Bridging the Gap:
Gender Disparities in Colombia's Economics Profession

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1 Introduction

As part of our commitment to gender equity and the critical analysis of societal disparities, we are pleased to present this report. The fundamental purpose of this report is to provide a comprehensive overview of women's career paths and the associated gender gaps within the economics profession in Colombia. The primary objective is to present evidence that highlights the situation of women and gender disparities throughout their careers in Colombian economics, with a particular focus on the academic environment.

To achieve a holistic view of women's career trajectories in the Colombian economic field, data collection has focused on key educational stages and areas, including undergraduate, master's, and doctoral enrolments, graduates, faculty participation, and women's involvement in economic associations. The data for this analysis was sourced from the *National Higher Education Information System (SNIES)* and is broken down by year, type of institution (public/private), and region.

This report examines gender disparities from both institutional and individual perspectives. While this installment focuses on available data, future reports will delve deeper into individual experiences, addressing aspects such as faculty composition, participation in academic research and publications, access to funding, and involvement in academic seminars. By adopting this approach, we aim to provide a comprehensive understanding of women's participation in the field and to offer insights for designing policies that promote gender equality.

The structure of the report is designed to address several critical aspects of gender dynamics in the economics profession. In **Section 2**, we analyze the gender distribution in enrollments at the undergraduate, master's, and doctoral levels. This section covers a wide range of institutions and regions, offering a detailed view of women's representation across educational stages. In **Section 3**, we shift focus to graduation rates at these same academic levels, highlighting gender differences in academic outcomes.

Section 5 explores gender representation within faculty, with a focus on the composition of deanships in economics faculties. This analysis provides a deeper understanding of the barriers women face in reaching leadership positions. In **Section 6**, we examine women's participation in Colombian economic associations, offering insights into their roles within professional networks and leadership boards.

Section 7 is dedicated to the academic realm, where we provide a detailed analysis of gender disparities among economic researchers in Colombia. This section examines key metrics such as the average number of citations, H-index, and i10 index across various academic positions and research areas. It also includes an in-depth exploration of gender distribution across roles such as full professors, lecturers, associate professors, assistant professors, research professors, and undergraduate students.

Finally, in **Section 8**, we outline the next steps in our research aimed at identifying gender gaps in the field of economics. This section presents the planned work ahead, based on the findings in this report, as we aim to further analyze gender disparities and develop a deeper understanding of the challenges that persist.

2 Enrolled

Exploring the enrollment patterns of women in undergraduate, master's, and doctoral programs in economics in Colombia is crucial for understanding the evolution of gender dynamics in higher education. Analyzing women's participation from the early stages of their academic careers offers valuable insights into female representation across different educational levels and helps to identify potential gender gaps during the formative phases of academic training. This analysis not only sheds light on the factors influencing women's decisions to enter and progress through these programs but also provides key information on the effectiveness of policies and initiatives aimed at promoting gender equality in higher education. By examining the trends in female enrollment, we can better identify areas of opportunity and challenge, thereby facilitating the development of effective strategies to increase female participation and academic success in the field of economics. Ultimately, this contributes to the creation of a more inclusive and equitable educational environment in Colombia.

2.1 Undergraduate Students

As illustrated in Figure 1, the percentage of women enrolled in university-level economics programs has remained stable, consistently representing approximately 50% of the total number of students. This steady gender ratio suggests a relative equity in access to economics programs at the university level, indicating that opportunities for enrollment are fairly balanced between men and women.

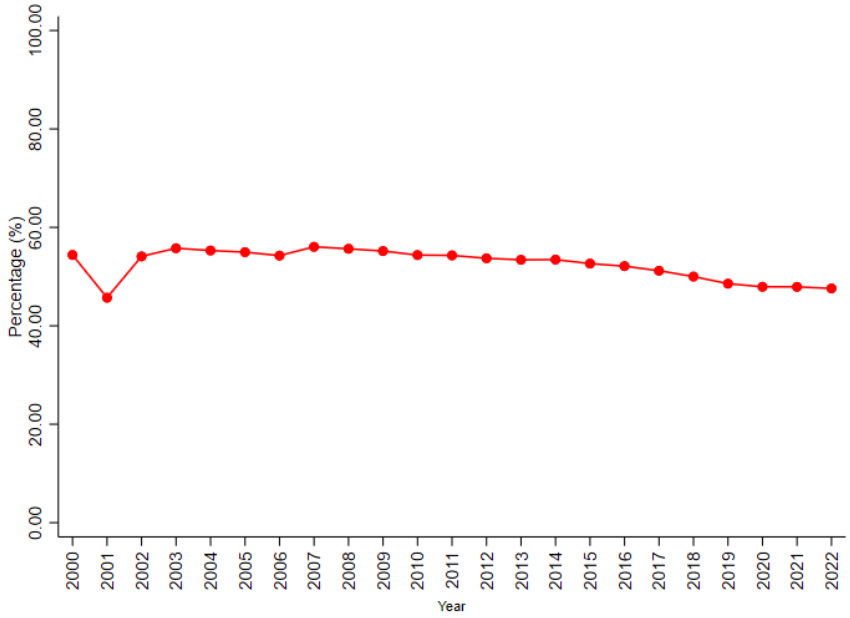

Figure 1: Percentage of women enrolled in Economics (Undergraduate)

Looking at the data disaggregated by public and private institutions, as shown in Figure 2, an interesting pattern emerges. Between 2022 and 2017, the proportion of women in economics programs at private universities exceeded that of public universities. However, from 2018 onwards, a convergence in these figures is observed. This change could indicate transformations in the gender dynamics of economics career choice, and offers a valuable perspective for understanding variations over time in the gender distribution in specific educational institutions.

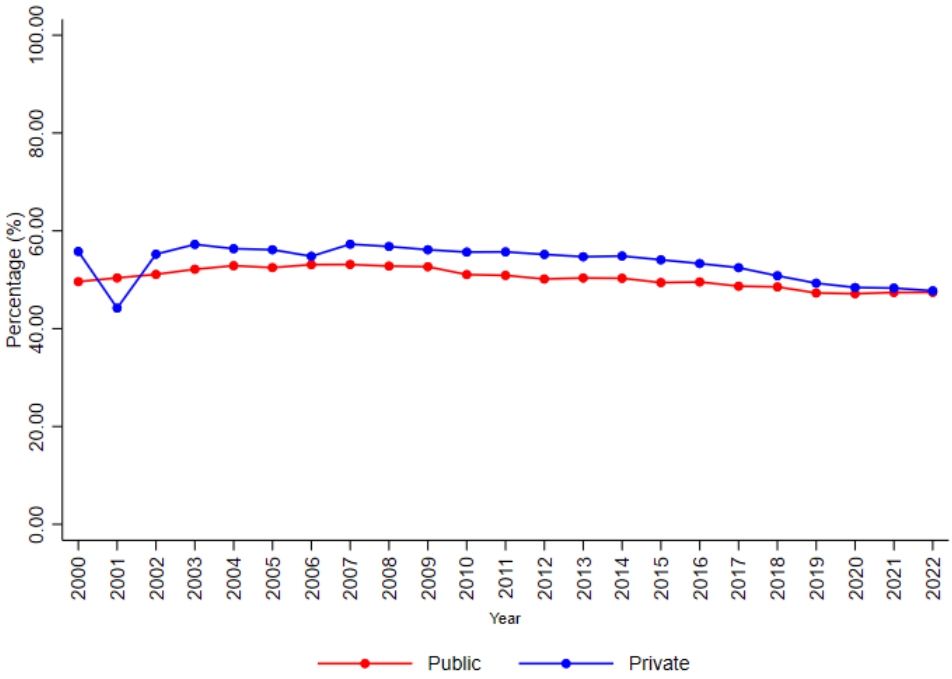

Figure 2: Percentage of women enrolled in Economics by Institution Type (Public/Private)

Observation by region, detailed in Figure 3, reveals remarkable patterns in the percentage of women enrolled in economics programs in Colombia. Regions such as the Andean, Caribbean, Orinoquia and Pacific exhibit similar trends, maintaining stable levels of female participation over time. However, the Amazon region presents a different scenario: from 2008 (since information is available) until 2016, there is a higher number of women enrolled compared to other regions. However, this situation experienced a decline in 2017.

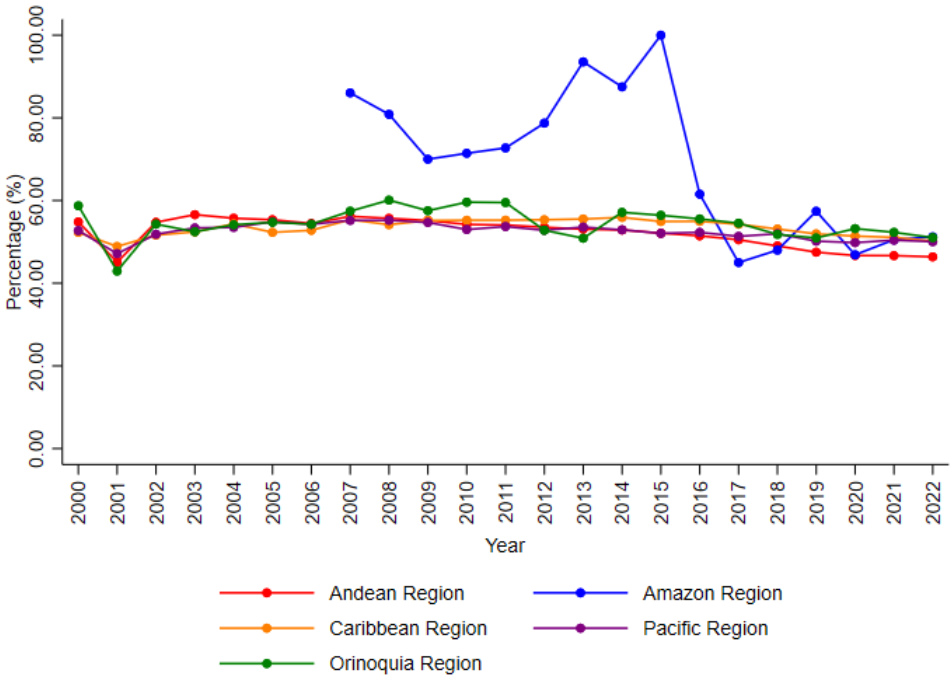

Figure 3: Percentage of women enrolled in Economics by Region

Further analysis by institution type and region reveals notable trends in female enrollment. As shown in Figure 4, between 2002 and 2017, private educational institutions in the Andean region consistently had a higher number of female enrollments compared to public institutions. This pattern is also observed in the Caribbean region. However, in regions such as the Pacific, the dynamics are reversed, with a greater proportion of women enrolled in public institutions than in private ones.

The Amazon region presents an interesting case, as it initially shows a high percentage of women enrolled in private institutions relative to other regions, a pattern mirrored in public institutions. However, this situation shifts in 2015. These regional variations underscore the importance of considering both institutional type and regional context when analyzing gender participation in economics programs in Colombia.

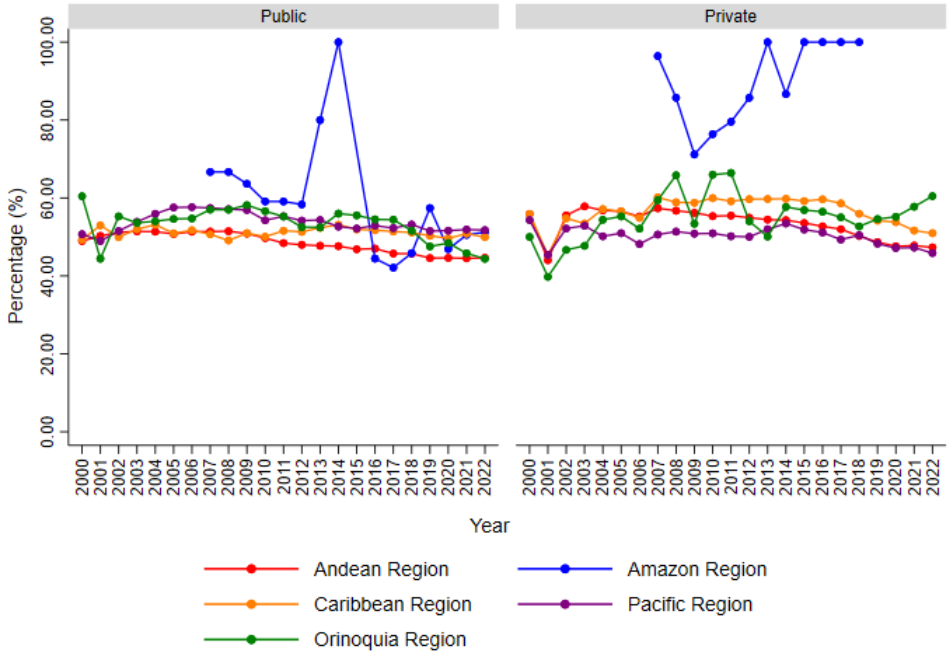

Figure 4: Percentage of women enrolled in Economics by region and public/private

2.2 Master's Students

Regarding the percentage of women enrolled in master's programs in economics, Figure 5 shows a progressive increase over the years. When this trend is analyzed by institution type, Figure 6 reveals a distinct dynamic. In private institutions, there is a clear upward trend in female enrollment, indicating steady growth in women's participation in master's programs in economics. However, the trend in public institutions is less consistent. In some periods, female enrollment in public institutions parallels that of private institutions, while in others, the numbers are significantly lower, suggesting that the growth of female participation in public institutions has not been as pronounced as in private ones.

These findings highlight the importance of closely examining gender-specific variations in enrollment rates across public and private institutions when analyzing women's participation in master's programs in economics in Colombia.

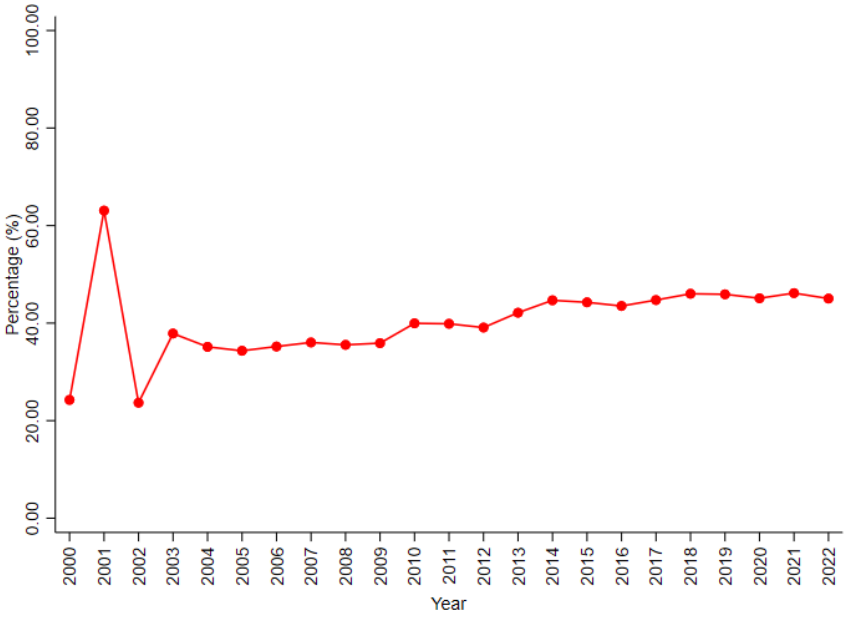

Figure 5: Percentage of women enrolled in Master's Programs

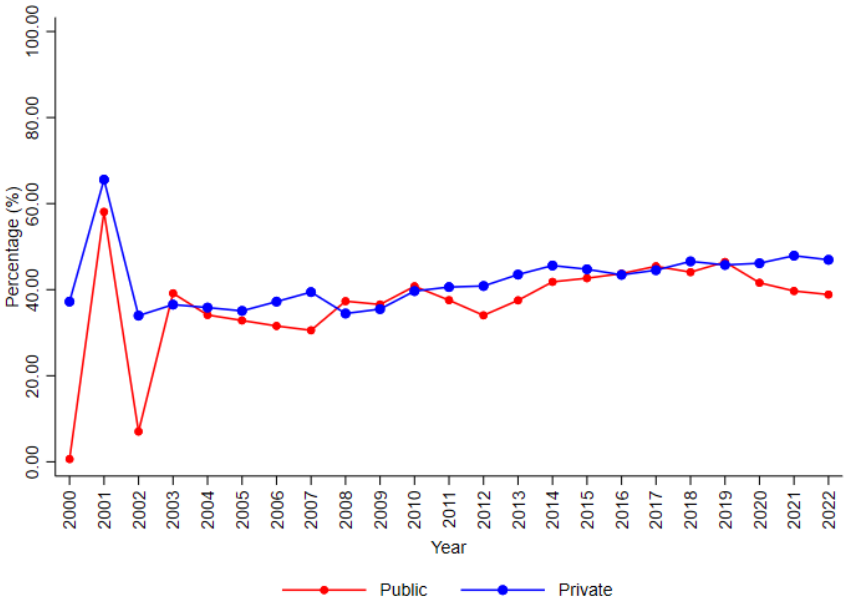

Figure 6: Percentage of women enrolled in Master's programs in Economics by public/private universities

When analyzing the distribution of women enrolled in master's programs in economics by region and institution type, distinct patterns emerge. As illustrated in Figure 7, in the Andean region, the percentage of women enrolled in both public and private institutions follows a similar trend. In contrast, the Pacific region presents a different scenario, with a higher number of women enrolled in public institutions compared to private ones until 2019. Notably, in regions such as the Caribbean and Orinoco, female enrollment in master's programs in economics is concentrated exclusively in private institutions.

