The acronyms used are: Department Director female (DDf); the correlation of the share of women in the total staff with the share of women in the total DD (Correl  $\frac{x}{y}G \rightarrow \frac{x}{y}DD$ ); ProM(+)/F(-) is the difference between the indexes IxG and IxDD.

**Table 3.** Data on IxS correlated with IxG per total and per groups of universities.

	IxG	S	Sf	IxS	Correl $\frac{x}{y}G \rightarrow \frac{x}{y}S$	ProM(+)/F(-)
All Categories	0.492	1939	722	0.390	0.568	0.102
Comprehensive	0.514	721	307	0.444	0.327	0.070
Humanities	0.509	356	121	0.358	0.303	0.151
Polytechnics	0.382	322	83	0.255	-0.220	0.127
Agronomy	0.521	109	33	0.293	0.585	0.228
Medicine	0.571	220	90	0.416	-0.581	0.155
Arts	0.454	211	88	0.427	0.943	0.027

**Table 4.** Data on IxFC correlated with IxG per total and per groups of universities.

	IxG	FC	FCf	IxFC	Correl $\frac{x}{y}G \rightarrow \frac{x}{y}FC$	ProM(+)/F(-)
All categories	0.492	4916	2114	0.468	0.681	0.024
Comprehensive	0.514	1761	848	0.488	0.568	0.026
Humanities	0.509	1208	510	0.458	0.532	0.051
Polytechnics	0.382	1050	306	0.298	0.490	0.084
Agronomy	0.521	281	131	0.440	0.918	0.081
Medicine	0.571	398	206	0.552	-0.534	0.019
Arts	0.454	218	113	0.528	0.938	-0.074

**Table 5.** Data on IxVR correlated with IxS per total and per groups of universities.

	IxS	VR	VRf	IxVR	Correl $\frac{x}{y}S \rightarrow \frac{x}{y}VR$	ProM(+)/F(-)
All categories	0.390	201	77	0.413	0.331	-0.023
Comprehensive	0.444	71	35	0.525	0.013	-0.081
Humanities	0.358	37	11	0.325	0.430	0.033
Polytechnics	0.255	29	7	0.228	0.679	0.027
Agronomy	0.293	19	3	0.167	-0.088	0.126
Medicine	0.416	26	11	0.397	0.761	0.019
Arts	0.427	19	10	0.500	-0.018	-0.073

**Table 6.** Data on IxD correlated with IxFC per total and per groups of universities.

	IxFC	D	Df	IxD	Correl $\frac{x}{y}FC \rightarrow \frac{x}{y}D$	ProM(+)/F(-)
All categories	0.468	350	113	0.409	0.530	0.059
Comprehensive	0.488	150	51	0.362	-0.198	0.126
Humanities	0.458	82	22	0.352	0.885	0.106
Polytechnics	0.298	57	8	0.112	0.172	0.186
Agronomy	0.440	22	7	0.338	-0.876	0.102
Medicine	0.552	18	13	0.717	0.499	-0.165
Arts	0.528	21	12	0.593	0.533	-0.065

**Table 7.** Data on IxVD correlated with IxFC per total and per groups of universities.

1st Correlation	IxFC	VD	VDf	IxVD	Correl $\frac{x}{y}FC \rightarrow \frac{x}{y}VD$	ProM(+)/F(-)
All categories	0.468	711	317	0.474	0.282	-0.006
Comprehensive	0.488	245	113	0.541	0.304	-0.053
Humanities	0.458	195	89	0.443	0.509	0.015
Polytechnics	0.298	154	48	0.342	0.592	-0.044
Agronomy	0.440	56	36	0.602	0.918	-0.162
Medicine	0.552	47	26	0.512	0.829	0.040
Arts	0.528	14	5	0.474	x	0.054

**Table 8.** Data on IxVD correlated with IxD per total and per groups of universities.

2nd Correlation	IxD	VD	VDf	IxVD	Correl $\frac{x}{y}D \rightarrow \frac{x}{y}VD$	ProM(+)/F(-)
All categories	0.409	711	317	0.474	-0.133	-0.065
Comprehensive	0.362	245	113	0.541	-0.203	-0.179
Humanities	0.352	195	89	0.443	0.139	-0.091
Polytechnics	0.112	154	48	0.342	-0.212	-0.230
Agronomy	0.338	56	36	0.602	-0.615	-0.264
Medicine	0.717	47	26	0.512	-0.510	0.205
Arts	0.593	14	5	0.474	x	0.119

The values for the correlation coefficient are shown in column 6 of each table, using the notation  $\text{Correl } \frac{x}{y}A \rightarrow \frac{x}{y}B$  (where A and B are the categories of teachers mentioned above: G, S, FC, DD etc.).

Apart from the correlation coefficient, for the relevant causalities, we calculated the difference between the indexes of the observed *cause-factor* and *results* of the electoral process or the process of appointing the executives. For example, in the senate configuration (S), the essential cause-factor is the configuration of the general staff structure (G), so the difference will be calculated between the general index (IxG) and the specific index for the senate (IxS); this difference is symbolized with “ProM (+)/F(-)” and has a meaning in the pro-feminine or pro-masculine inclination of the vote results. The arithmetical sign plus (+) indicates a pro-male result, while the minus (-) shows a pro-female result of the process. The difference illustrates the behavioral predisposition of the voters and of the decision makers, in the case of the appointed executives. The assessments we made regarding the gender preference of the teaching staff are associated with the “cross vote” reasoning. Essentially, this goes as follows: If we take a statistical population divided into two categories A and B, each bearing a share ratio of x and y (where x is larger than y and  $x + y = 100\%$ ), and after the vote to elect representatives, the result presents a structure  $x_1$  and  $y_1$ , where  $x_1 + y_1 = 100\%$  and x is higher than  $x_1$  (as a percentage), then it means that those in category A voted B, in a higher proportion than the other way around.

As already stated, after calculating all the indexes noted  $I_x$ , for each category of personnel and group of universities, we correlated them using the Pearson coefficients. We used the results to statistically sustain the causal links identified through the qualitative analysis of both the electoral issued positions (R, DD, S, FC) and of the appointed positions (VR, D, and VD).

The results of the analysis of the gender configurations were further associated with the ranking of the Romanian universities. We compared this ranking with a gender positioning system designed by us for the main categories of our study, as previously defined. This gender positioning system relays on the gender configuration of the teaching staff and the gender configuration of the senate, as the main rule-makers, as well as the gender configuration of the department directors, as the main operational managers.

The study of the mentioned configurations involved an analysis of the economic and legal context in correlation to the management of the personnel in Romanian universities. Elements of an economic nature, such as salaries or other similar conditions, which could induce a gender imbalance, were sought. This line of investigation showed that in 2019, there was no legal element that could favor the emergence of an income gap between teachers due to the gender factor. Teachers' regular income (resulting from the basic didactic standard hours) is regulated by a unique payroll law (L153/2017), which stipulates fixed rates for salaries, depending on seniority and didactic grade, and/or on the executive position held in the case of *elected* executives (rector and department director) and *appointed* executives (by elected direct supervisors, that is, vice-rectors, deans, and vice-deans).

Also, by law, there are no discriminatory elements that we could identify as to the access to women in universities as students or as teachers. In the same demarche of a contextual characterization and in order to draw a clearer picture of the gender positioning of the Romanian universities, we noted that the She Figures Report 2018 [72] offers the following data:

1. Romania has a glass ceiling index of 1.04 in 2016 (1st in the European Union, while the EU28 median index was 1.64); and
2. Romania has the highest proportion of women in academic staff for grades A and B out of 34 states (EU28 plus six more: Bosnia and Herzegovina, Iceland, Israel, Norway, Switzerland, and Turkey).

These elements show that for the female voters, there was no impediment in electing the solution considered the best, given the fact that the vote was equal and undisclosed, and for the aspiring candidates, there is no formal conditionality related to academic hierarchy or seniority. Consequently, in Romania, we found no propensity for discussions about gender quota regulations in either the executive or collective decision-making bodies, nor in scientific structures for the academic settings.

We note as well that the context analysis did not identify elements, formal (law, rules, and regulations) or informal (i.e., glass ceiling) that would impact, positively or negatively, the gender representation in Romanian universities. Therefore, a preliminary conclusion of this introductory context analysis would be that there are no elements of a legal nature that should induce gender discrimination in generating power configurations for the Romanian public universities. No case of universities that have formally adopted gender discriminatory elements was identified in our research, nor those having any informal elements operating as a glass ceiling have been acknowledged. We also note that the legal provisions of the Education Law No. 1/2011 may be slightly altered by regulatory elements specific to each university, a possibility stipulated by the aforesaid law, on the condition that these elements are kept and must function within the existing legal framework.

## 4. Research Results

### 4.1. Findings on the Gender Incidence in the Management Structures Resulting from Direct Voting (Rector, Department Directors, Senate Members, Faculty Council Members)

#### 4.1.1. Gender Propensity in Electing the Rector (R)

Before noting the results of the direct voting scheme for each university structure, by category, and the aggregate of all public universities in Romania, we observe that the general ratio of women is approximately half of the total number of teachers (49.6%). By group, a higher proportion is attained by comprehensive, humanities, agronomic, and medical universities (these groups constitute 32 out of the 47 universities), as shown in Table 1 and Appendix A. Otherwise, the number of universities with a feminine majority of the teaching staff is 26 out of 47 universities (55.3%).

The direct and undisclosed character of the vote is considered the most democratic and constitutes the procedure used in the election of the rector. For the supreme executive position in universities, the election is preceded by a referendum, while an alternative procedure—the election of the rector by contest—can also be opted for. In the 2015–2016 elections, which set the current mandate in the Romanian academia, only one (one) university opted for the contest method of selecting a rector; the remaining 46 universities used the direct vote. This gives a clear indication as far as the preferred rector selection procedure goes.