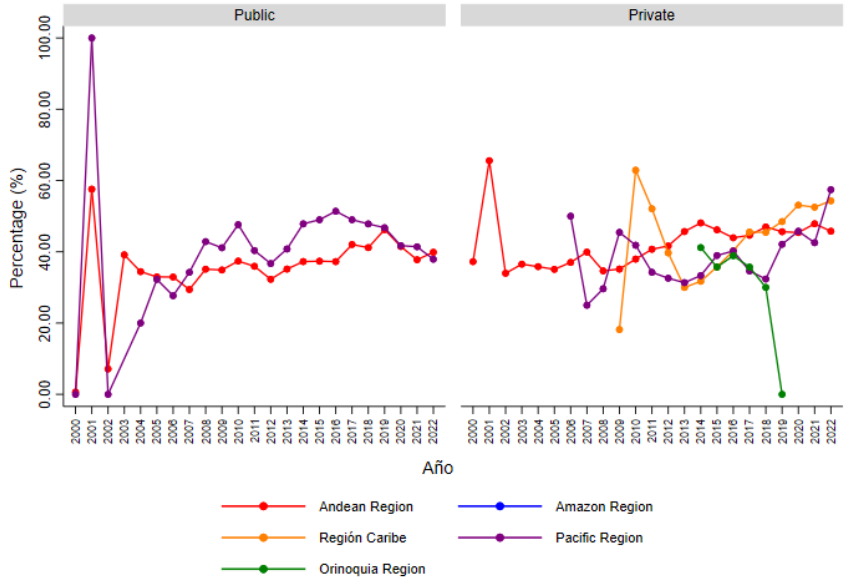

Figure 7: Percentage of women enrolled in Master's programs in Economics by region and sector

2.3 PhD Students

An examination of enrollments in economics doctoral programs, as shown in Figure 8, reveals that women constitute less than 40% of those enrolled at this academic level. When this dynamic is analyzed by institution type, as illustrated in Figure 9, it becomes clear that women are generally more likely to be enrolled in public universities compared to private ones. However, it is noteworthy that this difference begins to converge from 2017 onwards.

These findings point to a persistent gender gap in PhD program enrollments in economics, emphasizing the need for a closer examination of the factors influencing women's participation at this academic level, as well as the evolution of these dynamics over time.

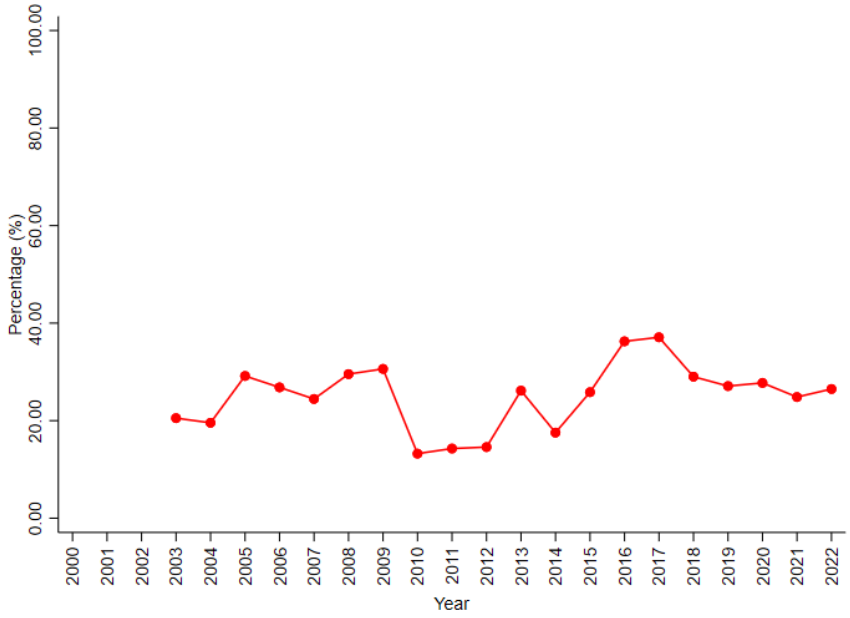

Figure 8: Percentage of women enrolled in PhD programs in Economics

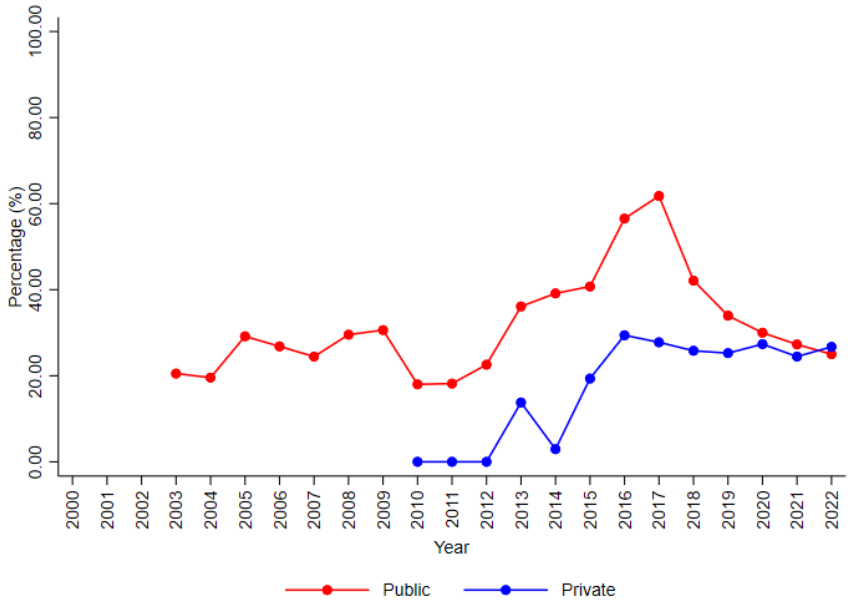

Figure 9: Percentage of women enrolled in economics PhD's by Institution Type

An analysis of the regional distribution of enrollments in economics doctoral pro-

grams, as depicted in Figures 10 and 11, reveals that the Andean, Caribbean, and Pacific regions generally exhibit a lower proportion of female enrollments. Furthermore, it is evident that while the Andean region tends to have more women enrolled in public institutions, the Pacific and Caribbean regions show higher female enrollment in private institutions.

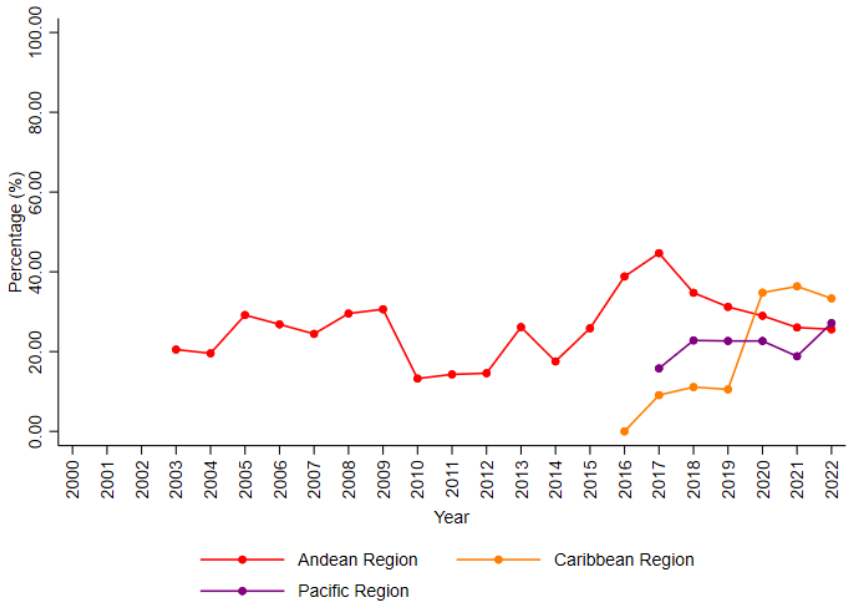

Figure 10: Percentage of women enrolled in economics PhDs by region

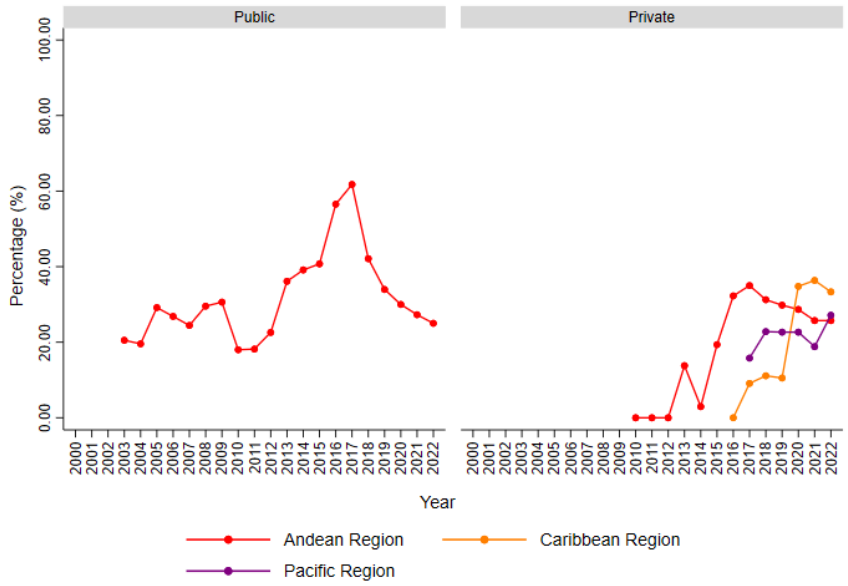

Figure 11: Percentage of women enrolled in economics PhD's by Region and Institution Type

3 Graduates

In Colombia, analyzing the landscape of undergraduate, master's, and doctoral graduates in economics by gender is crucial for identifying gender disparities within the field. This analysis helps to pinpoint the specific challenges and barriers that women may face compared to their male counterparts. Additionally, it reveals the academic levels where women are underrepresented or encounter obstacles, providing a basis for recommendations aimed at increasing women's participation and academic success in economics. Ultimately, this supports the creation of a more inclusive and equitable academic environment.

3.1 Graduated in Economics

As shown in Figure 12, more women graduate from undergraduate economics programs than men. This trend has been growing, reaching its peak in 2013, with approximately 3,046 female graduates, representing around 58% of the total graduates in the discipline. However, this trend reversed by 2022, when the proportion of female graduates in economics decreased to 47%.

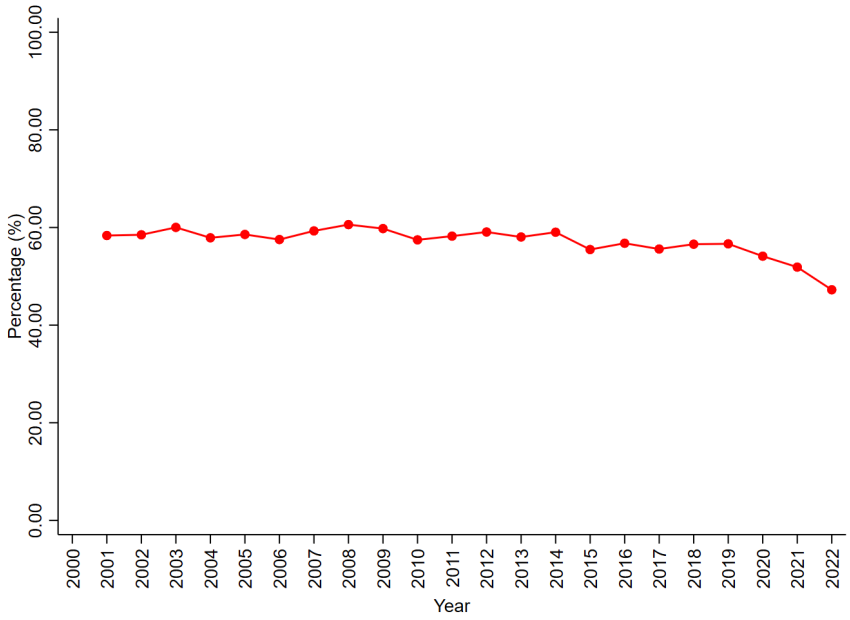

Figure 12: Percentage of women graduated in Economics (undergraduate)

Analyzing the proportion of female graduates in economics by region, as depicted in Figure 13, reveals notable patterns in the percentage of women completing economics programs in Colombia. Regions such as the Andean, Caribbean, and Pacific exhibit similar trends, maintaining stable levels of female graduates over time. However, as observed in the enrollment data, the Amazon region presents a different pattern: in 2014, it had a higher proportion of women enrolled compared to other regions. Despite this, the Amazon region not only has the lowest number of graduates overall but has also experienced a decline since 2017, with no female graduates recorded in the discipline.

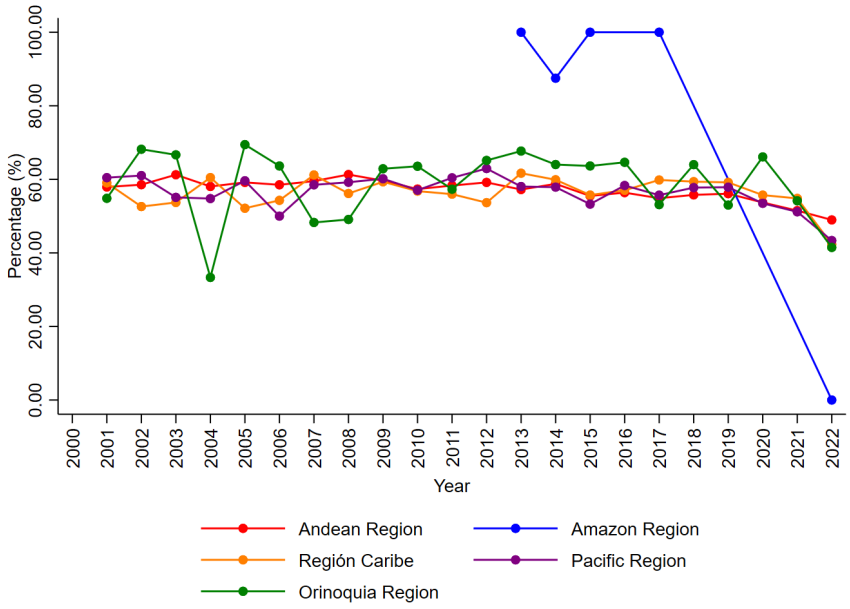

Figure 13: Percentage of women graduated in Economics (undergraduate) by Region

Further analysis by institution type and region, as indicated in Figure 14, shows that between 2000 and 2018, private institutions in the Andean region consistently produced more female graduates than public institutions. Similarly, the Andean, Caribbean, and Pacific regions have the highest proportions of female graduates, with most coming from private institutions. Notably, in the Amazon region, all female graduates were from private institutions.

These findings highlight the need for targeted strategies to address the educational and employment needs of women in the Amazon region, where private institutions play a dominant role. Strengthening public institutions in the region is also crucial to improving women's access to education.

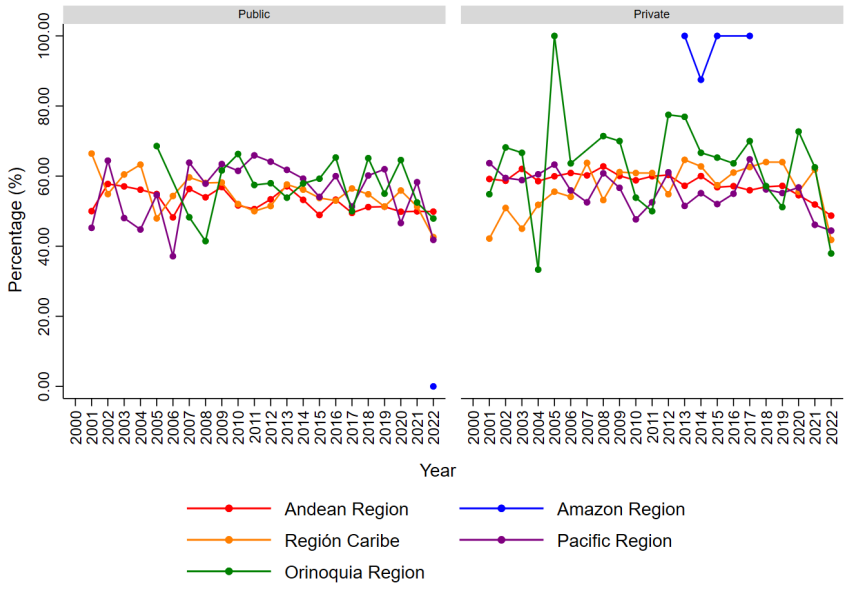

Figure 14: Percentage of women graduated in Economics (undergraduate) by Region and Institution Type

3.2 Master's Degrees

Regarding the percentage of female graduates in master's programs in economics, Figure 15 shows that during 2003, 2009, and 2010, the proportion of female graduates was lower, averaging 37%. However, this proportion steadily increased in subsequent years, reaching approximately 52% by 2022. This trend suggests a growing gender balance at this academic level, reflecting greater inclusion of women in the field. The increase in female participation may be attributed to various factors, such as societal changes, efforts to promote gender equality in education, and heightened awareness of the importance of diversity in academia.

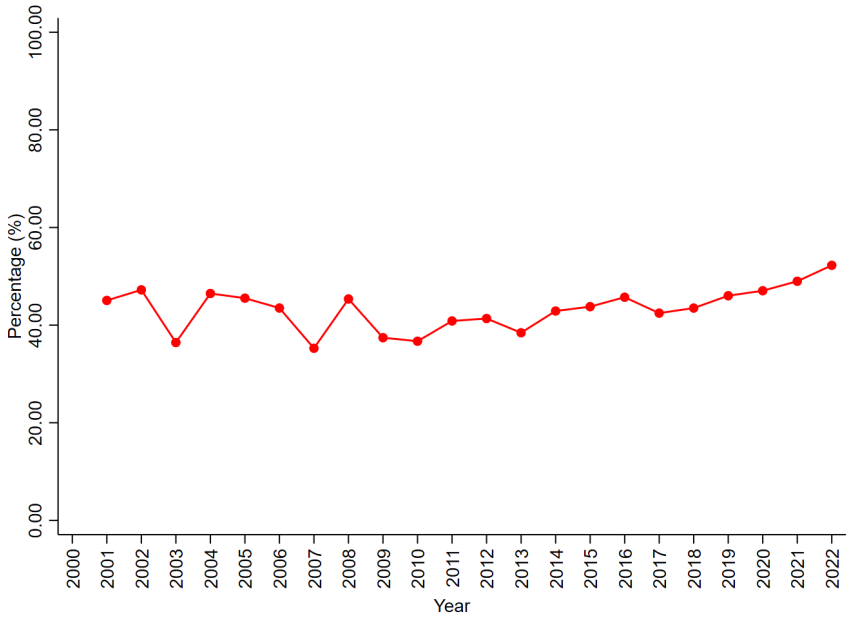

Figure 15: Percentage of women graduated with a Master's degree in Economics

As illustrated in Figure 16, the percentage of female master's graduates in both private and public institutions has steadily increased over time. In particular, the proportion of female graduates in public institutions shows a notable upward trend, reflecting progress toward gender equity in higher education. This increase can be attributed to several factors, including improved access to educational opportunities, such as scholarships and support programs, which have enabled more women to pursue master's degrees. Moreover, better working conditions and enhanced career prospects for women with postgraduate education have further contributed to this positive trend in public institutions.

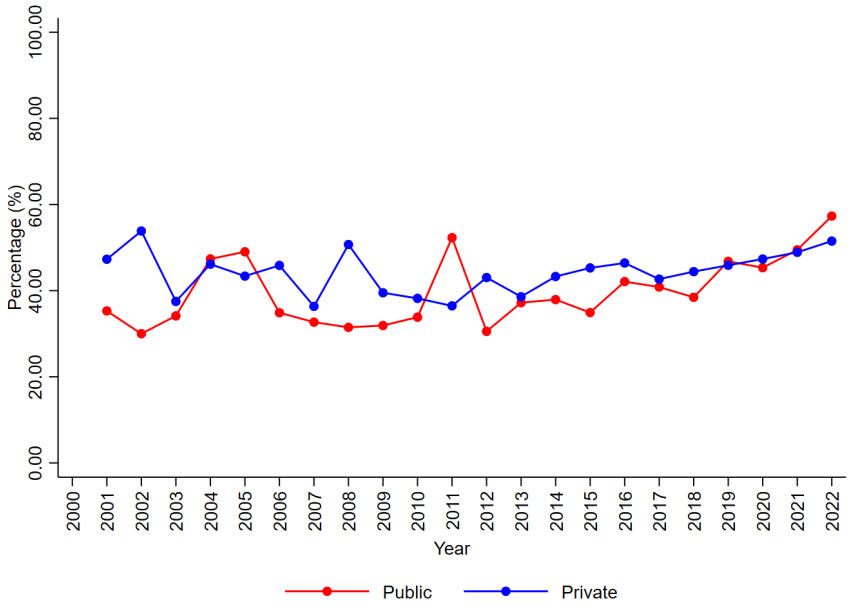

Figure 16: Percentage of women graduated with a Master's degree in Economics by Institution Type

Figure 17 reveals a significant evolution in the percentage of women graduating from master's programs in economics across various regions in Colombia. Both the Andean and Pacific regions exhibit steady upward trends, indicating sustained growth in the proportion of female graduates in these areas. Similarly, the Orinoquia region shows a gradual increase in the number of women graduating at this academic level over time. These findings suggest a positive movement toward gender equity in academia, with growing interest and participation of women in master's programs in economics within these regions.

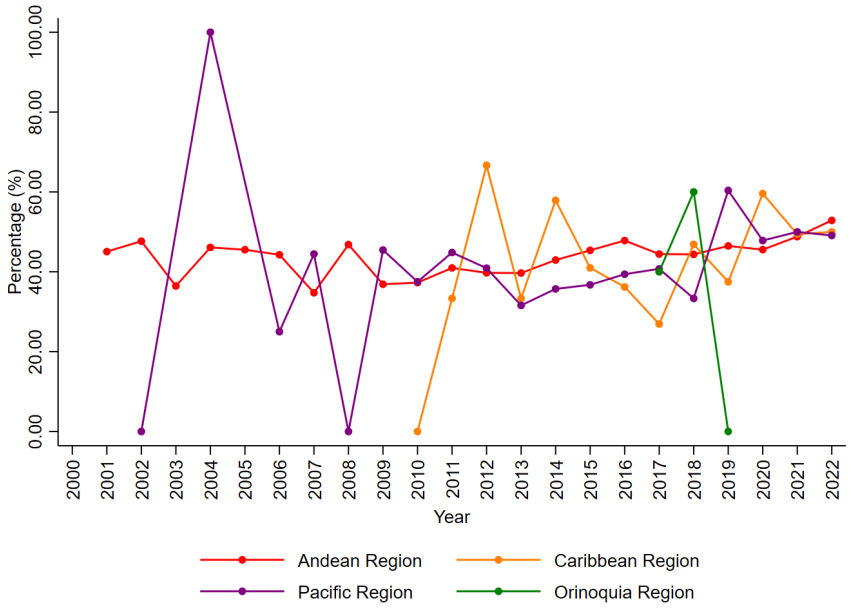

Figure 17: Percentage of women graduated with a Master's degree in Economics by Region

Figure 18 highlights distinctive patterns in the proportion of women graduates by institution type and region. In public institutions, a steady increase in the proportion of female graduates over time is observed in the Andean and Pacific regions, indicating significant progress in women's participation in postgraduate programs within these areas. In contrast, private institutions consistently show a higher proportion of female graduates, particularly in the Andean, Pacific, and Caribbean regions, reflecting stronger female participation in master's programs in the private sector. However, the Orinoquia region stands out for its low proportion of female graduates, which dropped to zero by 2019, suggesting the presence of specific challenges or barriers affecting women's participation in master's programs in this region and institution type.

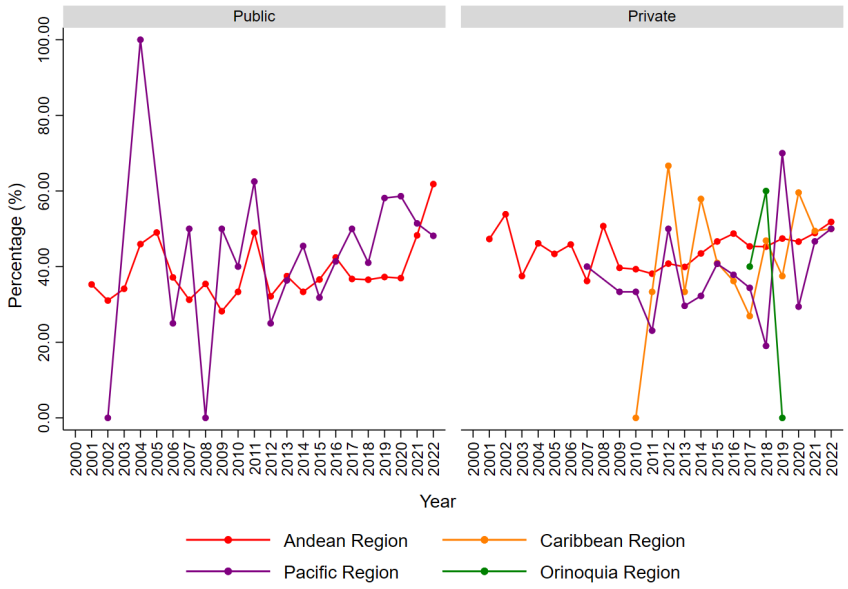

Figure 18: Percentage of women graduated with a Master's degree in Economics by Region and Institution Type

3.3 PhD Graduates

Regarding the proportion of female doctoral graduates, it has historically remained low. However, as indicated in Figure 19, this number has increased significantly since 2018, reaching approximately 90% in 2022. This notable rise suggests a positive shift in women's participation in doctoral programs compared to previous years. It may reflect successful efforts to foster the inclusion of women in advanced academic programs, overcoming historical barriers and promoting greater gender equity at the highest levels of education. This shift in the proportion of female doctoral candidates could also have important implications for women's representation in high-level academic and professional positions in the future.

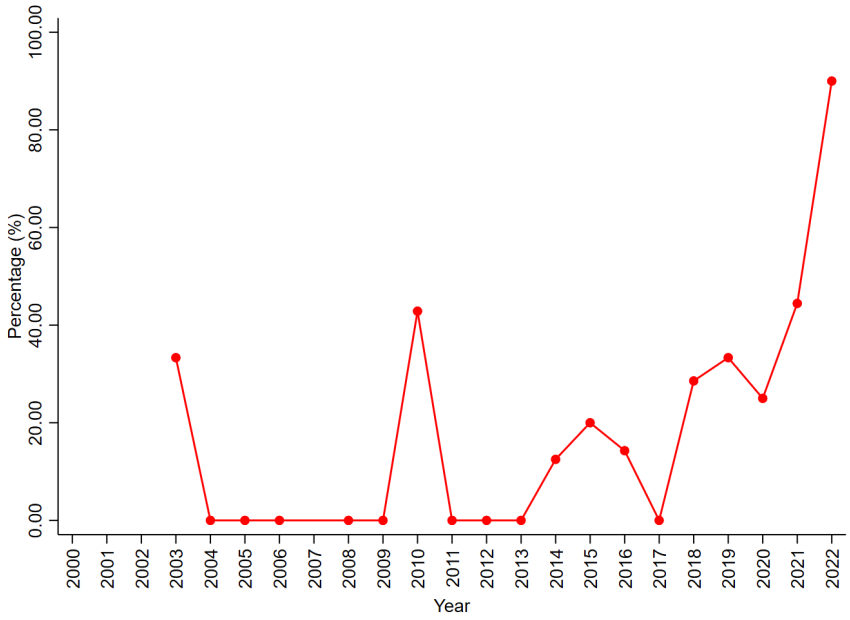

Figure 19: Percentage of women graduated in a PhD in Economics

According to Figure 20, the majority of women earning their PhDs in economics over the years have graduated from public institutions. It is noteworthy that the first female PhD graduates from private institutions did not appear until 2012. Since then, the trend has largely favored public institutions, with the only exception being in 2019, when a higher proportion of women earned their PhDs from private institutions. Despite this outlier, the overall trend continues to show a higher proportion of female PhD graduates emerging from public economics programs.

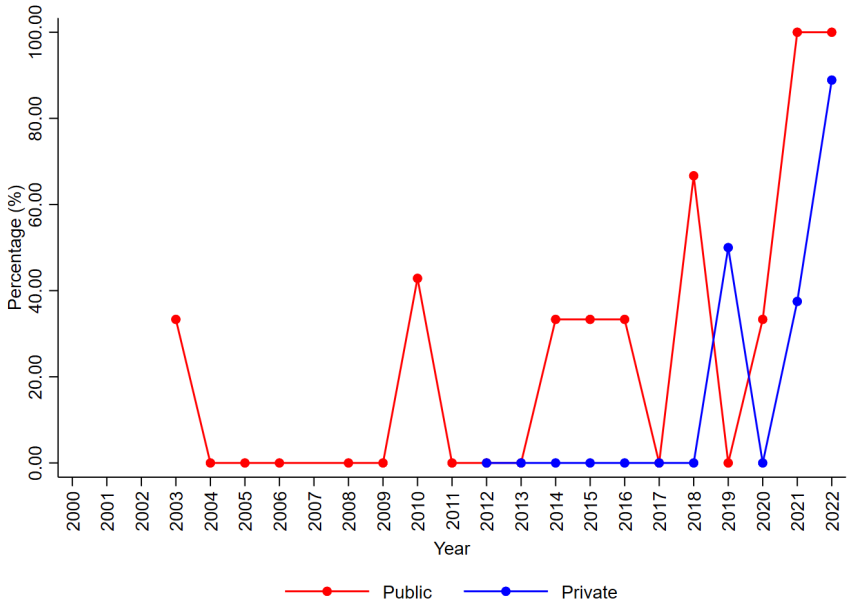

Figure 20: Percentage of women graduated in a PhD in Economics by Type of Institution

Figure 21, which presents the proportion of female PhD graduates by region, highlights a significant trend in the Andean region. The increasing proportion of female graduates over time suggests a positive development in female participation in PhD programs in this region. This growth may be partly attributed to the availability and accessibility of a larger number of doctoral programs in the Andean region, providing women with more opportunities to pursue advanced studies. Additionally, the financial support and resources available in the region may have played a key role in facilitating women's access to these programs, further contributing to the rise in female PhD graduates.

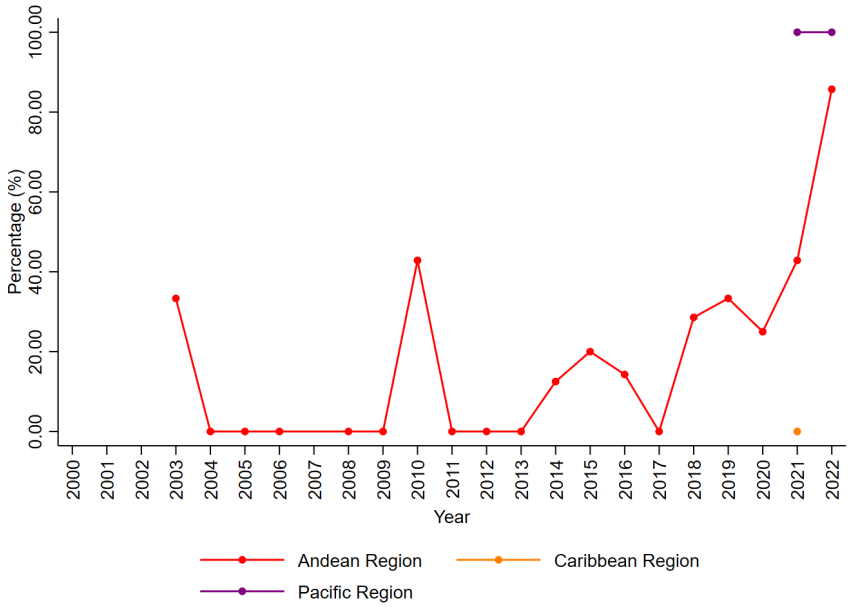

Figure 21: Percentage of women graduated in a PhD in Economics by Region

Figure 22 highlights significant trends in the proportion of female PhD graduates, examining both the region and the type of institution. In the Andean region, public institutions show a higher proportion of female PhD graduates, suggesting that these institutions have provided an enabling environment for women's academic advancement at the doctoral level. This could be linked to gender equality policies, access to resources, and support programs available in public institutions.