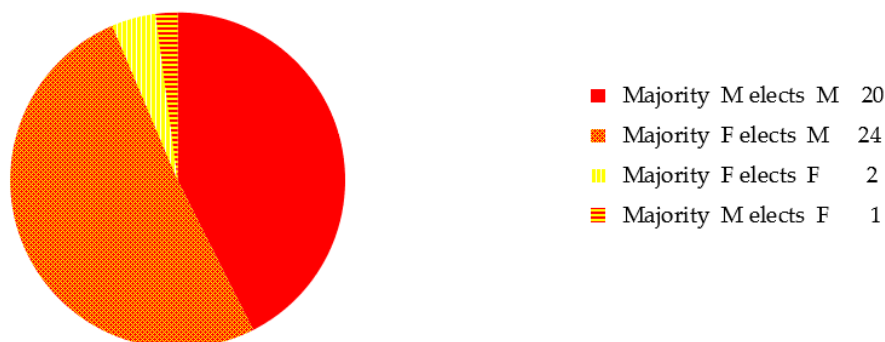
All the tenured teachers, as well as the student representatives who are members of the faculty councils and senate, participate in the direct election of the rector. We estimate (based on the legal provisions of the construction of senates and faculty councils, where students represent 25% of the members) that the number of students voting for the rector each time embodies 5–10% of the total number of voters, depending on the administrative partition of each university, by faculties. These student representatives ensue themselves from a voting process, where only students participate. No gender-related element that would alter the secret character of the vote could be identified.

Election rules regarding representativeness are controversial as principle in many universities' charters that we studied and compared. The rules of staff's representation in different collective bodies are decided upon by each university. It is interesting to emphasize that all universities in our census grant *only* teaching staff voting rights for the election of managers (heads of departments and rectors) and executive structures (councils and senates). The technical/administrative staff and the auxiliary teaching staff are excluded. To compare, until 2011, the previous education law stipulated that the rector should be elected only by the senators, who were elected themselves out of and by the members of the faculty councils.

In Romania, as of August 2019, out of 47 rectors, only 3 are women, or 6.4% of the total. Until 2017, there were 4 women rectors, or 8.5%, but one of them was removed due to faulty management, a decision sustained by a court verdict in 2019. In comparison, the EUA (European University Association) results show that in the 47 member countries, 12% of all rectors are women. According to EU data [72], in countries such as Italy, Turkey, and Czech Republic, for the same indicator we found smaller percentages than Romania's.

From the collected data, we note that, out of the 44 Romanian universities that have male rectors, 24 universities (54.5% of the total of 44) hold a women majority of voters. From the three remaining universities, one university has a men majority; the others present a women majority. The situation is depicted in Figure 1.

### Elected Rectors in the 47 Romanian Universities (mandate 2015-2019)



**Figure 1.** Gender propensity for the elected rectors in the 47 Romanian universities (mandate 2015–2019).

The results regarding the rector’s election offer an extremely unfavorable gender image, which contrasts with the elements mentioned in [72], with the values of type “F/Total (%)” in Table 1, as well as with the calculated indexes of type: general index (IxG), faculty council index (IxFC), and department directors index (IxDD). Considering the phases of the electoral process for which the European Parliament proposes gender quotas [48], we investigated the possible elements that may have blocked the access of women to the candidacy for rector, the transformation of a possible intention into candidacy, or the free vote. Consequently, we affirm that we did not identify statistically relevant elements that would explain the results, given the positive gender situation regarding the academic grades A and B and the structural barriers [72]. The legal elements and related electoral university regulations promote the free option and the exercise of a democratic vote for all teaching staff. However, it is obvious that further future research is needed to explain these results.

#### 4.1.2. Gender Propensity in Electing the Department Directors (DD).

The department directors are elected by direct and secret vote as well, but with the participation of the teaching staff only. In the case of these executives, problems related to the application of the principle of representativeness are non-existent. It can be considered that, by the nature of the department’s structure and its reduced size, the election of a person is completely transparent and enjoys full representativeness within this structure.

On the other hand, in Romanian universities, the position of the department director is significant because, according to Education Law No. 1/2011, the holder has a decisive role in the management of the department’s financial and human resources. The status of the directors’ position is given by the voters’ unmediated connection with the current decisions of the individual whom they have chosen as the direct manager. Given this type of direct interaction, the vote expresses both the merit-based option and the gender attitude.

Taking this entire context into consideration, the gender situation of heads of departments is shown in the annexed tables (Appendix A for absolute values, Appendices B and C for the gender ratios for each university and per group of universities, and Appendix D for statistical values and correlations across groups of universities).

Based on the collected data, Table 2 was extracted in reference to the relevant data for the department directors (DDs). Their (gender) distribution into the groups of universities defined above is as follows:

We have calculated the index for the department director (DD) category, IxDD, with the abbreviations formed as previously explained and further detailed below.

- $IxDD = \frac{\sum_i^n (DD_f/DD)_i}{n}$  as the average of the (DDf) women department directors’ share in the total department directors (DD), calculated for each university, where  $n$  has the value specific for each



group of universities:  $n = 47$  (for all) and  $n = 17, 6, 6, 4, 5$ , and  $9$ , respectively, for the six groups stated above.

- $IxG = \frac{\sum_i^n (Gf/G)_i}{n}$  as the average of women teachers' (Gf) share in the total teaching staff (G), calculated for each university, where  $n$  has the specific value for each group of universities, as defined.
- $Correl \frac{x}{y}G \rightarrow \frac{x}{y}DD$  for every group of universities is the correlation of the share of women in the total staff with the share of women (DDf) in the total DD, where the shares were calculated for each university.
- DD is the (absolute) number of department directors (in Table 1, the number is for every group of universities).
- DDf is the number of women as department directors (in Table 1, the number is for every group of universities).
- $ProM(+)/F(-)$  is the difference between the two indexes (IxG and IxDD), the structure G being considered as a causal factor of the election result.

All further abbreviations are formed similarly, as well as correlations by function/group/category.

From the data in Table 2, we observe that the specific IxDD indexes have somewhat lower values than the general IxG indexes. For all universities,  $IxG = 0.492$  and  $IxDD = 0.447$ , which leads us to affirm, using the statistical interpretation of these averages, that the gender DD footprint is very close to the G gender image. From that, we can assert that the female majorities have a slight pro-male inclination when voting for this position. In fact, the female majorities dissolve as representation at the department directors' level, except for the group of arts universities, where women are a minority reflected as a majority for this position.

As the value of the correlation coefficient (penultimate column) is generally low, we conclude, in conjunction with the differences shown in the last column, that an attitude that might be interpreted as being gender biased for this type of vote cannot be statistically sustained. A poor correlation means that in a group, a women majority did not consider it useful to take advantage of this gender status by voting, and each university elected an internal structure without indubitable connection with its general gender structure.

We note two exceptions: The agronomy and polytechnics university groups, which show a high positive and high negative correlation coefficient, respectively. The negative correlation infers that a gender configuration favorable to women has elected their worst representation, meaning that a large majority generates the highest pro-male difference. On the other hand, the high positive coefficient shows that the election results follow a similar pattern of representation of the basic gender structure of the voters. In other words, the proportion of female department directors follows that of the voters.

#### 4.1.3. Gender Propensity in Electing the Senators (S)

According to the education law, the senate is the supreme decision-making body of a university. Theoretically, the senate can control the activity of the executives and, in extremis, can remove the rector in a number of situations (the decision must then be validated by the ministry of education).

Teaching senators represent a maximum 75% of the number of senators and they are elected by direct and secret vote from among all the university teachers. Each university decides on the numerical size of its own senate. The law stipulates that the senators' election process must respect the principle of representativeness for each component entity of the university. Considering these elements, it would be expected that the gender representation in senates should follow the gender structure of the university. However, in Romania, this logical link between the general structure and senates' structure is influenced by the (poor) quality of the senates' current activity, which possibly diminishes the importance of their role in the voters' perception. This fact is marked by a lower participation rate in the vote for senate members compared to that for the faculty executives.

The senators elect a president of the senate from among its members who are teachers. S/he can have an influential role, insofar as s/he can generate legal regulations and/or promote the decisions of the board of directors through their vote. Usually, given the fact that many senators are executives appointed by the rector, the senate is a regulatory body de facto subordinated to the rector. This caveat on the power distribution is independent of the gender factor; for our case study, of the 47 senate presidents, 6 are women, which is 12.8% of the total, with an associated gender ratio ( $S_f/S$ ) of 37.2% for all universities, meaning 722 women senators in 1939 senators. Only 3 women presidents of senate were elected by women majorities, notwithstanding that women have held majorities in 11 senates.

The results of the latest elections (held in Romania between 2015 and 2016 for the current four-year mandate) for university senates are synthesized in Table 3, keeping the same method for grouping universities and the notations as detailed above.

The data in Table 3 synthesizes for the senator category a generalized feminine underrepresentation for all groups of universities and in total. The differences between the general-type indexes and those of the senate show the highest deviations in the agronomy, medicine, and humanities groups, despite the fact that IxGs illustrates feminine majorities. The art universities present very small differences.

The value of the correlation coefficient between IxG and IxS, is closer to 1 for the arts and closer to 0 for the humanities. The negative values for polytechnics and medical universities show that the overall balance is by far more unfavorable for women as the women's share is more consistent. Additionally, when IxG displays values higher than 0.5 and surpasses IxS, it means that the women's voting option was guided by other criteria and not necessarily by gender.

Our interpretation given to the overall process is that the principle of merit in conjunction with the perception related to the role of senators prevails in regard to the gender option.