In contrast, private institutions have seen a notable increase in the proportion of female PhD graduates from 2020 onwards. This shift may be attributed to the implementation of inclusion policies and an expansion in the availability of PhD programs in private institutions.

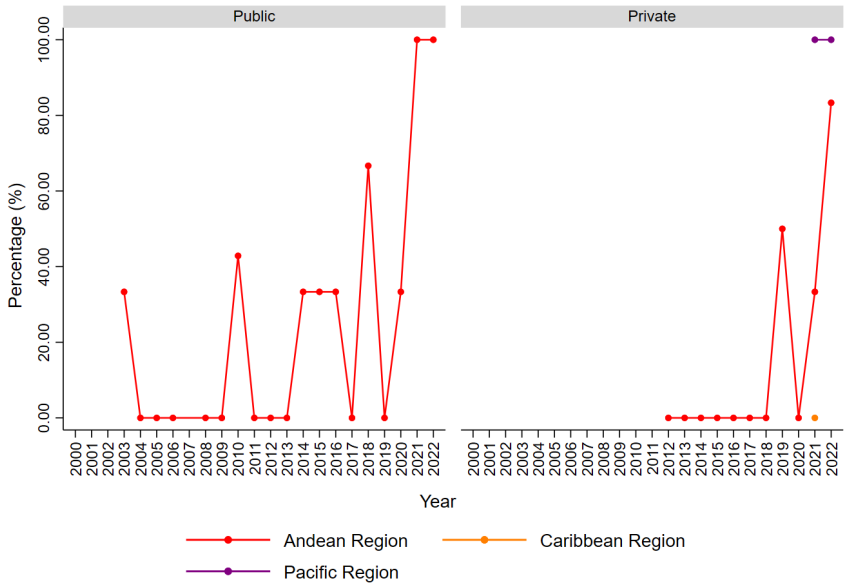

Figure 22: Percentage of women graduated in a PhD in Economics by Region and Institution Type

4 Comparative Analysis: Economics, Related Fields, and STEM

In this section, a comparative analysis is conducted on female participation in enrollment and graduation in the field of Economics, comparing it to related disciplines and STEM areas (Science, Technology, Engineering, and Mathematics). By zooming in on the field of Economics, trends in enrollment and graduation across different educational levels (undergraduate, master's, and doctoral) are examined, providing a detailed perspective on the key similarities and differences in female representation.

The focus is on identifying specific patterns in enrollment and graduation behavior in Economics compared to related fields and STEM, also considering factors such as the type of institution (public or private) and regional variations. This analysis not only contextualizes the position of Economics within the broader academic spectrum but also highlights existing gender gaps and the challenges that persist in each area. The findings in this section aim to contribute to the design of more effective policies that promote greater equity and inclusion across all academic disciplines analyzed.

4.1 Enrrolled

4.1.1 Undergraduate Students

The analysis of enrollments in Figure 23 highlights significant differences in female participation in undergraduate programs in Economics and related fields during the period 2000-2022. In Economics, the proportion of women has remained relatively stable, averaging around 40%, although a slight downward trend can be observed since 2010. In contrast, related fields initially show higher female representation, close to 60%, but experience a decline after 2006, stabilizing at around 50% in more recent years.

The gap between the two categories has been consistent over time, with female representation in Economics being lower. This trend could be linked to social perceptions that associate Economics with a more competitive and technical environment, while related fields may be perceived as more inclusive or aligned with social and administrative interests. Additionally, factors such as vocational orientation, program accessibility, or professional expectations could influence women's academic choices.

The decline in female enrollment in Economics after 2010 suggests possible persistent barriers or the lack of effective policies to promote women's participation in this field. Meanwhile, although related fields maintain higher levels of representation, their stabilization at lower levels compared to earlier years indicates that structural challenges still exist, limiting progress toward greater gender equity in both categories.

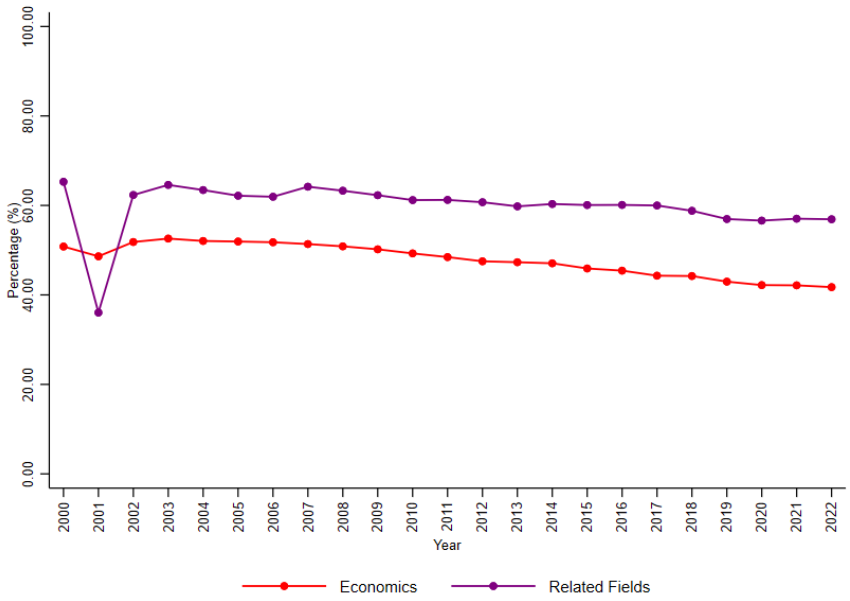

Figure 23: Percentage of women enrolled in Economics and Related Fields

When analyzed by sector, Figure 24 shows that in public institutions, the proportion of women enrolled in Economics has remained close to 40%, while in related fields it reached levels near 60% in the early years, stabilizing around 50% in more recent years. In private institutions, the trend is similar: women represent about 40% in Economics, with a more pronounced decline after 2010, whereas in related fields, despite a slight decline, the female proportion remains around 50%. These differences reflect a persistent gap between Economics and related fields in both sectors, suggesting the existence of specific barriers to the inclusion of women in Economics, regardless of the type of institution.

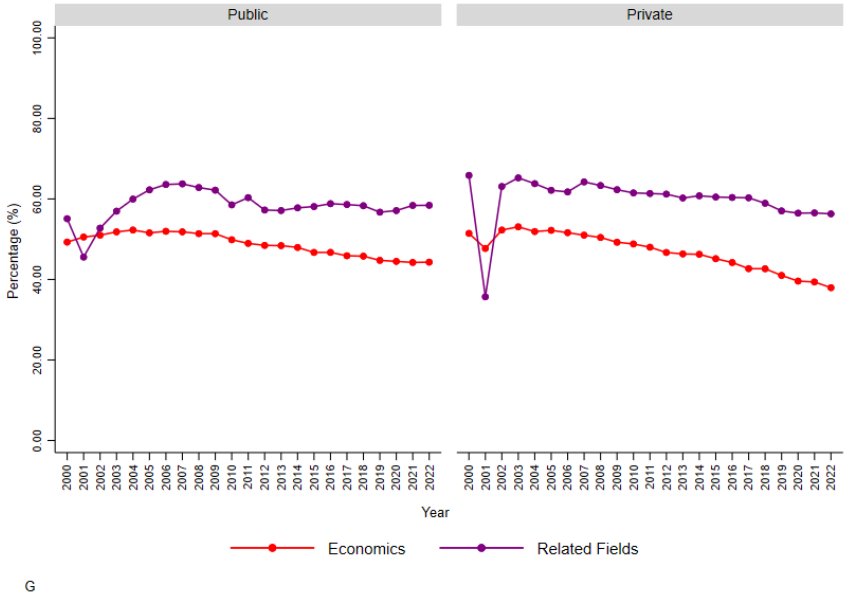

Figure 24: Percentage of women enrolled in Economics and Related Fields by sector

When analyzed by region, Figure 25 shows that female participation in Economics remains close to 40%, with variations across regions. The Orinoquía region stands out with a slightly higher proportion compared to the other regions, while the Andean region shows a consistent decline. In related fields, women have higher representation, close to 60% in the early years, stabilizing around 50% across all regions toward the end of the period. These differences reflect a persistent gap between Economics and related fields, underscoring the need for strategies that address the specific characteristics of each region to promote greater female inclusion in Economics.

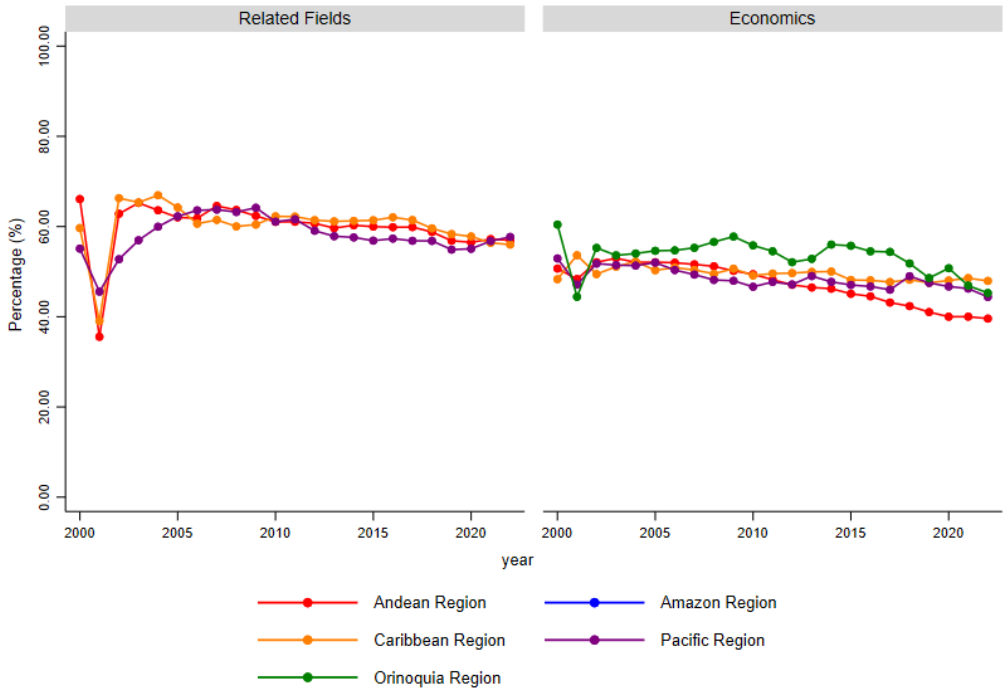

Figure 25: Percentage of women enrolled in Economics and Related Fields by region

Now, Figure 26 highlights a significant and consistent gap in female participation between Economics and related fields compared to STEM areas. In Economics and related fields, female representation starts at around 50% in 2001, with a slight decline that places it at approximately 45% by 2022. In contrast, STEM areas show considerably lower levels, stabilizing at around 25% throughout the analyzed period.

These differences reflect specific challenges in each category. While Economics and related fields have achieved more balanced gender figures, STEM areas face structural barriers that significantly limit female participation. This analysis underscores the importance of implementing targeted strategies to promote inclusion in STEM, while also consolidating progress in Economics and related fields to achieve greater gender equity.

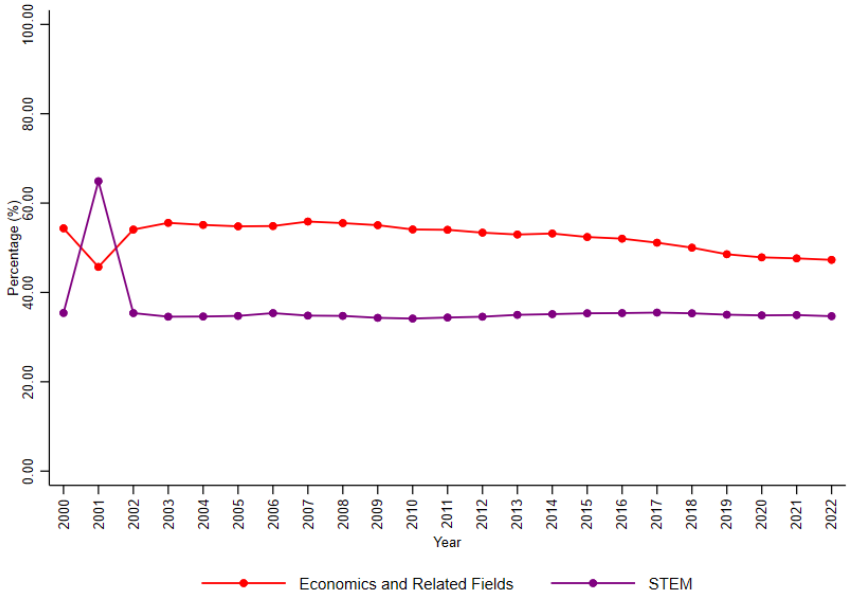

Figure 26: Percentage of women enrolled in Economics, Related Fields and STEM

Female participation in Economics and STEM programs, by type of institution, reveals significant differences between public and private universities, as shown in Figure 27. In public universities, female representation in Economics and related fields has shown a downward trend, decreasing from approximately 50% in 2001 to around 45% in 2022. In STEM areas, women's participation has remained low and relatively stable, at around 30% during the same period.

In private universities, the proportion of women in Economics and related fields has been slightly higher, starting at around 60% and declining to approximately 50% in 2022. In STEM areas, although female representation is somewhat higher than in public universities, it remains limited, stabilizing at around 30%. Despite these differences between public and private institutions, STEM areas consistently show low female participation, reflecting significant structural barriers. In Economics and related fields, while private universities display initially higher figures, the downward trend underscores the need to strengthen efforts to ensure greater gender equity in a sustainable way across both sectors.

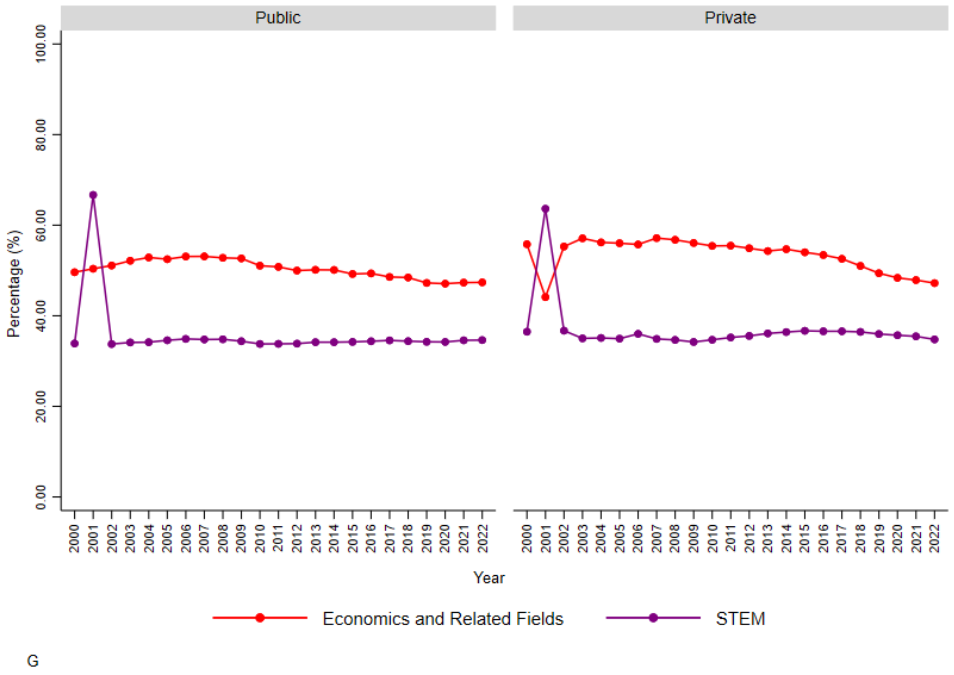

Figure 27: Percentage of women enrolled in Economics, Related Fields and STEM by sector

The differences in female representation between Economics and STEM, analyzed by region, reveal interesting patterns, as shown in Figure 28. In Economics and related fields, female participation fluctuates between 50% and 60%, remaining stable across all regions during the analyzed period. This consistency suggests greater female inclusion compared to STEM.

In contrast, in STEM fields, female participation is significantly lower, ranging between 30% and 40%, with variations depending on the region. The Amazon region stands out for exhibiting higher peaks of participation and greater variability, while the Andean, Caribbean, Orinoquía, and Pacific regions maintain consistently low and stable levels, with no significant changes over time. This analysis highlights not only the persistent gap between disciplines but also the influence of regional context on female representation, particularly in STEM, where some regions, like the Amazon, exhibit unique dynamics that warrant further investigation.

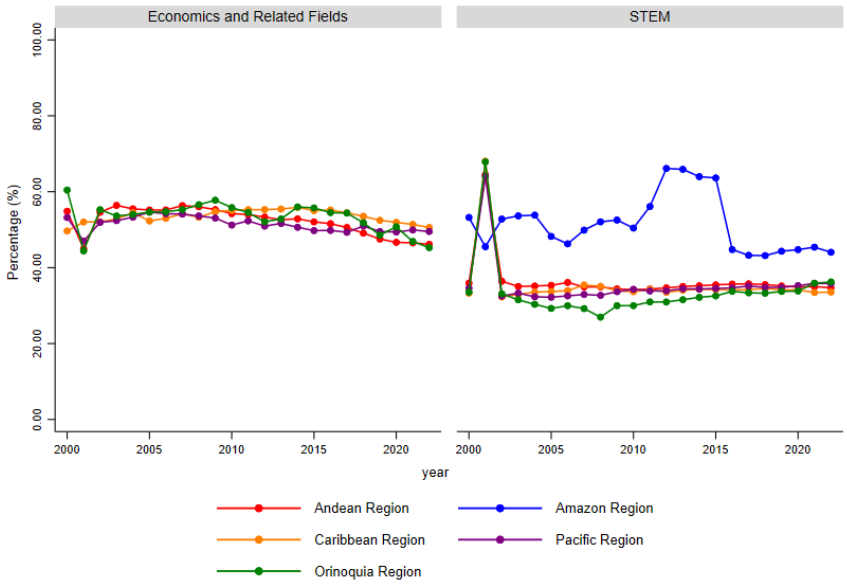

Figure 28: Percentage of women enrolled in Economics, Related Fields and STEM by region

4.1.2 Master's Students

Now, the patterns of female enrollment in master's programs in Economics and related fields will be analyzed, as shown in Figure 29. During the analyzed period, the participation of women in Economics programs remains relatively stable, ranging between 25% and 30%. In contrast, related fields show higher female representation, reaching levels between 40% and 50%, although with a more fluctuating trend, particularly in the early years of the observed period.

This notable difference in the proportion of enrolled women reflects the unique characteristics of each discipline. While related fields appear to attract a higher proportion of women due to factors that may include a more interdisciplinary or less technical focus, Economics programs, although more stable, consistently show a lower female proportion.

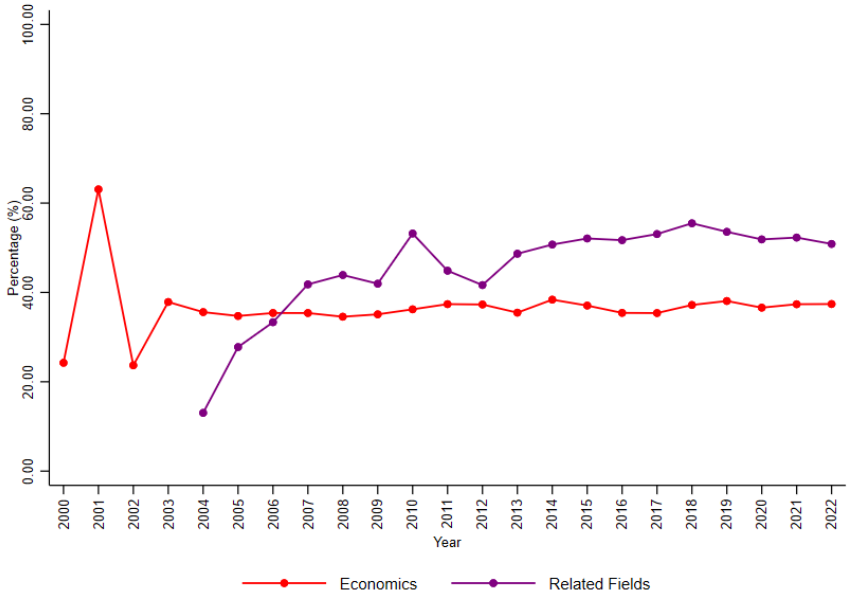

Figure 29: Percentage of Women Enrolled in Master's Programs in Economics and Related Fields

Female participation in master's programs, analyzed by sector in Figure 30, reveals differences between public and private universities. In public universities, female representation in Economics fluctuates between 30% and 40%, showing irregular behavior with a slight downward trend. In related fields, the figures are higher, ranging from 40% to 60%, although they also present considerable variations, reflecting some instability in both categories.

In private universities, however, there is more stability and an upward trend, particularly in Economics. Female participation starts at around 35% in the early years and reaches approximately 40% by the end of the period. In related fields, the figures remain between 40% and 60%, with greater consistency and fewer fluctuations compared to public institutions. This analysis highlights that, while private universities demonstrate stability and growth in female representation in Economics, public universities face greater variability. These differences suggest the need to identify and replicate the successful dynamics of the private sector to promote greater female inclusion in master's programs, particularly in Economics, within the public sector.

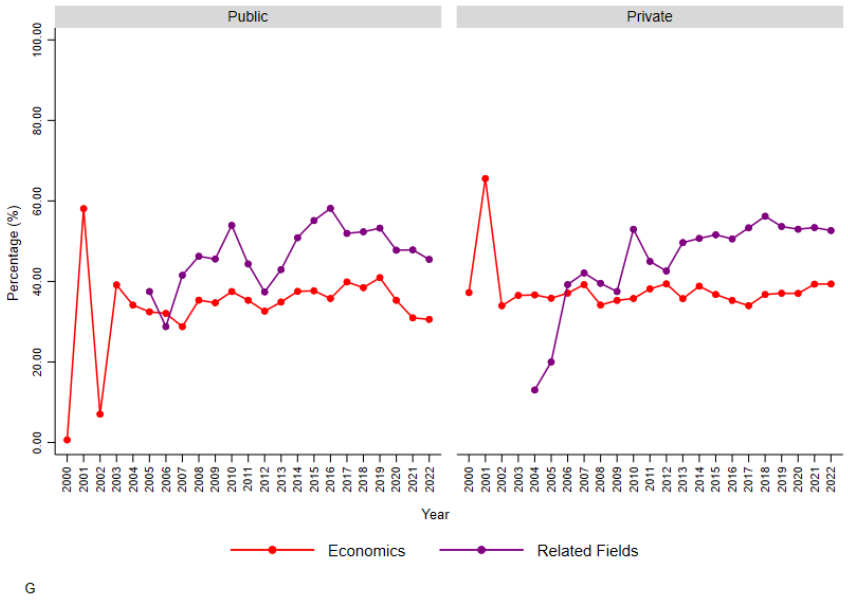

Figure 30: Percentage of Women Enrolled in Master's Programs in Economics and Related Fields by sector

In the regional analysis of female participation in master's programs, Figure 31 highlights significant differences between Economics and related fields. In Economics, the Andean region stands out for its relative stability, with levels ranging between 30% and 40% throughout the analyzed period. In contrast, the Caribbean and Pacific regions show greater variability in female representation. Notably, no women are enrolled in master's programs in the Amazon and Orinoquía regions during the studied period.

In related fields, female participation is higher compared to Economics, ranging between 35% and 60% in all regions with available data. However, as in Economics, no women are enrolled in the Amazon and Orinoquía regions.

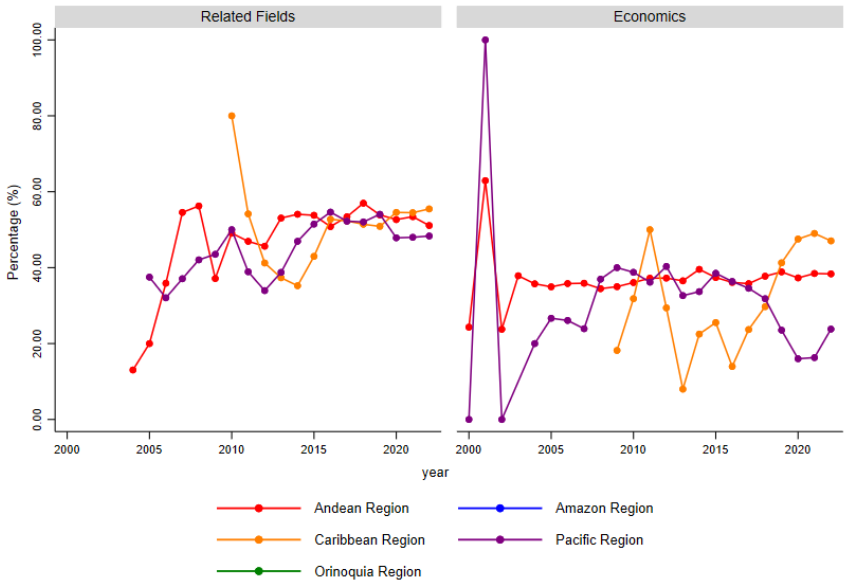

Figure 31: Percentage of Women Enrolled in Master's Programs in Economics and Related Fields by region

When comparing female participation in master's programs in Economics, related fields, and STEM, as shown in Figure 32, clearly differentiated patterns emerge. In Economics and related fields, female representation shows an upward trend, fluctuating between 35% and 50% over time.

In contrast, in STEM areas, female representation is lower, although it shows gradual improvement, stabilizing between 30% and 35% in recent years. This graph highlights a persistent gap between Economics and related fields on one hand, and STEM on the other, with higher female participation in the former areas compared to STEM. These results underscore the need to implement specific strategies to promote greater female inclusion in master's programs in these fields.

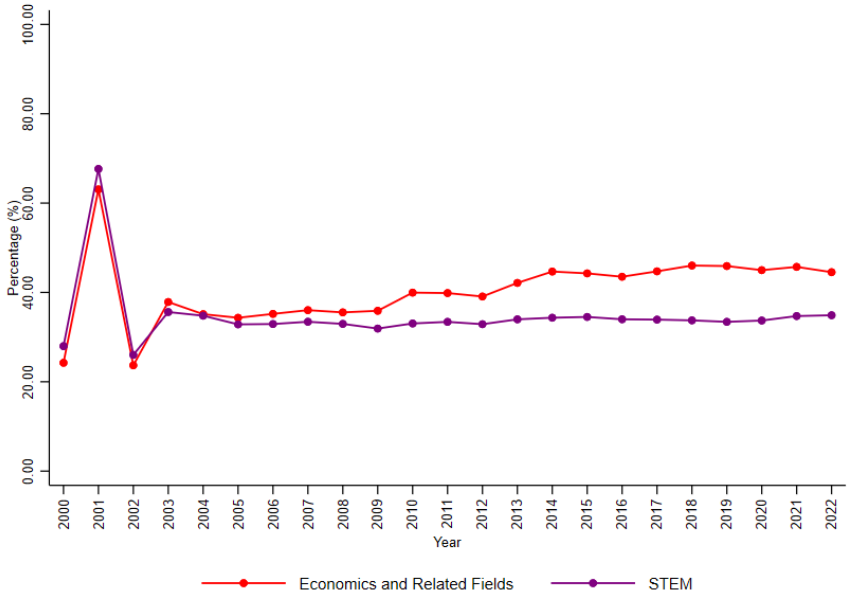

Figure 32: Percentage of Women Enrolled in Master's Programs in Economics, Related Fields and STEM

Figure 33 provides a more detailed analysis by distinguishing between public and private institutions, allowing for a clearer understanding of the disparities in female participation in master's programs in Economics, related fields, and STEM. In public institutions, the representation of women in Economics ranges between 35% and 45% in 2022, while in STEM it is considerably lower, remaining between 30% and 35% during the same period, with a moderate gap between the two fields in that year. In private institutions, the trend in Economics follows a similar pattern, with a steady increase from 35%-45% in 2000 to nearly 50% in 2022, showing a more pronounced growth compared to public institutions. On the other hand, in STEM, female participation in private institutions remains consistently low and stable, around 25%-30% throughout the period, highlighting a more significant gap compared to Economics. These findings emphasize the persistent gender inequality in STEM and the higher female representation in Economics and related fields, reinforcing the need to develop specific policies to promote a more equitable inclusion of women.

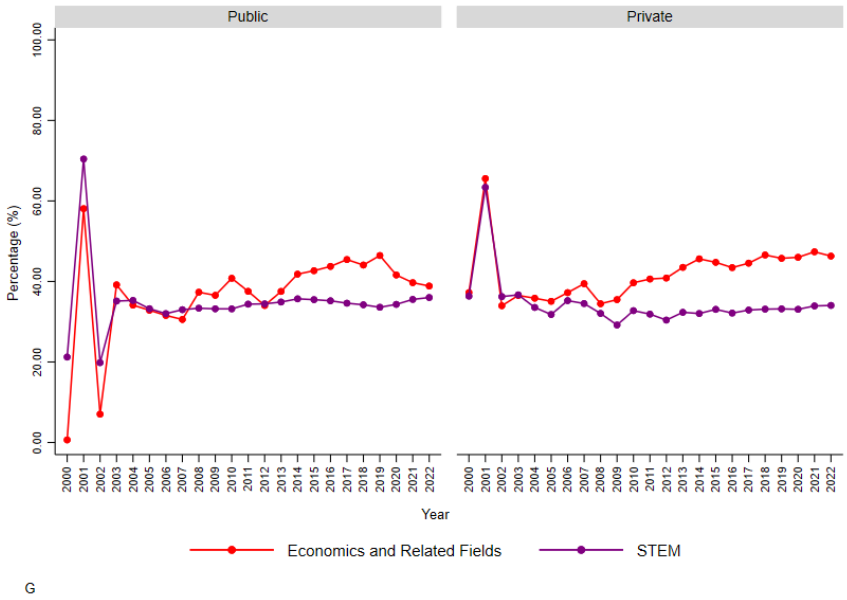

Figure 33: Percentage of Women Enrolled in Master's Programs in Economics, Related Fields and STEM by sector

Continuing with the previous analysis, Figure 34 presents a regional breakdown of female participation in master's programs in Economics, related fields, and STEM, highlighting significant disparities across geographic regions. In Economics and related fields, regions show an upward trend in women's participation, with percentages ranging from 35% to 60%, depending on the region. However, no female enrollment in master's programs is observed in the Orinoquia and Amazonia regions, limiting the analysis in these areas. In contrast, in STEM, female participation remains consistently low in most regions, generally below 40%. Nevertheless, the Amazon Region stands out with an atypical pattern, showing relatively high participation levels compared to other regions, warranting further analysis. These findings highlight the importance of addressing gender gaps with a regional approach that fosters women's inclusion in master's programs, especially in areas where their representation is absent or limited.

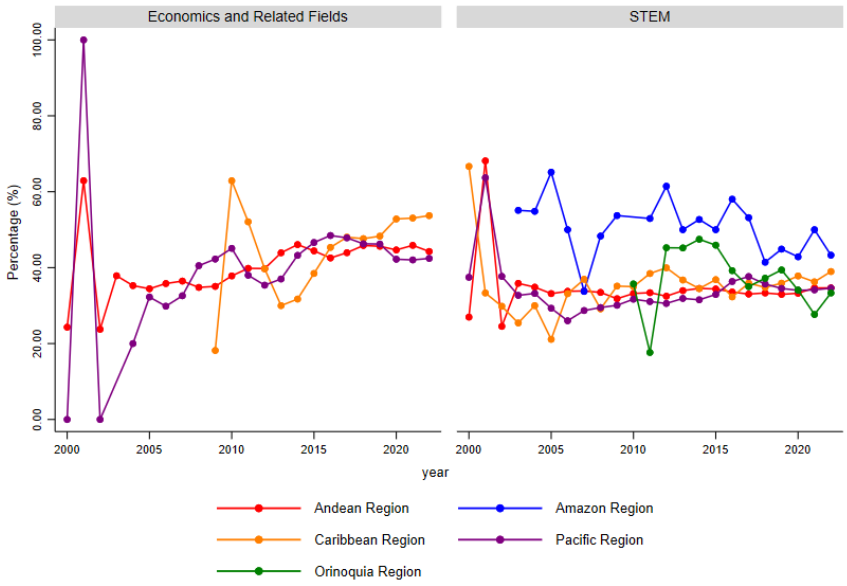

Figure 34: Percentage of Women Enrolled in Master's Programs in Economicsand Related Fields and STEM by region

4.1.3 PhD Students

Continuing the previous analysis of female participation in master's and undergraduate programs in Economics and related fields, it is essential to explore the dynamics at the doctoral level. This analysis is crucial, as doctoral programs represent the highest educational level and play a key role in generating knowledge and shaping academic and professional leaders. Comparing trends across different educational levels allows for identifying patterns of inclusion and potential barriers that limit women's access to the highest spheres of education.