On the other hand, analyzing the situation of the general gender balance vs. that of the senate for all universities in absolute terms, we find that out of the 47 universities, women represent the majority in 26 universities: 12 comprehensive universities, all 5 medical universities, and 3 out of 4 agronomy universities, but no polytechnics. In the senate, we find the same majority in only 11 universities, out of which 7 are comprehensive, 1 is medical, and 3 are arts (which have small senates of 8 to 12 people, so are less statistically significant). If, for all universities,  $IxG = 0.492$  and  $IxS = 0.3907$ , we can conclude that the gender gap is sufficiently significant to bring up questions about a better tool to lessen it, but also about the quality of the senate's activity.

#### 4.1.4. Gender Propensity in Electing the Faculty Councils (FC) Members

Regarding the faculty councils (FC) and their gender balance, it is worth noting that the role of this body has been practically diminished de facto by the inclusion of the dean, vice-deans, and department directors along with other directly elected members. Nevertheless, the impact of their decisions on the voters is clearer and more direct than in the case of senators. This generates the assumption that the vote for faculty councils generates a greater voter interest in comparison to the senate elections.

From the point of view of the general gender balance, the structures of the faculty councils would in many universities be altered by the participation, due to internal rules, of appointed managers, such as deans, and of elected executives, such as department directors, instead of (only) those directly elected for these bodies. The election results for faculty councils for the same most recent mandate are synthesized in Table 4.

From the data in Table 4, we immediately note that, although women are slightly underrepresented in councils (in relation to the general gender situation), the negative deviations are smaller than in the case of the senates. They actually halve, thus faithfully observing as a trend the overall structure. In the case of the art universities, there is even a pro-female reversal of the general gender balance.

The correlation between IxG and Ix<sub>FC</sub> in Table 4 shows values close to 1 for two groups of universities, but also values close to or higher than 0.5 for the rest of the groups. A gender interpretation that we can give in respect to the election results in the case of the faculty councils is that

their gender structure quite closely reflects the gender composition of each university group, with minor differences.

#### 4.2. Findings on the Gender Incidence in the Appointed Executive University Positions (Vice-Rectors, Deans, Vice-Deans)

Except for the rector and department director, the other executives are selected solely by their direct supervisors, with a relative distortion that will be further detailed in the case of the dean. More specifically, vice-rectors are selected by the rector and vice-deans by the dean based on a system that does not formally reflect the views or options of the voting staff and students. Nevertheless, we detect informal components that reflect the opinion of the subordinate group structures, segmentation that also involves the gender component.

##### 4.2.1. Gender Propensity in Appointing the Vice-Rectors (VRs)

The appointment of vice-rectors reflects the rector's strategy and completes the public image of the rectorate. The team of vice-rectors is sometimes used, formally or informally, in the rector's election campaign, by being already nominated in order to transmit a certain image of the future executive structure to the voting staff. It can be inferred that the rector selects the gender structure of vice-rectors in accordance with the observed gender signals of the organization, thus trying to closely replicate the voting preference demonstrated for the senate. We remember that in the previous education law, the vice-rectors were elected by the senate members only. Thus, the members of the senate could have directly supported a pro-feminine policy, should it have been considered that this is the leading line manifested via the vice-rector's structure.

The number of vice-rectors is established by each university and announced in its charter. There is no gender quota element and there has not been any consistent discussion in the public space on this topic. There are 201 vice-rectors in the 47 universities.

Although the average is 4.27 vice-rectors per university, this number fluctuates mainly with the size of the university but not necessarily in a direct proportion. We note that even for the large universities, the executive models for vice-rectors are extremely diverse. For example, Poli (polytechnics) Bucharest, which ranks third in terms of teachers and students (after U ClujN and the U Bucharest), functions with only four vice-rectors, while U ClujN has nine vice-rectors, and the U Bucharest has eight vice-rectors. Thus, the provisions of university charters regarding the number of vice-rectors are adapted to local conditions and are not established by a general formula.

Of the 201 vice-rectors, 77 are women (38.3%). Table 5 presents the synthetic situation in correlation with the election of senators, which is the most relevant type of correlation in regard to the informal signals explained above.

By comparing all types of indexes for the defined university groups, we note that the gender index of vice-rectors is relatively close (in fact, the closest) to the gender index of senators. The fact shows that the rectors have complied de facto with the signal given by their direct voters, although there is no formal mechanism that induces this proclivity.

Unlike the differences given in Tables 3 and 4 (final columns), those from Table 5 generally present slightly lower values for all the groups, which brings us to conclude that the rectors have a clearer affirmative attitude and action than the feminine electorate of the universities. The conclusion is all the more obvious if the structure of vice-rectors is compared to that of rectors; in 11 universities, female vice-rectors make the majority of total vice-rectors appointed, and in 8 universities, there is gender parity for this position. The indexes of medical universities and polytechnics show corrective actions taken by some rectors in the universities of the two categories, as the general gender structure is less favorable to women in comparison to the selected vice-rectors. In the case of vice-rectors, the agronomy universities (with the highest indexes difference) position themselves as "sexist" based, paradoxically, on the most consistent feminine majority of the teaching staff (53.5%).

Methodologically, the correlation for data on vice-rectors (IxVR) is made in connection with the senators' ratios (IxS), the senate being considered as a significant structure. We chose not to correlate it with the general structure of the teaching staff (IxG), because the senate and its structure are already established by a vote that orientates the gender trend. For all universities,  $IxS = 0.390$  and  $IxVR = 0.413$ , thus we conclude that, on average, the rectors appoint the vice-rectors using the gender "image" of the senate.

#### 4.2.2. Gender Propensity in Appointing the Deans (Ds)

The selection of the dean involves the rector's decision, "democratized" by a so-called public contest. The candidates approved of by the faculty council—constituted as explained above—submit applications for the dean position. In the end, the rector selects the most suitable candidate from the list approved by the faculty council. Theoretically, the faculty council could bar the candidacy of a person disliked by its members by not granting notification. Under this same policy of limiting the rectors' option, a "mock candidate" practice was observed: The faculty council would approve of one valid candidate and a number of invalid candidates that are, consequently, ineligible according to the rector. Yet, given the configuration of power, it is obvious that the choice of dean depends solely on the rector's decision.

Given the way they are selected, the gender factor plays a more pronounced role in the case of the deans in the logic of the context. On the one hand, it reflects the pro-feminine attitude of the rectors, which was revealed when analyzing the selection of vice-rectors, and on the other hand, the faculty councils are expected to reflect the gender structure of the faculty.

Keeping in mind this mechanism and the pro-feminine attitude of the rectors, the most relevant reference point for the configuration of deans is the configuration of the faculty councils. We then correlated the indexes of the two positions (deans and faculty councils, per groups of universities). The data is synthesized in Table 6.

We note that for the deans, the gender balance indicates differences in favor of men more prominently than in the case of the faculty councils' structures, which themselves show the same tendency in relation to the general balance. Given the fact that these councils also include department directors, and they reflect (as detected) a gender tendency, it can be concluded that these councils, like in the rector's elections (93.6% men), prefer male options. The fact is further reflected in the negative values of the correlation coefficients for polytechnics and comprehensive universities, suggesting that female voters on faculty councils manifest a male preference in voting.

Methodologically, the correlation for data on the deans (Ds) is made with the faculty councils' ratios (IxFC); the reason for choosing this correlation factor is that the faculty council (FC) validates the candidacies for the dean position, while it contains a pre-formatting of the opinion of the faculty council (FC) members already selected from and representing the general staff structure.

For a more detailed examination of the women's voting preference, the primary database of the study was accessed in its most exhaustive levels, with a focus on the comprehensive universities, as the largest group of universities in our study. It was revealed that out of the 151 faculties counted for in this group, 72 have a feminine preponderance of teachers, while of these, 36 faculties have male deans. Of the faculties with a male teacher majority, for five faculties, female deans have been appointed.

The same type of preference for male deans was also observed in the case of humanities universities after a similar data detailing.

For the medical universities, the preponderance of female deans may be explained by the greater proportion of female teachers in the faculties. The faculties of pharmacy, dentistry, and nursing have a significant female preponderance, and the executive structures are formed accordingly. It is to be noted that that feminine predominance in these professional fields does not fall under the stereotyped distribution of women towards "caring" activities and duties, but it is rather linked to an articulate option of women for a professional field of activity, which in Romania, nowadays, is very dynamic, well positioned, and rewarded.

For all universities,  $I_{xFC} = 0.468$  and  $I_{xD} = 0.409$ , so we note a negative gender trend similarly found in the case of  $I_{xG-xS}$  correlation, but of a smaller amplitude. The specific procedure for appointing the deans, combining the filtering of candidates by the faculty council, and the selection of the appointed person by the rector, can be a cause that should be further investigated.

#### 4.2.3. Gender Propensity in Appointing the Vice-Deans (VDs)

The university charter and election regulations establish the role of the vice-deans, their numbers, and other procedural aspects. The vice-deans are appointed by the deans. The dean does not actually have to justify his option and does not need the approval of any collective body. Therefore, the rational choice would mean performance orientation, including observing the informal conditions related to the gender issue.

The informal conditioning can materialize in two ways: Firstly, in the influence that the faculty council's image (meaning gender structure) will have in establishing the dean's option, and secondly, in the fact that the dean, like the rector, would support a corrective action meant to counterbalance a possible pro-male attitude of the FC members.

For the vice-dean (VD) ratios, two correlations were made: With the faculty council ratios (Table 7) and with the deans' ratios (Table 8), since the deans appoint the vice-deans and follow the pre-formed faculty council representatives' opinion, as explained before.

From the comparison of the indexes for vice-deans ( $I_{xVD}$ ) with those of the mentioned two executives' categories, we note that the smallest differences are associated with the indexes for the faculty councils ( $I_{xFC}$ ). The situation is synthesized in Table 7, where we see that the gender structure of vice-deans very closely reflects the structure of the faculty councils.