Figure 35 shows the evolution of the percentage of women enrolled in doctoral programs in Economics and related fields between 2000 and 2022. In the case of Economics, female participation remains fluctuating, ranging between 15% and 40%, without sustained growth over time. On the other hand, the data available since 2018 for related fields reflect similar levels, with percentages around 30%-40% and a slight convergence with the values observed in Economics.

When comparing these trends with the master's and undergraduate levels, it is evident that the doctoral level exhibits a distinct dynamic. At the lower levels, gradual increases in female participation have been observed, reaching higher figures over time. However, at the doctoral level, women's representation appears to stagnate within a moderate range, indicating that barriers become more pronounced as one progresses

through the educational system.

Among the most notable aspects of this chart is the lack of sustained growth in female participation in doctoral programs, in contrast to the progress observed in master's and undergraduate levels. Additionally, in both Economics and related fields, female participation levels have converged in recent years, suggesting that structural barriers are similar across both groups. Finally, the slight decline in female participation in Economics since 2017 is striking, potentially reflecting contextual factors that discourage continued education at this level.

This analysis highlights specific challenges that limit women's representation at the highest level of education. It underscores the need to implement strategies that not only promote access to initial levels but also foster the retention and success of women in doctoral programs, particularly in disciplines such as Economics and related fields, where their presence remains limited.

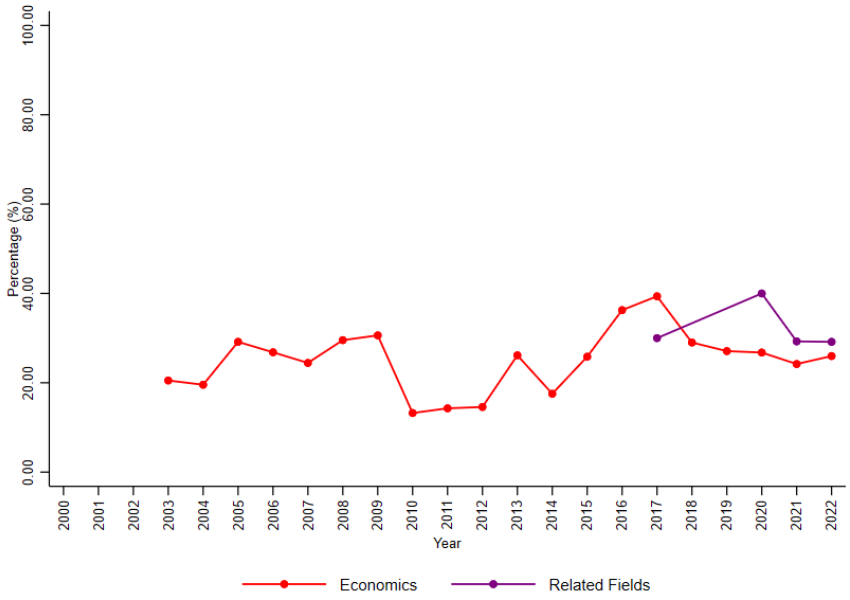

Figure 35: Percentage of women enrolled in PhD program in Economics and Related Fields

Continuing with the analysis of the doctoral level, Figure 36 reveals key differences in female participation based on the type of institution. In public institutions, the data show that the available doctoral programs are exclusively in Economics, with fluctuating female participation. This percentage peaks at nearly 60% in 2016 but later declines, stabilizing around 20%-25% in 2022.

In contrast, private institutions offer programs in both Economics and related fields, although data on the latter is recent, beginning in 2013. Female participation in related fields within private institutions is slightly higher, reaching 40%-45% in 2020, while in Economics, it remains around 35%. However, overall, female representation is lower in private institutions compared to public ones.

These findings highlight that, although private institutions have recently started offering more diverse options, they still face challenges in achieving female participation levels comparable to those observed in public institutions.

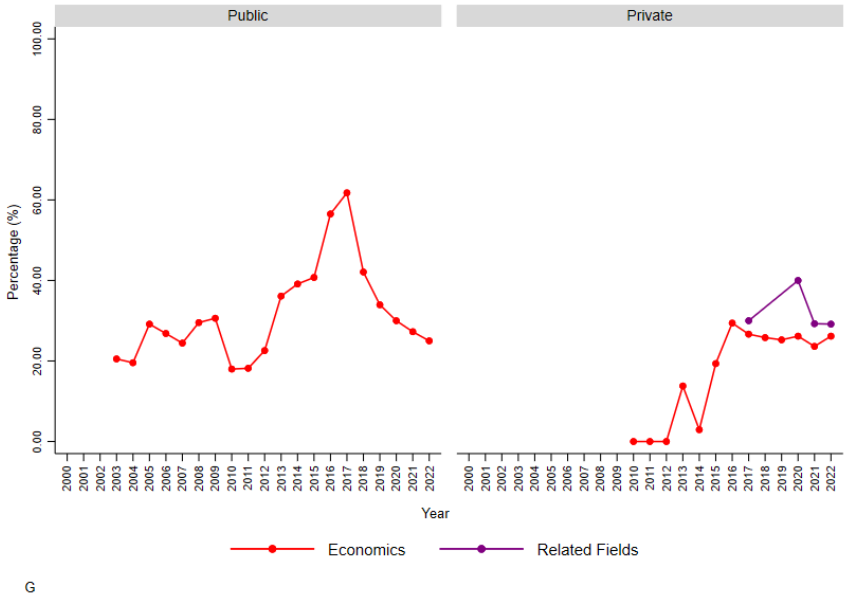

Figure 36: Percentage of women enrolled in PhD program in Economics and Related Fields by sector

Figure 37 analyzes female participation in doctoral programs in Economics and related fields, broken down by geographic regions. This analysis complements previous observations, highlighting significant differences between regions and disciplines, as well as the limited availability of information in certain cases.

In the case of doctoral programs in Economics, the Andean Region stands out for having the most consistent and highest levels of female participation, peaking at nearly 60% around 2017, though with a declining trend in subsequent years. Meanwhile, the Caribbean and Pacific regions show more recent trends, with percentages ranging between 10% and 40%. Notably, the Caribbean Region has surpassed the Andean Region

in female participation over the past three years, establishing higher levels compared to the latter's declining trend. It is important to note that there is no female participation in doctoral programs in Economics in the Amazon and Orinoquia regions, which could be attributed to the absence of academic programs in these areas or barriers limiting access.

In related fields, the data is even more limited and recent, starting from 2015. The available information pertains exclusively to the Andean Region, where female participation ranges between 30% and 45%. No data is observed for other regions, which could be attributed to a restricted or non-existent academic offering of doctoral programs in related fields outside the Andean Region.

This reflects key differences that highlight the strong concentration of female participation in the Andean Region, both in Economics and related fields. It evidences a centralization of academic offerings in this region, while regions such as the Amazon and Orinoquia show no levels of female participation, which could indicate structural inequalities in access to doctoral programs and advanced educational opportunities.

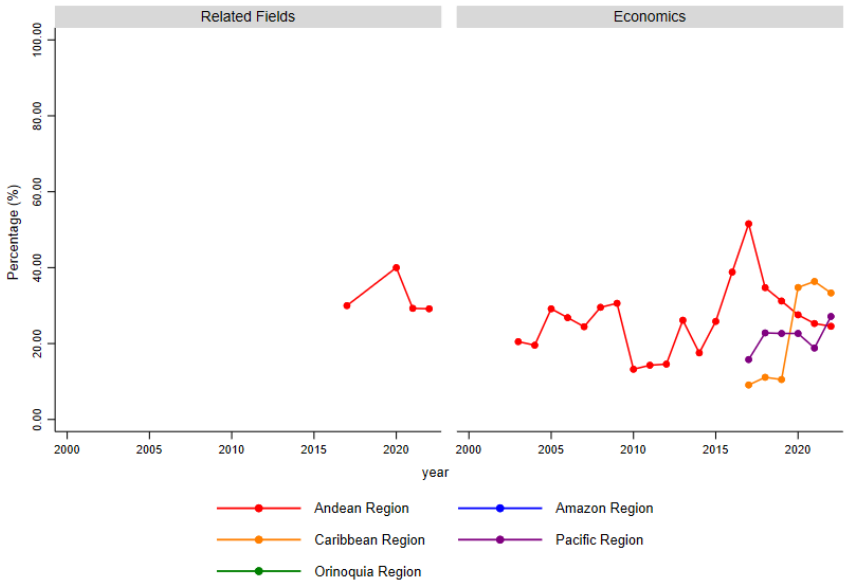

Figure 37: Percentage of women enrolled in PhD program in Economics and Related Fields

Continuing with the analysis of the doctoral level, Figure 38 shows that female participation in STEM is consistently higher than in Economics and related fields. In STEM, the values stabilize between 30% and 40% from 2002 to 2022, while in Economics and related fields, they fluctuate between 15% and 40%, with more pronounced variations.

This comparison highlights that STEM has achieved higher and more stable levels of female participation, although both fields remain far from achieving parity. These results emphasize the need for differentiated strategies to promote female inclusion, especially in Economics and related fields, where representation shows greater instability.

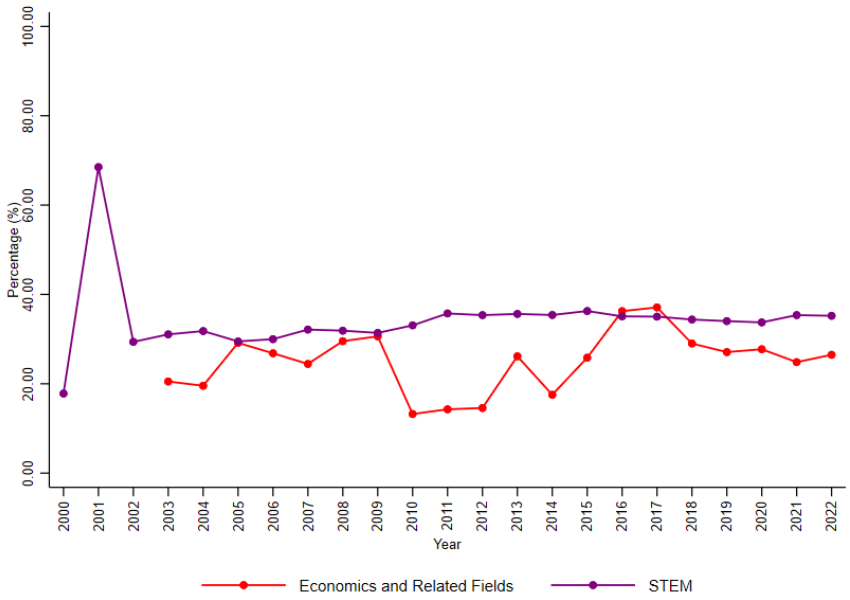

Figure 38: Percentage of women enrolled in PhD program in Economics, Related Fields and STEM

Analyzing female participation in doctoral programs by sector, Figure 39 reveals significant differences between public and private institutions in the areas of Economics, related fields, and STEM. In public institutions, female representation in Economics peaked at 60% in 2017 but declined to 20% in 2022. In contrast, in STEM, participation remained more stable, fluctuating between 30% and 40%.

In the private sector, female participation in Economics began to increase from 2014, stabilizing around 25%. Meanwhile, in STEM, female representation has consistently been higher, ranging between 35% and 40%. These differences highlight the need for sector-specific policies to promote greater female inclusion, with particular attention to improving representation in Economics.

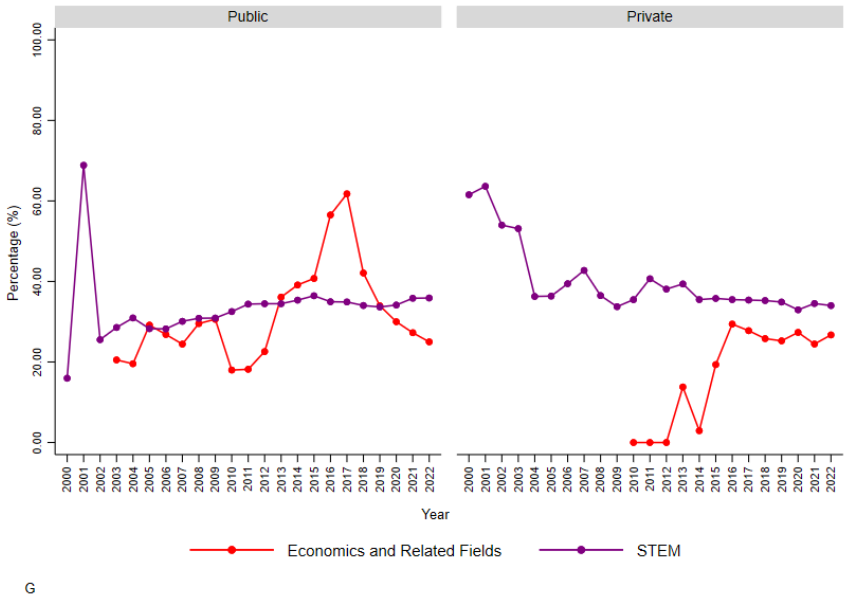

Figure 39: Percentage of women enrolled in PhD program in Economics, Related Fields and STEM by sector

Figure 40 shows significant differences in female participation in doctoral programs in Economics, related fields, and STEM across regions. In Economics, the Andean Region maintains historically high participation, reaching peaks close to 50% in 2017 but experiencing a sharp decline, stabilizing around 30% in recent years. This trend reflects a possible lack of sustainability in inclusion policies. On the other hand, the Caribbean Region stands out for steady growth, surpassing the Andean Region in recent years and reaching levels of 35%-40%, indicating positive change in this area. In contrast, the Pacific Region shows considerably lower levels, fluctuating between 10% and 20%, suggesting deeper structural barriers in these areas.

In STEM, the Amazon Region shows a notable trend with consistently higher levels, ranging between 40% and 60%, while other regions display more homogeneous participation, with values not exceeding 40%. This trend suggests that STEM has achieved relatively better progress in terms of female inclusion, although significant disparities between regions remain.

These results highlight the need for region-specific strategies that not only promote female access to doctoral programs in Economics and STEM but also address the specific barriers faced by the most disadvantaged regions. In particular, it is essential to strengthen the availability of doctoral programs and inclusion policies in regions such as the Pacific and Caribbean, where female representation remains low and faces structural challenges.

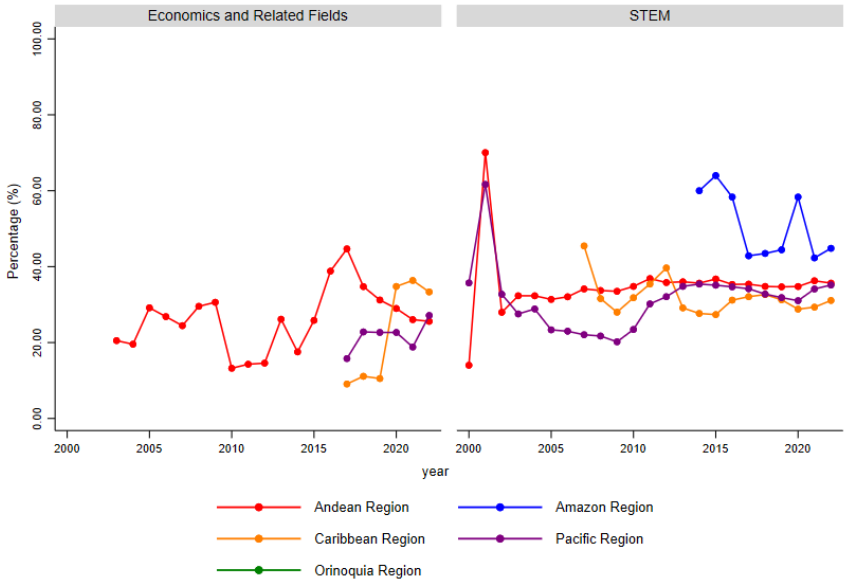

Figure 40: Percentage of women enrolled in Economics, Related Fields and STEM by region

4.2 Graduates

After analyzing enrollments in the fields of Economics, related disciplines, and STEM areas, it is essential to focus on the analysis of the percentage of female graduates at different academic levels: undergraduate, master's, and doctoral. This approach is crucial because graduation rates not only reflect the initial interest of students but also the ability of women to complete their studies at each of these levels. Analyzing the percentage of female graduates at each level provides critical information about the factors that affect their persistence and academic success, revealing potential gender gaps that go beyond mere access to education.