In the case of the arts group, four universities out of the nine are quite small in size, entailing that the position of vice-dean is not used as an executive layer. Therefore, although  $I_{xVD}$  can be calculated, averaging for five universities, the correlation coefficient would present a distortion that would question its significance for the study. It is the reason why the correlation is non-numerically represented in Tables 7 and 8.

Thus, the deans significantly comply with informal gender signals and support affirmative actions, beyond any formal framework or gender quotas being imposed. The correlation coefficients are significant for three groups of universities, and the negative differences in the last column show that the gender balance is more feminine in the case of vice-deans than in the case of faculty councils, which is to say that deans amplify in their appointing options of the vice-deans an affirmative action based on gender signals.

The comparison between the gender structure of deans and that of vice-deans is given in Table 8. Although the correlation coefficients (above) do not show high values, it is noteworthy that the negative values in the last column suggest a tendency to counterbalance gender-wise the results from the deans' appointment. More importantly, the proportion of female vice-deans is higher than that of deans in all groups of universities, except for the medicine and arts, where the female deans already represent a consistent female majority.

Without involving the "queen bee syndrome" [73], we note that this behavior of the deans reflects a model of understanding the role of women in Romanian universities, in a similar approach of the one manifested by the rectors.

#### 4.3. General Correlations and their Interpretation

As already specified, we completed the correlation analysis between the calculated indexes (columns 2 and 5 of Tables 2–8) using the Pearson coefficient. The causal relationships, direct and indirect, established by the nature of forming the structures analyzed in Tables 2–8, are emphasized with \* in the Table 9 (which presents all the values of the respective coefficients, including for the positions which do not present a causal link).

**Table 9.** Correlation analysis between specific indexes.

Ix	General (G)	Vice-Rector (VR)	Senate (S)	Dean (D)	Vice-Dean (VD)	Faculty Council (FC)	Department Director (DD)
G	X	0.198	0.521 *	0.659	0.76	0.763 *	0.561 *
VR	-	X	0.935 *	0.539	0.091	0.654	0.777
S	-	-	X	0.739	0.357	0.867 **	0.91 **
D	-	-	-	X	0.422 *	0.929 *	0.834
VD	-	-	-	-	X	0.599 *	0.518
FC	-	-	-	-	-	X	0.949 **
DD	-	-	-	-	-	-	X

Notes: \* marks the correlation coefficients from Tables 2–8, showing causal relationships, direct and indirect, associated with the election process, and \*\* marks the coefficients associated with the direct voting, that is, the staff (G) elects senators (S), faculty councils members (FC) and department directors (DD) and these values are similar because they show the analogous behavior of the mass of voters G.

We notice a series of values close to 1 for VR and S correlations, as well as for D and FC. Both show that the “image” of the senate and the faculty council were decisive in the rector’s choice for vice-rectors and deans.

Similarly, we can interpret the way in which the gender structure of VD is formed. The values 0.422 and 0.599 show that the deans tend to achieve a gender balance of the D-VD situation, respectively, to reflect the gender structure of the FC with a pro-feminine attitude, when appointing these executives.

The values on the first line show that after the direct vote, a significant part of the universities prefer to put in place decision-making structures that do not reflect the general gender structure. The higher value in the case of FC shows, though, that these councils are influenced by the general gender “image”, which seems to be a clearer factor of the voting option.

The values marked with \*\* (in Table 9), which are close to 1, show that the voting mode of teaching staff in a university is similar for the senate (S), faculty council (FC), and department director (DD). Although vote-wise there is no direct link between the S, FC, and DD, a certain behavioral uniformity is noticeable and that is why such large values of the correlation coefficients emerge.

Finally, we resume with a few observations related to the values resulting from the intermediate statistical process that led to the realization of Tables 2–8. From the analyzed data, it can be stated that:

- The differences between the indexes of the various categories between which there is a causal, direct, or indirect connection (generated by the rules of the electoral process, which results in a gender structure) give a clearer picture of the situation of the general gender approach of the academic staff in comparison to the correlation coefficients.
- The distinct situations revealed, especially the high differences found in the last column of each Tables 2–8, can be explained by the specific context associated with an electoral situation, without us having noticed an abnormal gender approach. It is the case of the male predominance of the vice-rectors (VRs) from Polytechnics Bucharest or the case of the pro-male difference found between the general female share (51%) and the female share in the senate (16%) at the University of Agronomy Bucharest. These are statistical anomalies that are generated by situations that do not reflect a formal or informal discouragement regarding the selection of feminine candidates.

#### 4.4. The Gender Balance in Correlation with the Rank of Romanian Universities

In 2016, the Romanian Ministry of Education set up a group of experts to realize a meta-ranking [74] of the national universities. This group used a methodology based on the integration of nine international existing rankings. According to their methodology, the 2018 ranking encompassed 26 Romanian universities, for which ratings higher than 0 were calculated and thus occupied positions from 1 to 8. The universities in this ranking are listed in Table 10 in the order of the occupied position (column 2).

**Table 10.** Correlation between national universities' meta-ranking and gender ratio ranking.

University	Rank	G Ratio	Rank G	G-S Ratio	Rank G-S	G-DD Ratio	Rank G-DD
U ClujN	1	0.505	14	0.215	20	0.080	8
U Bucharest	2	0.560	9	0.196	17	0.127	16
Poli Bucharest	2	0.368	24	0.198	18	0.124	15
U Iasi	3	0.403	21	0.158	14	0.163	20
Med ClujN	4	0.638	1	0.218	21	0.038	7
U Timișoara	5	0.526	12	0.074	7	0.086	10
Poli Iasi	5	0.352	25	−0.018	4	0.127	17
Med Bucharest	5	0.585	3	0.227	23	0.085	9
Med Iasi	5	0.501	16	−0.074	1	−0.055	3
U Brașov	6	0.503	15	0.150	13	0.236	24
ASE Bucharest	6	0.574	4	0.255	25	0.241	25
Poli ClujN	6	0.383	23	0.037	5	0.171	22
Poli Timisoara	6	0.334	26	0.099	8	0.096	12
U Craiova	7	0.458	20	0.105	9	0.094	11
U Constanța	7	0.565	7	0.047	6	−0.060	2
U Sibiu	7	0.500	17	0.198	19	0.167	21
U Oradea	7	0.479	19	−0.021	3	−0.001	5
Agro ClujN	7	0.511	13	0.351	26	0.111	14
U Galati	8	0.561	8	0.130	11	0.106	13
U Ploiesti	8	0.529	11	0.195	16	−0.055	4
U Suceava	8	0.490	18	−0.029	2	−0.153	1
U TgMures	8	0.566	6	0.145	12	0.036	6
Constr Bucharest	8	0.400	22	0.228	24	0.242	26
Agro Buc	8	0.599	2	0.130	10	0.132	18
Med Craiova	8	0.559	10	0.226	22	0.209	23
Med Timisoara	8	0.574	5	0.179	15	0.145	19

As a continuation of this approach, we proceeded to construct a ranking of the same universities on the basis of the general gender ratios ( $Gf/G$ ), as well as the differences between general gender ratios ( $Gf/G$ ) and the ratios obtained for the senate ( $Sf/S$ ) and the department directors ( $DDf/DD$ ), following the direct elections that involved all teaching staff. Our gender ranking started with the most pro-feminine situation. For the ratio  $Gf/G$ , the position 1 is assigned to the university with the highest overall female ratio (in our study, this is Med ClujN, with a general ratio of 0.638).

For the differences of representation in the senate ( $Sf/S$ ) and department directors ( $DDf/DD$ ), position 1 was awarded for the smallest difference that shows a pro-feminine attitude. According to our data, for the difference between  $Gf/G$  and  $Sf/S$ , position 1 is occupied by Med Iasi (ratio for  $Sf/S$  is 0.074 higher as compared to the general ratio  $Gf/G$ ), and for the difference between  $Gf/G$  and  $DDf/DD$ , the position 1 is occupied by the U Suceava (ratio for  $DDf/DD$  is higher by 0.153 than the general ratio  $Gf/G$ ). Table 10 includes our gender ranking for all 26 universities comprised in the national meta-ranking.

Finally, the calculation of the Spearman coefficients that associate the position of a national top university to our ranking given by different gender differences showed the values:

$S = -0.198$  for the general gender ratio,  $Gf/G$ .

$S = -0.064$  for the difference between the general gender ratio,  $Gf/G$ , and that of the senate,  $Sf/S$ .

$S = -0.022$  for the difference between the general gender ratio,  $Gf/G$ , and that of the department directors,  $DDf/DD$ .

The values demonstrate a weak linkage between the general ranking and the one associated with the gender parity. The values are close to zero for the gender representation differences calculated by us for  $Gf/G$ ,  $Sf/S$ , and  $DDf/DD$ . As in 18 out of the 26 universities (see column 3 of Table 10), women represent a majority in the teaching staff, they play a direct and decisive role in establishing the gender differences that give the senate configuration and the department directors' structure in the ranked universities.

Two of the universities that appear in Table 10 (U ClujN and U Bucharest) are also ranked in the top 1000 worldwide (top 801–1000) according to the QS World University ranking established for 2020. What is interesting to point out is that while both present strong women majorities, they have similar and relatively small gender ratios for S and DD positions (see Appendix B), with high deviations from the general gender ratio,  $G$ , as compared to the other universities in our census.

## 5. Conclusions

The results of our study on how the electoral process in Romanian universities influences the gender balance associated with the executive power mechanisms and those of the collective decision-making bodies should be put in the context of the facts conferred by the She Figures Report 2018 [72] for Romanian academia.

In view of this comparison, we emphasize the fact that our study fully covers the public university system, with all the tenured teachers being counted, while the mentioned report only covers approximately 8% of university staff, namely 1737 persons reckoned in 2016 [72] (p. 132). In addition, our study generated a more accurate separation of the personnel into distinct categories of functions in liaison to the electoral process (two categories of boards, i.e., senate and faculty council, and five types of executives, i.e., rector, vice-rector, dean, vice-dean, and department director), while the She report refers only to two generic categories: "Boards" and "heads".

Our final conclusions synthesize the main aspects, predominantly qualitative, from both the partial conclusions accompanying each table in Section 4 and the data contained in Appendixes A–D.

As such, in 2019, 2 groups of universities out of the existing 6 and comprising 21 of the 47 universities have feminine majorities of academic staff, with an overall gender ratio of 0.982 (corresponding to the index  $IxG$  of 0.496 in the study). The most pro-feminine group of universities as general structure  $G$  is that of the medical universities (which ensures the easiest placement on the labor market and the highest average income in Romania), with a general gender ratio of 1.352.

The rectors' gender ratio gives the first signal related to the voting behavior of the teaching staff in general, and of women in particular. Of the 47 rectors, 44 are male (gender ratio for rector is 0.07), of which 24 are elected by feminine majorities. This ratio can be considered extremely negative and its causes should be studied in a separate in-depth study. The positive related aspect is that the empowerment of the universities' teaching staff to elect the rector without government interference, legalized only in 2011, did not generate inopportune actions. For the category of directly elected positions, namely, department directors, senators, and faculty council members, the department directors are the ones who have the most consistent operational connection; the information that orients the vote is the most complete and transparent given the proximity of the voter-voted tandem. Per category of universities, the polytechnics have a small but predictable subunit index, while the agronomy universities offer, surprisingly, the most "sexist" differences, despite the female majority of the staff.

In the case of senates, for all the groups of universities, the gender index has worsened compared to the previous category and in relation to the general share of women ( $IxG$ ), with one exception in the case of the art universities. Again, the agronomic universities surprise us with the highest index difference, followed by the humanities.

In the case of the faculty councils, for four university groups and overall, a relatively small decrease of the feminine representation can be recorded, as in the case of the senates, but smaller than the latter. For two groups, the art and medicine universities, the index shows a feminine predominance. In the latter case, the value of the gender index is due to men voters who elected women.



Therefore, we retain that for the positions and structures resulting from direct voting, the indexes show values over which the feminine option was decisive. This prevalence emerged into the balance change in favor of male candidates—the case of the rectors being prominent—but also in finding mostly male-predominant indexes for the elected executive positions. However, the values of the indexes for senators and councilors are maintained in the immediate vicinity of the general index of the staff (as per the values shown in the last column marked with “Pro M(+)/F(−)” in Tables 2–8).

For the appointed executive positions that are associated with the decision of their direct hierarchical manager—vice-rector, dean, and vice-dean—our findings show a general support for pro-feminine positioning, without explicit affirmative actions being taken. Of the three positions, the clearest cases are those of the vice-rectors and vice-deans.

The rectors, in the mentioned structure, opted for teams that, in general terms, faithfully reflect the vote structure for senate members; in other words, the gender indexes of vice-rectors are similar to the gender indexes of senate members. With lower values than the general indexes, they still accurately reflect the feminine electorate option.

In the case of the deans, although the rector has a decisive role, the specific index reflects the gender index of the faculty councils, but with differences unfavorable to women. It is worth noting that here too the result is influenced by the configuration given by the department directors. The influence modality is complex and remains to be studied disjointedly.

For the vice-deans, the results are in line with the expectations in the sense that they closely reflect the structure of the faculty councils, with the smallest differences compared to the rest of the indexes. Overall, the situation of the vice-deans replicates gender signals at the faculty level, instrumented by the deans, with even clearer accents than the similar propensity of the rectors when appointing vice-rectors.

We conclude that for the indexes measured for all significant executive positions and collective bodies, the feminine influence is consistent, even when the balance is not dictated by absolute or relative majorities of women. The final power structure and the associated female option seem to have been guided by considerations other than those related to a potential demarche aimed at gender assertion.

Looking at the indexes (rounded percent values) for the group of all 47 universities, that is:  $IxG = 49\%$ , after direct vote  $IxDD = 45\%$ ,  $IxFC = 47\%$ , and  $IxS = 39\%$ , and appointed functions as  $IxVR = 41\%$ ,  $IxD = 41\%$ , and  $IxVD = 47\%$ , we believe that their positive gender significance comes from the following reasons: (1) Six of the seven values (except  $IxS$ ) are above the 40% threshold (a minimum benchmark for gender representation in countries with legal gender quotas), (2) very small differences between  $IxG$  and  $IxDD$  or  $IxFC$  indicate a mirroring of the general gender structure at the executive level and decision bodies with direct impact on the voters, and (3) values close to zero for the differences  $IxS - IxVR$  and  $IxFC - IxVD$  designate compliance of the rector and dean with the signals transmitted by the voting options expressed for the senate and the faculty councils. At the same time, we consider that the  $IxS$  and  $IxD$  values can be seen as elements with a negative gender significance, to be improved in the near future. The causes of these negative deviations of  $IxS$  and  $IxD$  should be addressed in further detailed studies. Technically speaking—that is, from the point of view of the statistical interpretation of the ratios and differences calculated on the census data—we conclude that the current management configuration is the result of a process in which women played a significant role, given the general gender structure ( $IxG = 49.2\%$ ) and a women’s majority in 26 of the 47 universities. The respective process, which includes election-type selection as well as assignment to functions, is a democratic one; throughout our analysis, we did not identify any gender discriminatory aspects under the category of direct discrimination [75]. Indirect discriminatory aspects were not taken into consideration and we note it as a limitation of our study. The differences of representation vis-à-vis the general structure, which can be interpreted arithmetically as being gender unfavorable, are the result of a gender-free voting option, probably guided by the principle of merit, which seems to be equally supported by female and male majority configurations.

From a practical point of view, the study suggests that taking affirmative actions in Romanian universities must be thought of very carefully in order to avoid intervening in a situation when the voting option of the female component would be affected, as well as the pro-feminine trends in

recruiting new academic staff (as per the She Figures report 2018). The arguments are given both by Romania's general positioning in the mentioned report [72] and by the operational aspects that would result from imposing a gender quota system.

The limits of our study are generated by its quantitative approach itself, which is the consequence of objectives related to gender parity in the sense of the SDG 5. Focusing on the numerical aspects associated with a census implicitly neglects several qualitative aspects. These could include the "queen bee" syndrome, for which several manifestation signs are visible, in particular for the appointed positions. Another important qualitative aspect to be studied would be the psychological motivation that causes women not to apply for these positions, although there are no formal elements that may hinder their commitment.

We also did not consider the effect of the gender concentration, which is manifest in certain faculties, such as the feminine majority in the medical and language faculties, or outliers that we found in certain universities in connection to their size: Very large (with 1300–1500 staff) or very small ones (with 100–200 staff). Similarly, we were able to identify particular forms of interpretation by each university of the principle of representativeness. In other words, the effect of an excessive gender concentration in a segment of a university may have a negative gender effect at the representative level, which no longer reflects the overall gender balance.

If we consider sustainability as being materialized in gender parity, meaning optimal usage of human resources, then our study showed that Romanian universities are placed in a beneficial situation, marked by the existence of a feminine majority of staff in 26 out of 47 universities and the value of indexes  $I_x$  (shown above), but in an extremely "sexist" position marked by the proportion of female rectors. This beneficial situation must be corroborated with the positive trends of Romania, as the She report [72] shows in that area, as well as with the special position related to the non-existence of gender-negative phenomena, such as the glass ceiling.

For the way gender parity is reflected in collective bodies and head executives, beyond the numerical materialization of the vote determined by a female majority in the ways revealed above, sustainability must be interpreted, in our opinion, as the freedom of these majorities to choose what they consider best as success formula for the respective organization in the specific conditions of a given HR configuration.

We conclude that our study on the Romanian academia demonstrates their sustainability through their institutional capacity to use the female majorities and the pro-female propensity (all the way from the recruitment of the teaching positions A throughout the appointed executive positions), in order to concoct the best formula for management structures through a vote that is free of gender quotas or governmental interference.

Therefore, we consider that the principle of merit, with its multiple facets, prevails in all types of elections as a determinant of the voting option and, for the timeframe covered by our study, excludes an additional search for discriminatory gender elements that would influence the election results.

Finally, it should be considered that in our study, women's presence in senior academic grades A and B [72] and executive positions with a direct and unmediated impact on staff showed options that are probably better documented and targeted than any suggestion associated with affirmative actions supported by gender quotas or similar tools. In fact, it can be inferred that the merit principle, which seems to have primarily guided the voting options for the collected data, brings up a pro-feminine inclination of the voting options, or at least a fair gender representation in most cases. This is even more valuable in the absence of gender allocations in Romanian academia, showing a natural inclination of the voting structures towards meritorious candidates, without gender limitation or bias.

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## Appendix A

Table A1. Data collection (census) on Romanian universities' staffing.