While enrollments show the initial distribution of students, analyzing the percentage of graduates at different academic levels helps identify specific barriers that may influence the completion of studies. Factors such as gender discrimination, economic difficulties, lack of institutional support, or the absence of female role models can negatively impact the graduation rate of women at all levels, despite high female enrollment.

Therefore, by focusing on the percentage of female graduates at undergraduate, master's, and doctoral levels, we can gain a clearer understanding of retention and completion dynamics at these levels in fields such as Economics, related areas, and STEM. This is

essential for designing educational policies that promote equity and encourage the participation and academic success of women in these key disciplines.

4.2.1 Graduated in Economics

An analysis of the percentage of women graduating in Economics and related fields reveals a clear disparity. While female representation in related fields remains high, ranging from 65% to 75%, in Economics, it is significantly lower, fluctuating between 45% and 55%. This persistent gender gap underscores the additional challenges women face in successfully completing their studies in Economics.

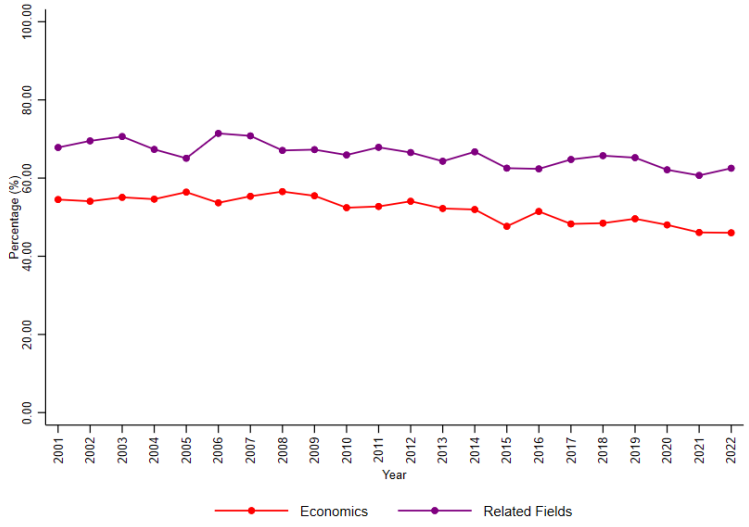

Figure 41: Percentage of women graduated in Economics and Related Fields

Comparing the percentage of women graduating in Economics and related areas with STEM programs shows that female participation in Economics and related areas remains high, fluctuating around 60%, while in STEM fields it is considerably lower, hovering around 40% (Figure 42). Although both trends are relatively stable over time, a persistent gap between the two groups is evident, underscoring the underrepresentation of women in STEM disciplines and the structural challenge facing women in STEM careers.

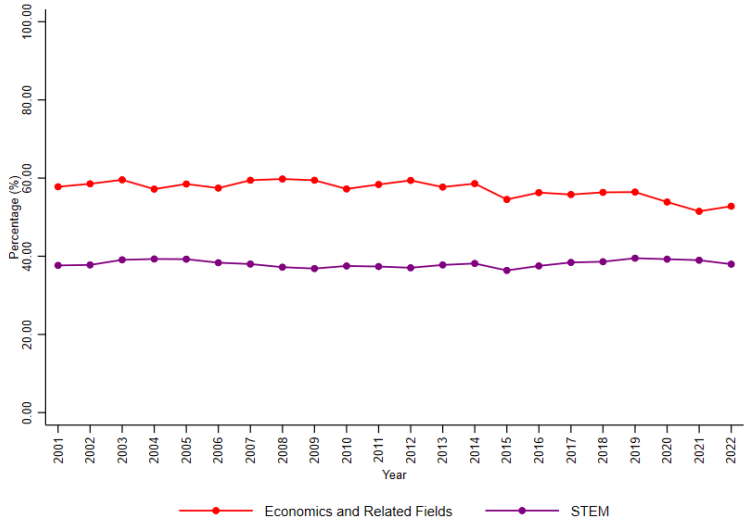

Figure 42: Percentage of women graduated in Economics and Related Fields

Complementing the previous analysis, the new chart breaks down the percentage of women graduating in Economics and related fields by type of institution, distinguishing between public and private institutions. In public institutions, the proportion of women graduating in related fields is consistently higher, exceeding 60% during most of the analyzed period, while in Economics it remains around 45% (Figure 43). In private institutions, a similar trend is observed, although there is a downward trend for both groups.

Both sectors show relative stability in trends over time, but a persistent gap between Economics and related fields is evident in both categories of institutions. However, public institutions exhibit greater initial variability in related fields, whereas private institutions show more consistent differences. This highlights that the type of institution influences female graduation rates, although the disparity between Economics and related fields persists in both contexts. This overview underscores the importance of implementing targeted strategies to encourage a higher number of graduates in Economics, both in public and private institutions, to reduce this gender gap.

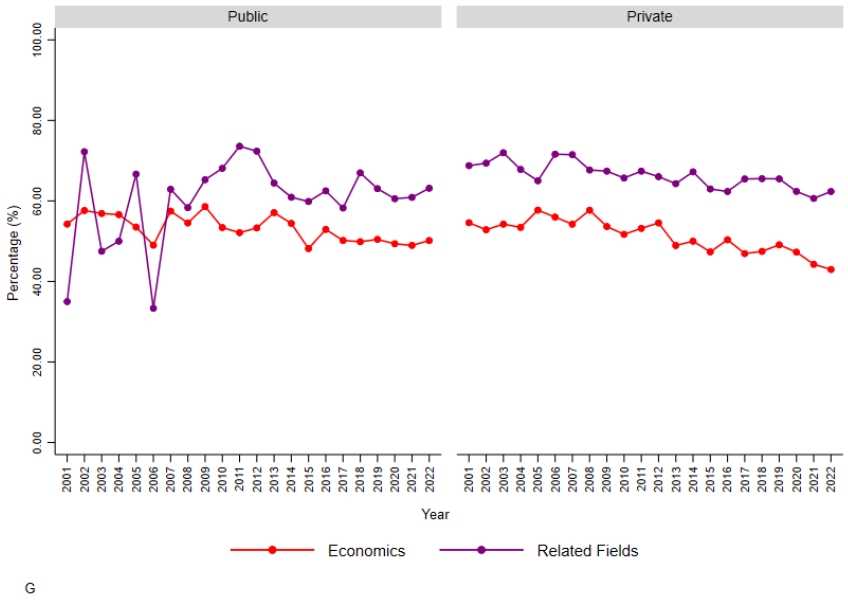

Figure 43: Percentage of women graduated in Economics and Related Fields by sector

Continuing with the analysis, the new graph compares the percentage of women graduating in Economics and related fields versus STEM fields, broken down by type of institution: public and private. In both types of institutions, the previously observed trend is maintained, where women graduating in Economics and related fields have higher representation, around 50%, compared to STEM, where the percentage ranges between 35% and 40% (Figure 44).

In public institutions, the proportion of women graduating in both fields shows relative stability over time, with slight fluctuations in Economics and related fields. In private institutions, the stability is even more pronounced, with consistent differences between the two groups. This reinforces the persistence of the gender gap in STEM compared to Economics and related fields, regardless of the type of institution.

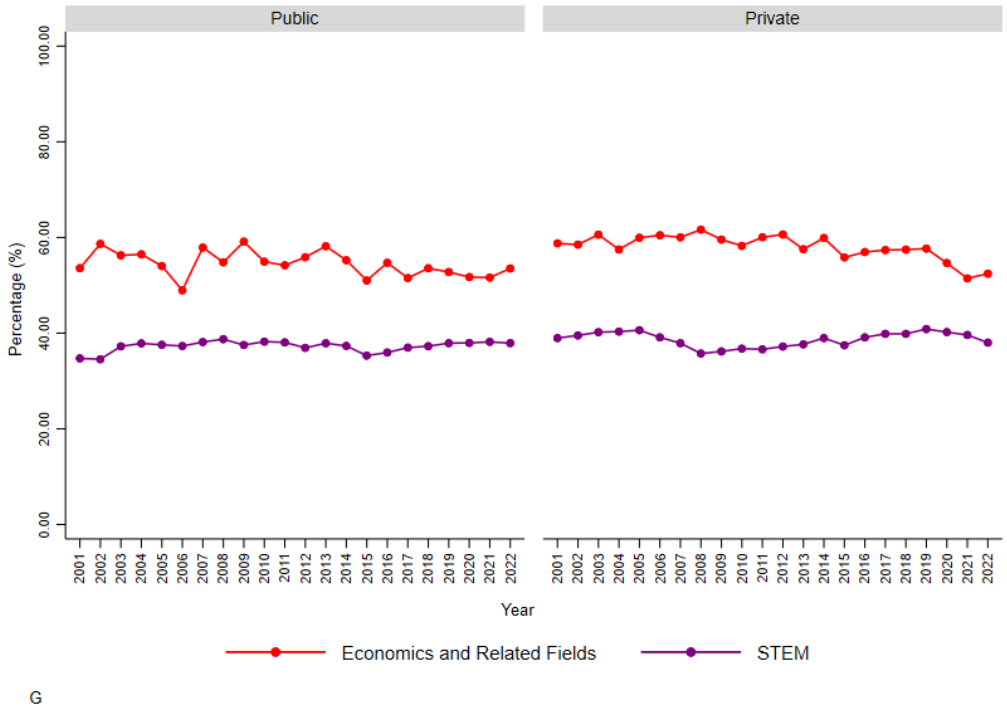

Figure 44: Percentage of women graduated in Economics and Related Fields by sector

The regional distribution of women graduates in Economics and related fields reveals significant inequalities that deserve further analysis. Figure 45 highlights how trends and data stability vary significantly across regions, providing a comprehensive overview of female participation in these academic areas.

In related fields, the percentage of women graduates varies considerably across regions. The Andean region shows relatively stable performance, with values close to 60%, while the Caribbean and Pacific regions exhibit broader fluctuations, with percentages ranging between 60% and 80%. In contrast, the Amazon and Orinoquía regions lack available data, which could reflect lower representation or limitations in data collection.

In the specific category of Economics, the percentages of women graduates are more consistent. The Orinoquía region stands out, reaching values between 60% and 70% in certain years, surpassing other regions. The Andean, Caribbean, and Pacific regions display greater uniformity, generally ranging between 50% and 60%. However, the Amazon region continues to show limited representation in the data, making detailed analysis more challenging.

Overall, the analysis reflects significant regional variability. More urbanized regions,

such as the Andean and Caribbean regions, exhibit more consistent percentages, likely due to greater educational opportunities and access to higher education. On the other hand, peripheral regions, such as the Pacific, show more pronounced fluctuations, which could indicate inequalities in educational access. Additionally, it is important to highlight that the Orinoquía region lacks data on women graduates in related fields, underscoring a specific gap in this area.

Finally, it is concluded that related fields exhibit greater variability compared to the discipline of Economics, which could be attributed to the diversity of disciplines included in this category and their different gender dynamics. This analysis underscores the importance of promoting public policies that foster greater gender equity and educational access across all regions.

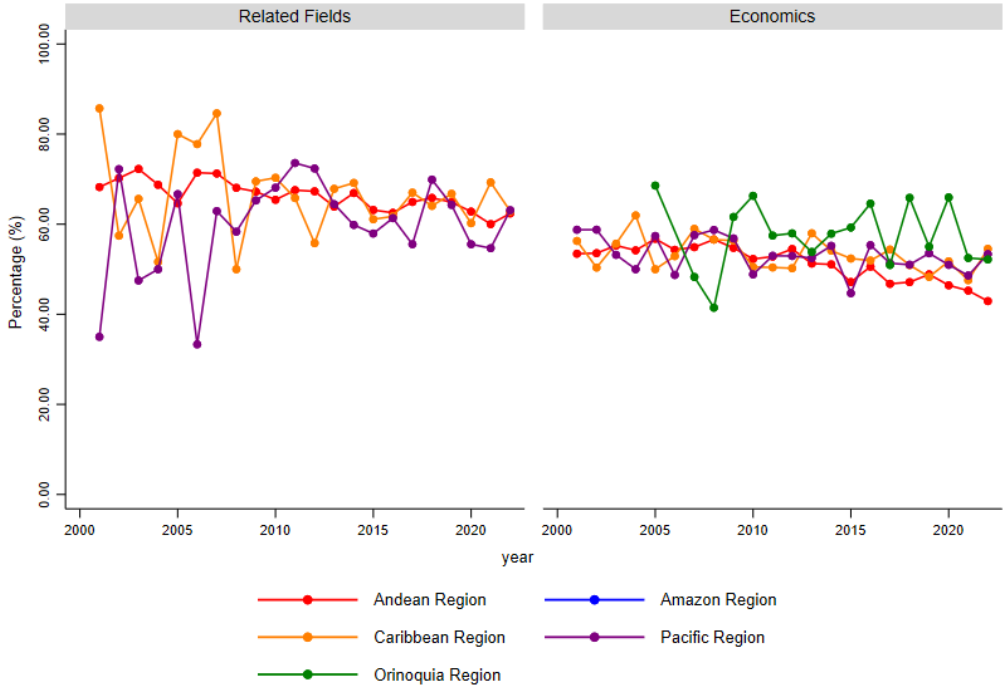

Figure 45: Percentage of women graduated in Economics and Related Fields by region

Expanding the analysis to include not only Economics and related fields but also STEM disciplines, it is observed that, in general, female participation in STEM is considerably lower and exhibits greater variability compared to Economics and related areas.In Economics and related fields, the percentages of women graduates remain relatively consistent across all regions, mostly ranging between 50% and 70%. Regional differences are smaller, showing greater uniformity compared to the previous analysis.

On the other hand, in STEM disciplines, female participation shows broader variability between regions and generally lower percentages. The Amazon region reports notably higher values compared to other regions, while the Orinoquia region consistently exhibits the lowest levels. This reflects a significant gap in access and female participation in areas traditionally dominated by men.

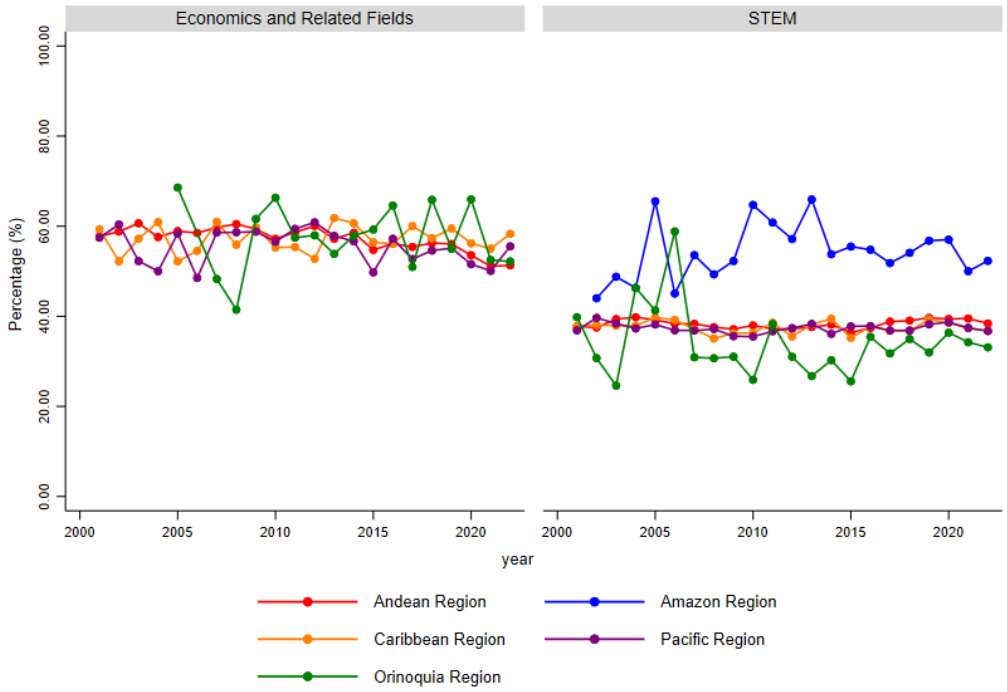

Figure 46: Percentage of women graduated in Economics, Related Fields and STEM by region

4.2.2 Master's Degrees

Between 2001 and 2022, the proportion of women with master's degrees in Economics remained around 40%, showing no significant changes over time. In contrast, related fields experienced remarkable progress: starting in 2010, female participation began to grow steadily, surpassing 50% and reaching nearly 60% by the end of the period (Figure 47).