University	Students	Teaching Staff	Rector	Vice-Rector	Senators		Dean		Vice-Dean		FC Member		Department Director			
	Total	Total	(F)	(M)	T	F	T	F	T	F	T	F	T	F		
U Galati	11,750	656	368	1	4	2	65	28	14	3	21	12	151	83	33	15
U Craiova	17,600	847	388	1	6	1	68	24	12	3	31	9	147	51	33	12
U Constanta	14,200	481	272	1	5	3	54	28	16	8	23	8	220	129	16	10
U Pitesti	9450	428	239	1	4	0	40	23	6	0	8	7	98	53	17	9
U Ploiesti	7400	280	148	1	4	2	39	13	5	3	11	5	119	56	12	7
U Suceava	7700	341	167	1	4	1	27	14	10	4	15	7	92	43	14	9
U Petrosani	3250	147	63	1	3	1	30	10	3	2	6	3	56	25	8	2
U Sibiu	14,150	628	314	1	4	2	63	19	9	5	23	9	132	55	21	7
U Tg Jiu	2900	132	70	1	4	2	21	11	4	1	2	0	41	21	8	6
U Resita	1600	73	39	1	1	1	18	8	3	1	3	3	33	19	4	2
U Tg Mures	8600	511	289	1	8	4	69	29	6	3	9	6	78	34	17	9
U Tirgoviste	5850	266	134	1	4	3	36	14	10	2	9	5	82	43	20	10
U Brasov	18,900	668	336	1	5	4	68	24	18	4	48	17	179	77	30	8
U Arad	5700	209	105	0	3	1	28	13	9	3	3	3	76	35	9	3
U Alba Iulia	4500	165	76	1	2	2	16	9	5	3	2	1	34	18	10	5
U Oradea	14,150	700	335	1	5	2	56	28	15	5	20	10	171	78	48	23
U Bacau	4900	170	97	1	5	4	23	12	5	1	11	8	52	28	16	9
ASE Bucharest	22,000	770	442	1	6	2	72	23	12	5	35	19	148	85	21	7
U Bucharest	31,000	1395	781	1	8	1	88	32	19	5	54	27	346	156	60	26
U ClujN	35,600	1444	729	1	9	2	76	22	21	2	49	20	315	112	87	37
U Timisoara	14,550	637	335	1	5	3	42	19	11	5	27	12	123	55	25	11
SNSPA Bucharest	5800	161	78	1	3	1	25	12	4	3	5	2	54	33	8	5
U Iasi	23,050	784	316	1	6	2	53	13	15	2	25	9	222	69	25	6
Poli Bucharest	28,931	1343	494	1	4	0	94	16	15	4	65	22	372	106	41	10
Poli Iasi	13,600	682	240	1	6	3	46	17	11	2	35	7	206	60	40	9

Table A1. Cont.

University	Students	Teaching Staff	Rector	Vice-Rector	Senators		Dean		Vice-Dean		FC Member		Department Director			
	Total	Total	(F)	(M)	T	F	T	F	T	F	T	F	T	F		
Poli ClujN	24,800	875	335	1	7	2	81	28	12	1	23	8	243	71	33	7
Poli Timisoara	12,450	644	215	1	5	0	51	12	10	0	13	3	120	32	21	5
Constr Bucharest	5850	325	130	1	4	1	29	5	7	1	16	7	79	28	19	3
Marina Constanta	1400	106	48	1	3	1	21	5	2	0	2	1	30	9	7	1
Agro Bucharest	12,450	379	227	1	6	1	32	15	7	2	20	15	84	45	15	7
Agro ClujN	5850	311	159	1	6	1	25	4	5	2	15	10	71	32	15	6
Agro Iasi	4600	178	78	1	4	0	21	6	4	2	8	3	45	11	10	2
Agro Timisoara	4750	287	154	1	3	1	31	8	6	1	13	8	81	43	18	8
Med Craiova	4300	415	232	1	4	1	30	10	4	2	6	3	57	31	20	7
Med Bucharest	11,600	1510	884	1	6	3	81	29	4	3	17	11	158	63	24	12
Med ClujN	7100	720	459	1	5	1	31	13	3	2	10	7	61	35	20	12
Med Timisoara	7100	669	384	1	5	1	38	15	3	2	7	3	54	29	21	9
Med Iasi	9600	727	364	1	6	5	40	23	4	4	7	2	68	48	9	5
Arhit Bucharest	2900	256	121	1	3	1	27	12	3	1	4	2	52	29	9	7
Arts ClujN	950	170	56	1	3	1	29	9	2	0	2	1	25	7	10	4
Arte Iasi	1500	173	85	0	3	2	24	10	3	3	4	2	34	18	7	3
Music Bucharest	900	117	58	0	3	2	30	15	2	2	2	0	36	18	6	3
EFS Bucharest	1500	80	38	1	1	1	15	5	2	2	0	0	13	7	5	4
Arts Tg Mures	400	66	37	1	1	0	12	7	2	2	0	0	12	9	4	4
Arts Bucharest	1500	189	85	1	1	0	45	22	3	0	0	0	46	25	14	8
Theater Bucharest	800	193	34	1	2	1	20	2	2	0	2	0	0	0	10	4
Music ClujN	1000	123	78	1	2	2	9	6	2	2	0	0	0	0	7	2
<b>Total</b>	<b>450,431</b>	<b>22,431</b>	<b>11,116</b>	<b>44</b>	<b>201</b>	<b>77</b>	<b>1939</b>	<b>722</b>	<b>350</b>	<b>113</b>	<b>711</b>	<b>317</b>	<b>4916</b>	<b>2114</b>	<b>927</b>	<b>380</b>

## Appendix B

Table A2. Gender ratio per universities and functions.

University	All Teaching Staff		General	VR	S	D	VD	FC	DD
	Total	(F)							
U Galati	656	368	0.561	0.500	0.431	0.214	0.571	0.550	0.455
U Craiova	847	388	0.458	0.167	0.353	0.250	0.290	0.347	0.364
U Constanta	481	272	0.565	0.600	0.519	0.500	0.348	0.586	0.625
U Pitesti	428	239	0.558	0	0.575	0	0.875	0.541	0.529
U Ploiesti	280	148	0.529	0.500	0.333	0.600	0.455	0.471	0.583
U Suceava	341	167	0.490	0.250	0.519	0.400	0.467	0.467	0.643
U Petrosani	147	63	0.429	0.333	0.333	0.667	0.500	0.446	0.250
U Sibiu	628	314	0.500	0.500	0.302	0.556	0.391	0.417	0.333
U Tg Jiu	132	70	0.530	0.500	0.524	0.250	0	0.512	0.750
U Resita	73	39	0.534	1	0.444	0.333	1	0.576	0.500
U Tg Mures	511	289	0.566	0.500	0.420	0.500	0.667	0.436	0.529
U Tirgoviste	266	134	0.504	0.750	0.389	0.200	0.556	0.524	0.500
U Brasov	668	336	0.503	0.800	0.353	0.222	0.354	0.430	0.267
U Arad	209	105	0.502	0.333	0.464	0.333	1	0.461	0.333
U Alba Iulia	165	76	0.461	1.000	0.563	0.600	0.500	0.529	0.500
U Oradea	700	335	0.479	0.400	0.500	0.333	0.500	0.456	0.479
U Bacau	170	97	0.571	0.800	0.522	0.200	0.727	0.538	0.563
ASE Bucharest	770	442	0.574	0.333	0.319	0.417	0.543	0.574	0.333
U Bucharest	1395	781	0.560	0.125	0.364	0.263	0.500	0.451	0.433
U ClujN	1444	729	0.505	0.222	0.289	0.095	0.408	0.356	0.425
U Timisoara	637	335	0.526	0.600	0.452	0.455	0.444	0.447	0.440
SNSPA Bucharest	161	78	0.484	0.333	0.480	0.750	0.400	0.611	0.625
U Iasi	784	316	0.403	0.333	0.245	0.133	0.360	0.311	0.240
Poli Bucharest	1343	494	0.368	0	0.170	0.267	0.338	0.285	0.244
Poli Iasi	682	240	0.352	0.500	0.370	0.182	0.200	0.291	0.225

Table A2. Cont.

University	All Teaching Staff		General	VR	S	D	VD	FC	DD
	Total	(F)							
Poli ClujN	875	335	0.383	0.286	0.346	0.083	0.348	0.292	0.212
Poli Timisoara	644	215	0.334	0.000	0.235	0.000	0.231	0.267	0.238
Constr Bucharest	325	130	0.400	0.250	0.172	0.143	0.438	0.354	0.158
Marina Constanta	106	48	0.453	0.333	0.238	0.000	0.500	0.300	0.143
Agro Bucharest	379	227	0.599	0.167	0.469	0.286	0.750	0.536	0.467
Agro ClujN	311	159	0.511	0.167	0.160	0.400	0.667	0.451	0.400
Agro Iasi	178	78	0.438	0.000	0.286	0.500	0.375	0.244	0.200
Agro Timisoara	287	154	0.537	0.333	0.258	0.167	0.615	0.531	0.444
Med Craiova	415	232	0.559	0.250	0.333	0.500	0.500	0.544	0.350
Med Bucharest	1510	884	0.585	0.500	0.358	0.750	0.647	0.399	0.500
Med ClujN	720	459	0.638	0.200	0.419	0.667	0.700	0.574	0.600
Med Timisoara	669	384	0.574	0.200	0.395	0.667	0.429	0.537	0.429
Med Iasi	727	364	0.501	0.833	0.575	1	0.286	0.706	0.556
Arhit Bucharest	256	121	0.473	0.333	0.444	0.333	0.500	0.558	0.778
Arts ClujN	170	56	0.329	0.333	0.310	0	0.500	0.280	0.400
Arte Iasi	173	85	0.491	0.667	0.417	1	0.500	0.529	0.429
Music Bucharest	117	58	0.496	0.667	0.500	1	0	0.500	0.500
EFS Bucharest	80	38	0.475	1	0.333	1	x	0.538	0.800
Arts Tg Mures	66	37	0.561	0	0.583	1	x	0.750	1
Arts Bucharest	189	85	0.450	0	0.489	0	x	0.543	0.571
Theater Bucharest	193	34	0.176	0.500	0.100	0	0	x	0.400
Music ClujN	123	78	0.634	1	0.667	1	x	x	0.286

## Appendix C

Table A3. Average F/T gender ratios per groups of universities.

	General (G)	Vice-Rector (VR)	Senat (S)	Dean (D)	Vice-Dean (VD)	Faculty Council (FC)	Department Director (DD)
All categories	0.492	0.413	0.390	0.409	0.474	0.468	0.447
Comprehensive	0.514	0.525	0.444	0.362	0.541	0.488	0.483
Humanities	0.509	0.325	0.358	0.352	0.443	0.458	0.416
Polytechnics	0.382	0.228	0.255	0.112	0.342	0.298	0.203
Agronomy	0.521	0.167	0.293	0.338	0.602	0.440	0.378
Medicine	0.571	0.397	0.416	0.717	0.512	0.552	0.487
Arts	0.454	0.500	0.427	0.593	0.474	0.528	0.574

## Appendix D

Table A4. Gender ratio correlations.

<b>General</b>	<b>Teach</b>	<b>General</b>	<b>VR</b>	<b>S</b>	<b>D</b>	<b>VD</b>	<b>FC</b>	<b>DD</b>
Average	477	0.492	0.413	0.390	0.409	0.474	0.468	0.447
Median	341	0.502	0.333	0.389	0.333	0.500	0.471	0.440
StDev	376	0.086	0.284	0.124	0.306	0.218	0.115	0.177
Teaching staff	X	0.058	−0.277	−0.254	−0.171	−0.136	−0.330	−0.258
General	-	X	0.153	0.568	0.432	0.435	0.681	0.384
Vice-Rector (VR)	-	-	X	0.331	0.387	0.021	0.290	0.141
Senat (S)	-	-	-	X	0.425	0.110	0.681	0.552
Dean (D)	-	-	-	-	X	−0.133	0.530	0.391
Vice-Dean (VD)	-	-	-	-	-	X	0.282	0.099
Faculty Council (FC)	-	-	-	-	-	-	X	−0.258
DepDirector (DD)	-	-	-	-	-	-	-	X
<b>Comprehensive</b>	<b>Teach</b>	<b>General</b>	<b>VR</b>	<b>S</b>	<b>D</b>	<b>VD</b>	<b>FC</b>	<b>DD</b>
Average	394	0.514	0.525	0.444	0.362	0.541	0.488	0.483
Median	341	0.504	0.500	0.444	0.333	0.500	0.471	0.500
StDev	233	0.041	0.269	0.085	0.177	0.249	0.062	0.133
Teaching staff	x	−0.031	−0.373	−0.308	−0.190	−0.300	−0.519	−0.327
General	-	x	0.115	0.327	−0.387	0.252	0.568	0.524
Vice-Rector (VR)	-	-	x	0.013	0.188	0.055	0.430	0.058
Senat (S)	-	-	-	x	−0.338	0.190	0.605	0.623
Dean (D)	-	-	-	-	x	−0.203	−0.198	−0.126
Vice-Dean (VD)	-	-	-	-	-	x	0.304	−0.207
Faculty Council (FC)	-	-	-	-	-	-	x	0.532
DepDirector (DD)	-	-	-	-	-	-	-	x
<b>Humanities</b>	<b>Teach</b>	<b>General</b>	<b>VR</b>	<b>S</b>	<b>D</b>	<b>VD</b>	<b>FC</b>	<b>DD</b>
Average	865	0.509	0.325	0.358	0.352	0.443	0.458	0.416
Median	777	0.515	0.333	0.342	0.340	0.426	0.449	0.429
StDev	443	0.056	0.145	0.084	0.222	0.062	0.107	0.117
Teaching staff	x	0.270	−0.610	−0.585	−0.827	0.225	−0.586	−0.372
General	-	x	−0.115	0.303	0.213	0.926	0.532	0.238
Vice-Rector (VR)	-	-	x	0.430	0.385	−0.141	0.107	0.017
Senat (S)	-	-	-	x	0.869	0.099	0.675	0.847
Dean (D)	-	-	-	-	x	0.139	0.885	0.737
Vice-Dean (VD)	-	-	-	-	-	x	0.509	−0.044
Faculty Council (FC)	-	-	-	-	-	-	x	0.621
DepDirector (DD)	-	-	-	-	-	-	-	x
<b>Polytechnics</b>	<b>Teach</b>	<b>General</b>	<b>VR</b>	<b>S</b>	<b>D</b>	<b>VD</b>	<b>FC</b>	<b>DD</b>
Average	663	0.382	0.228	0.255	0.112	0.342	0.298	0.203
Median	663	0.375	0.268	0.237	0.113	0.343	0.292	0.219
StDev	394	0.038	0.179	0.077	0.096	0.105	0.027	0.039
Teaching staff	x	−0.604	−0.470	0.008	0.678	−0.489	−0.465	0.848





## References

1. EIGE (European Institute for Gender Equality). Available online: <https://eige.europa.eu/thesaurus/terms> (accessed on 30 December 2019).
2. Brundtland, G.H.; Khalid, M.; Agnelli, S.; Al-Athel, S.; Chidzero, B. *Our Common Future*; United Nations General Assembly: New York, NY, USA, 1987.
3. Department of Economic and Social Affairs United Nations. *Indicators of Sustainable Development: Guidelines and Methodologies*; UN: New York, NY, USA, 2007.
4. Stevens, C. Are women the key to sustainable development? *Sustain. Dev. Insights* **2010**, *3*, 1–8.
5. Boyce, J.K. Inequality as a cause of environmental degradation. *Ecol. Econ.* **1994**, *11*, 169–178. [[CrossRef](#)]
6. Markkanen, S.; Anger-Kraavi, A. Social impacts of climate change mitigation policies and their implications for inequality. *Clim. Policy* **2019**, *19*, 827–844. [[CrossRef](#)]
7. Miotto, G.; Polo López, M.; Rom Rodríguez, J. Gender Equality and UN Sustainable Development Goals: Priorities and Correlations in the Top Business Schools' Communication and Legitimation Strategies. *Sustainability* **2019**, *11*, 302. [[CrossRef](#)]
8. Scoones, I. The politics of sustainability and development. *Ann. Rev. Environ. Res.* **2016**, *41*, 293–319. [[CrossRef](#)]
9. Denton, F. Climate change vulnerability, impacts, and adaptation: Why does gender matter? *Gen. Dev.* **2002**, *10*, 10–20. [[CrossRef](#)]
10. Hopkins, C.; McKeown, R. Education for sustainable development: An international perspective. In *Education and Sustainability: Responding to the Global Challenge*; IUCN Commission on Education and Communication: Cambridge, UK, 2002.
11. UN Global Compact. UN Sustainable Development Goals. 2016. Available online: <https://www.unglobalcompact.org/what-is-gc/our-work/sustainable-development/sdgs/17-global-goals> (accessed on 15 March 2019).
12. Morrison, A.M.; White, R.P.; White, R.P.; Van Velsor, E. *Breaking the Glass Ceiling: Can Women Reach the Top of America's Largest Corporations?* Pearson Education: London, UK, 1987.
13. Guijarro, F.; Poyatos, J.A. Designing a Sustainable Development Goal Index through a Goal Programming Model: The Case of EU-28 Countries. *Sustainability* **2018**, *10*, 3167. [[CrossRef](#)]
14. Mebratu, D. Sustainability and sustainable development: historical and conceptual review. *Environ. Impact Assess. Rev.* **1998**, *18*, 493–520. [[CrossRef](#)]
15. Kidd, C.V. The evolution of sustainability. *J. Agric. Environ. Ethics* **1992**, *5*, 1–26. [[CrossRef](#)]
16. Goodland, R. The concept of environmental sustainability. *Ann. Rev. Ecol. Syst.* **1995**, *26*, 1–24. [[CrossRef](#)]
17. Du Pisani, J.A. Sustainable development—historical roots of the concept. *Environ. Sci.* **2006**, *3*, 83–96. [[CrossRef](#)]
18. Meadows, D.H.; Meadows, D.L.; Randers, J.; Behrens, W.W. *The limits to growth*; Universe: New York, NY, USA, 1972.
19. Leach, M.; Raworth, K.; Rockstrom, J. *Between Social and Planetary Boundaries: Navigating Pathways in the Safe and just Space for Humanity*. *World Social Science Report 2013*, 1st ed.; ISSC, UNESCO Publishing: Paris, France, 2013; pp. 84–89.
20. Turner, B.L.; Kasperson, R.E.; Matson, P.A.; McCarthy, J.J.; Corell, R.W.; Christiansen, L.; Eckley, N.; Kasperson, J.X.; Luers, A.; Martello, M.L.; et al. A framework for vulnerability analysis in sustainability science. *Proc. Natl. Acad. Sci. USA* **2003**, *100*, 8074–8079. [[CrossRef](#)] [[PubMed](#)]
21. Allouche, J.; Middleton, C.; Gyawali, D. Technical veil, hidden politics: Interrogating the power linkages behind the nexus. *Water Altern.* **2015**, *8*, 610–626.
22. Bryant, R.L. (Ed.) *The International Handbook of Political Ecology*; Edward Elgar Publishing: Cheltenham, UK, 2015.
23. Forsyth, T. *Critical Political Ecology: the Politics of Environmental Science*; Routledge, Taylor and Francis Group: New York, NY, USA, 2004.
24. Li, T.M. What is land? Assembling a resource for global investment. *Trans. Inst. Br. Geogr.* **2014**, *39*, 589–602. [[CrossRef](#)]
25. Mehta, L. (Ed.) *He Limits to Scarcity: Contesting the Politics of Allocation*; Routledge: Luxembourg, 2010.
26. Mitchell, T. *Carbon Democracy: Political Power in the Age of Oil*; Verso Books: London, UK, 2011.
27. Martin, A. Global environmental injustice, in practice: introduction. *Geogr. J.* **2013**, *179*, 98–104. [[CrossRef](#)]

28. Ribot, J.C.; Peluso, N.L. A theory of access. *Rural Soc.* **2003**, *68*, 153–181. [[CrossRef](#)]
29. Stirling, A. Emancipating transformations: from controlling ‘the transition’ to culturing plural radical progress. In *The Politics of Green Transformations. Pathways to Sustainability*; Scoones, I., Leach, M., Newell, P., Eds.; Routledge: London, UK, 2015; pp. 54–67.
30. Ciptet, D.; Roberts, J.T.; Khan, M. The politics of international climate adaptation funding: Justice and divisions in the greenhouse. *Glob. Environ. Polit.* **2013**, *13*, 49–68. [[CrossRef](#)]
31. Bracking, S. Performativity in the Green Economy: how far does climate finance create a fictive economy? *Third World Quart.* **2015**, *36*, 2337–2357. [[CrossRef](#)]
32. Cohen, R.; Rai, S. *Global Social Movements*; Athlone Press: London, UK, 2000.
33. Otero-Hermida, P.; Garcia-Melon, M. Gender Equality Indicators for Research and Innovation from a Responsible Perspective: The Case of Spain. *Sustainability* **2018**, *10*, 2980. [[CrossRef](#)]
34. Hansmann, R.; Schröter, D. Equal Opportunities in Academic Careers? How Mid-Career Scientists at ETH Zurich Evaluate the Impact of Their Gender and Age. *Sustainability* **2018**, *10*, 3343. [[CrossRef](#)]
35. Agrawal, A.; Gibson, C.C. (Eds.) *Communities and the Environment: Ethnicity, Gender, and the State in Community-based Conservation*; Rutgers University Press: New Brunswick, NJ, USA, 2001.
36. Puertas, R.; Marti, L. Sustainability in Universities: DEA-GreenMetric. *Sustainability* **2019**, *11*, 3766. [[CrossRef](#)]
37. 2030 UN Agenda for Sustainable Development. Available online: <https://sustainabledevelopment.un.org/post2015/transformingourworld> (accessed on 11 June 2019).
38. Meinzen-Dick, R.; Kovarik, C.; Quisumbing, A.R. Gender and sustainability. *Ann. Rev. Environ. Res.* **2014**, *39*, 29–55. [[CrossRef](#)]
39. Goldin, C. *Understanding the Gender Gap: An Economic History of American Women*; Oxford University Press: Oxford, UK, 1992.
40. The Global Gender Gap Report 2017. Available online: [http://www3.weforum.org/docs/WEF\\_GGGR\\_2017.pdf](http://www3.weforum.org/docs/WEF_GGGR_2017.pdf) (accessed on 11 June 2019).
41. Powell, G.N.; Butterfield, D.A. Investigating the “glass ceiling” phenomenon: An empirical study of actual promotions to top management. *Acad. Manag. J.* **1994**, *37*, 68–86.
42. Kittilson, M.C. Gender and Political Behavior. In *Oxford Research Encyclopedia of Politics*; Oxford University Press: Oxford, UK, 2016.
43. Studlar, D.T.; McAllister, I.; Hayes, B.C. Explaining the gender gap in voting: A cross-national analysis. *Soc. Sci. Quart.* **1998**, *79*, 779–798.
44. Burns, N.; Schlozman, K.L.; Verba, S. *The Private Roots of Public Action*; Harvard University Press: Cambridge, MA, USA, 2001.
45. Stolle, D.; Hooghe, M.; Micheletti, M. Politics in the supermarket: Political consumerism as a form of political participation. *Int. Polit. Sci. Rev.* **2005**, *26*, 245–269. [[CrossRef](#)]
46. Kittilson, M.C.; Schwindt-Bayer, L. *The Gendered Effects Of Electoral Institutions: Political Engagement and Participation*; Oxford University Press: New York, NY, USA, 2012.
47. Dow, J.K. Gender differences in political knowledge: Distinguishing characteristics-based and returns-based differences. *Polit. Behav.* **2009**, *31*, 117–136. [[CrossRef](#)]
48. Directorate General for Internal Policies, Policy Department C: Citizens Rights and Constitutional Affairs, Gender Equality. Available online: <http://www.europarl.europa.eu/studies> (accessed on 30 December 2019).
49. Krook, M.L. *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*; Oxford University Press: New York, NY, USA, 2010.
50. Tremblay, M. (Ed.) *Women and Legislative Representation: Electoral Systems, Political Parties, and Sex. Quotas*; Palgrave Macmillan: New York, NY, USA, 2012.
51. Franceschet, S.; Krook, M.L.; Piscopo, J.M. (Eds.) *The Impact of Gender Quotas*; Oxford University Press: New York, NY, USA, 2012.
52. Franceschet, S.; Piscopo, J.M. Sustaining gendered practices? Power, parties, and elite political networks in Argentina. *Comp. Polit. Stud.* **2014**, *47*, 85–110. [[CrossRef](#)]
53. Zetterberg, P. Do gender quotas foster women’s political engagement? Lessons from Latin America. *Polit. Res. Quart.* **2009**, *62*, 715–730. [[CrossRef](#)]
54. Wroblewski, A. Women in Higher Education Management: Agents for Cultural and Structural Change? *Soc. Sci.* **2019**, *8*, 172. [[CrossRef](#)]

55. Peterson, H. The gender mix policy—addressing gender inequality in higher education management. *J. High. Educ. Policy Manag.* **2011**, *33*, 619–628. [CrossRef]
56. Bagues, M.; Sylos-Labini, M.; Zinovyeva, N. Does the Gender Composition of Scientific Committees Matter? *Am. Econ. Rev.* **2017**, *107*, 1207–1238. [CrossRef]
57. Pyke, J. Women, choice and promotion or why women are still a minority in the professoriate. *J. High. Educ. Policy Manag.* **2013**, *35*, 444–454. [CrossRef]
58. EIGE (European Institute for Gender Equality). Academic Careers and Gender Inequality: Leaky Pipeline and Interrelated Phenomena in Seven European Countries. Available online: [https://eige.europa.eu/sites/default/files/garcia\\_working\\_paper\\_5\\_academic\\_careers\\_gender\\_inequality](https://eige.europa.eu/sites/default/files/garcia_working_paper_5_academic_careers_gender_inequality) (accessed on 28 June 2019).
59. Bagues, M.; Sylos-Labini, M.; Zinovyeva, N. Do Gender Quotas Pass the Test? *Evidence from Academic Evaluations in Italy*. Available online: <http://www.lem.sssup.it/WPLem/files/2014-14.pdf> (accessed on 28 July 2019).
60. De Cabo, R.M.; Terjesen, S.; Escot, L.; Gimeno, R. Do ‘soft law’ board gender quotas work? Evidence from a natural experiment. *Eur. Manag. J.* **2019**, *37*, 611–624. [CrossRef]
61. Lépinard, É. From breaking the rule to making the rules: the adoption, entrenchment, and diffusion of gender quotas in France. *Polit. Group Ident.* **2016**, *4*, 231–245. [CrossRef]
62. Källemark, T.; Lönn, M. *Högskolans ledare. Om rektorsroller och rektorstillsättningar*; Högskoleverket—Swedish National Agency for Higher Education: Stockholm, Sweden, 2004.
63. Read, B.; Kehm, B.M. Women as leaders of higher education institutions: a British-German comparison. *Stud. High. Educ.* **2016**, *41*, 815–827. [CrossRef]
64. Neale, J.; Özkanlı, O. Organisational barriers for women in senior management: a comparison of Turkish and New Zealand universities. *Gen. Educ.* **2010**, *22*, 547–563. [CrossRef]
65. Pyke, J.; White, K. Gender Quotas and Targets Would Speed up Progress on Gender Equity in Academia. Available online: <http://theconversation.com/gender-quotas-and-targets-would-speed-up-progress-on-gender-equity-in-academia-102103> (accessed on 17 November 2019).
66. Winchester, H.P.M.; Browning, L. Gender equality in academia: a critical reflection. *J. High. Educ. Policy Manag.* **2015**, *37*, 269–281. [CrossRef]
67. Prinsley, R.; Beavis, A.S.; Clifford-Hordacre, N. Busting Myths about Women in STEM. Available online: [https://www.chiefscientist.gov.au/wp-content/uploads/OCS\\_Women\\_in\\_STEM\\_datasheet.pdf](https://www.chiefscientist.gov.au/wp-content/uploads/OCS_Women_in_STEM_datasheet.pdf) (accessed on 15 July 2019).
68. Matthews, D. EU Commissioner Calls for Gender Quotas in University Management. Available online: <https://www.timeshighereducation.com/news/eu-commissioner-calls-gender-quotas-universitymanagement> (accessed on 30 May 2019).
69. Schmidt, B. Women, research and universities: excellence without gender bias. In *Paths to Career and Success for Women in Science*; Thege, B., Popescu-Willigmann, S., Pioch, R., Adri-Hoher, S., Eds.; Springer: Wiesbaden, Germany, 2014; pp. 93–116.
70. Prichard, C.; Deem, R. Wo-managing further education; gender and the construction of the manager in the corporate colleges of England. *Gen. Educ.* **1999**, *11*, 323–342. [CrossRef]
71. Mavin, S.; Bryans, P. Academic women in the UK: Mainstreaming our experiences and networking for action. *Gen. Educ.* **2002**, *14*, 235–250. [CrossRef]
72. Publications Office of the EU. Report She Figures 2018. Available online: <https://publications.europa.eu/en/publication-detail>. (accessed on 30 August 2019).
73. Arvate, P.R.; Galilea, G.W.; Todescat, I. The queen bee: A myth? The effect of top-level female leadership on subordinate females. *Leadersh. Quart.* **2018**, *29*, 533–548. [CrossRef]
74. Metarankingul Universitar-2018. Clasamentul Universităților din România. Available online: [http://ad-astra.ro/wp-content/uploads/2018/12/Metarankingul\\_Universitar\\_2018.pdf](http://ad-astra.ro/wp-content/uploads/2018/12/Metarankingul_Universitar_2018.pdf) (accessed on 21 November 2019).
75. CEDAW; UN. Convention on the Elimination of all Forms of Discrimination against Women. 1979. Available online: <https://legal.un.org/avl/ha/cedaw/cedaw.html>. (accessed on 17 January 2020).