This disparity highlights a widening gap between Economics and related fields, with the latter achieving significant advancements in female inclusion. While related fields show an upward trend, Economics remains stagnant, underscoring the need for targeted

strategies to promote greater representation of women in this discipline.

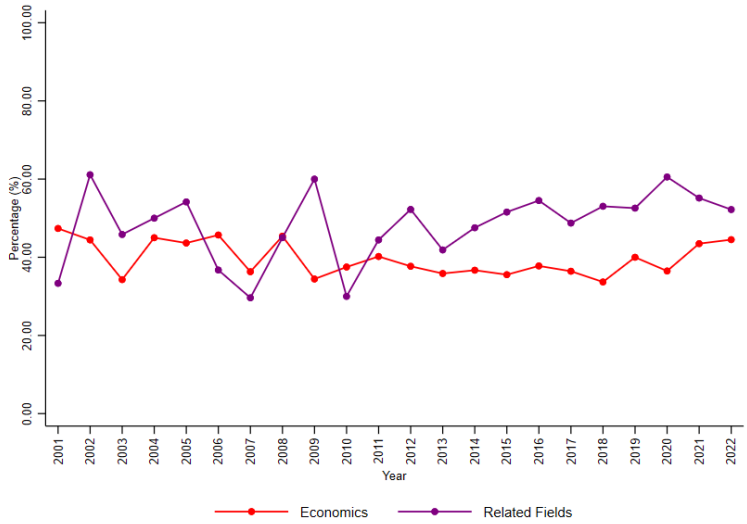

Figure 47: Percentage of Women Earnings Master's degree in Economics and Related Fields

Now, Figure 48 shows the proportion of women who obtained master's degrees in Economics and related fields compared to STEM disciplines between 2001 and 2022. Although a gender gap persists between these areas, it is considerably smaller than that observed at the undergraduate level. In Economics and related fields, female participation remains stable, ranging between 40% and 50% during the analyzed period, while in STEM, the proportion of female graduates is consistently lower, around 30%, and does not show significant growth over time. However, the difference between these two categories at the master's level is more moderate, which could indicate slightly fewer barriers to transitioning to postgraduate studies compared to the undergraduate level.

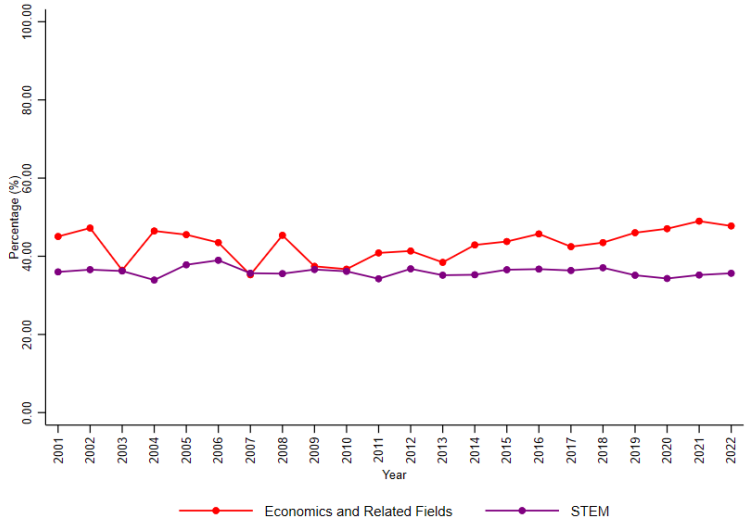

Figure 48: Percentage of Women Earnings Master's degree in Economics, Related Fields and STEM

The analysis of the proportion of women with master's degrees in Economics and related fields by sector reveals interesting patterns. In the public sector, female participation in Economics ranges between 30% and 50%, while in related fields, it shows a wider range, fluctuating between 40% and 70%. In the private sector, the percentages in Economics are more stable, remaining between 40% and 50%, while in related fields, greater variability is observed, with values ranging from 30% to 65% (Figure 49).

Compared to undergraduate studies, the percentages are lower in both groups, reflecting a decline in the proportion of women accessing postgraduate education. This could be attributed to barriers such as limited access to master's programs, associated costs, or persistent inequalities at higher academic levels. Although related fields show higher female representation, the stability of the private sector contrasts with the greater fluctuation observed in the public sector. These dynamics highlight the need to promote female participation, especially in Economics, where percentages remain consistently lower.

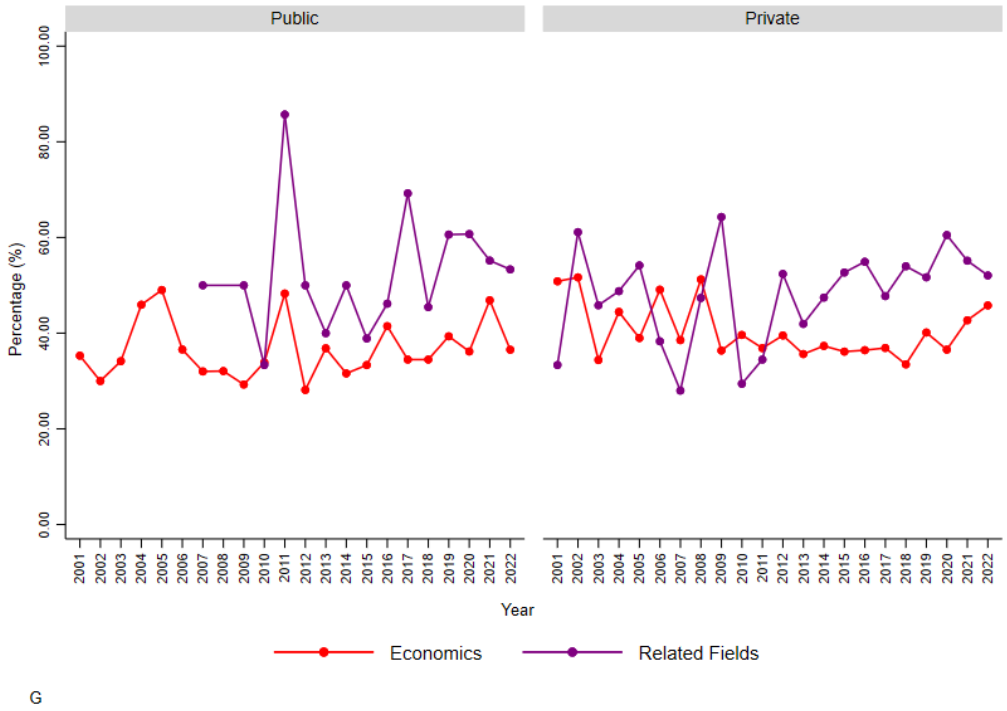

Figure 49: Percentage of women graduated with a Master's Degree in Economics and Related Fields by sector

When comparing the fields of Economics and related areas with STEM disciplines, it is observed that at the master's level, the same pattern identified at the undergraduate level persists: STEM has a significantly lower female representation compared to Economics and related fields. In the public sector, female participation in STEM ranges between 30% and 60%, while in Economics and related fields, it varies between 30% and 40%. In the private sector, the percentages are similar, with STEM again in the range of 30% to 40%, while Economics and related fields fluctuate between 40% and 60%, showing a slight upward trend towards the end of the period.

However, at the master's level, it is evident that the number of women graduating in Economics and related fields is lower compared to the undergraduate level, reflecting a general decline in female participation in postgraduate studies. In this context, the apparent reduction in the gap between STEM and Economics does not indicate an improvement in female inclusion in STEM. On the contrary, this smaller gap is explained by different dynamics: while STEM maintains a range similar to that observed at the undergraduate level, fluctuating between 30% and 40%, the proportion of women graduating in Economics and related fields decreases significantly, ranging between 40% and 50%-60%.

This situation highlights that the smaller gap at the master's level is not due to progress in STEM but to a decline in female participation in Economics and related fields. These dynamics underscore the need to address barriers that limit access and retention of women in postgraduate studies in both areas, implementing differentiated strategies that promote female inclusion in both STEM and Economics, ensuring more equitable progress in both fields.

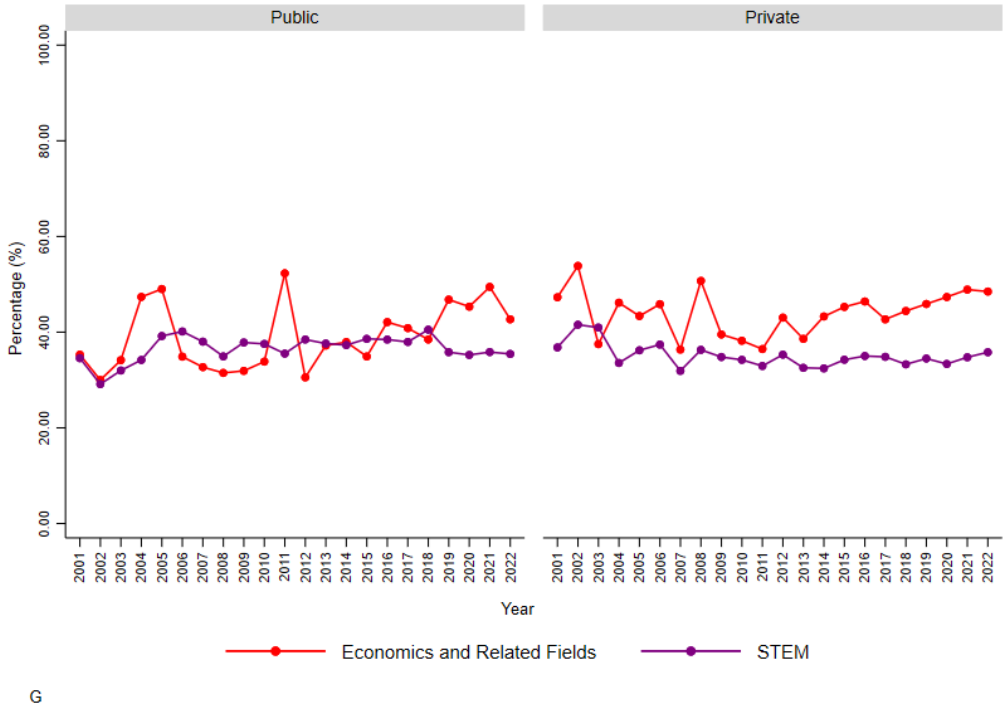

Figure 50: Percentage of women graduated in Economics, Related Fields and STEM by sector

Figure 51 illustrates that female participation in master's programs in Economics and related fields is both low and uneven across regions. The Andean, Caribbean, and Pacific regions provide data on female graduates, with participation ranging from 20% to 75% in related fields, while in Economics, the figures are lower, fluctuating between 15% and 60%. In contrast, the Amazon and Orinoquía regions lack data on female graduates in these areas, reflecting significant limitations in access to postgraduate education.

Compared to undergraduate programs, the proportion of women graduating from master's programs is lower across all regions. This disparity can be attributed to barriers such as high costs, the time commitment required, and the limited availability of

programs in peripheral regions. These trends underscore the need for inclusive policies to promote women's access to postgraduate studies, particularly in underrepresented regions and disciplines like Economics, where female participation remains low.

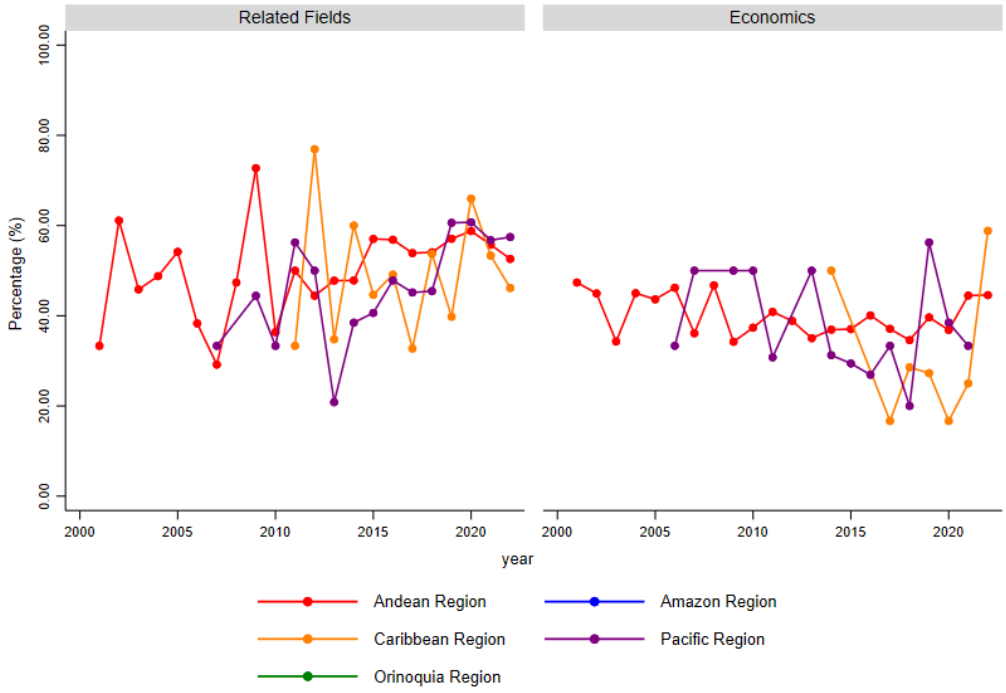

Figure 51: Percentage of women graduated with a Master's degree in Economics and Related Fields by region

There are significant differences in female participation in master's programs between Economics and related fields, and STEM disciplines, depending on the region. In Economics and related fields, the Andean, Caribbean, and Pacific regions show female participation ranging from 30% to 60%, with the Andean region standing out for its greater stability and availability of data throughout the study period. In contrast, female participation in STEM is notably lower and more variable. The Amazon region, despite not reporting data in Economics, reaches peaks of nearly 85% in STEM, while the Orinoquía region, lacking data in Economics and related fields, shows low and fluctuating participation levels.

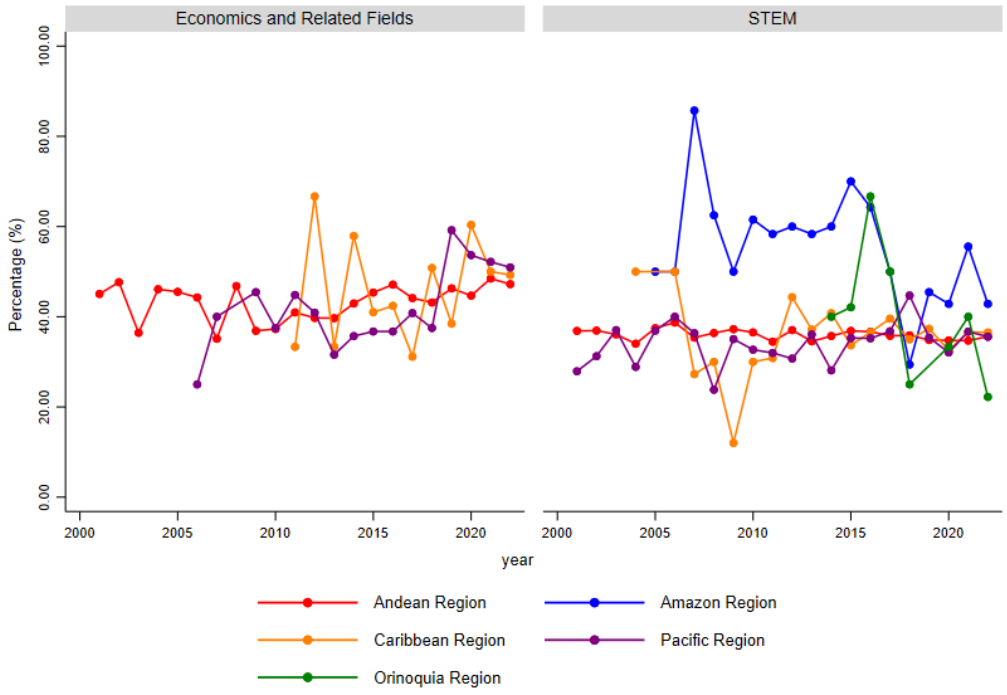

Figure 52: Percentage of women graduated with a Master's degree in Economics, Related Fields and STEM by region

4.2.3 PhD Gratuates

The analysis of doctoral programs focuses on comparing female participation across Economics, related fields, and STEM disciplines. This approach aims to identify differences in the representation of women at the highest level of higher education, evaluating trends and gaps among these areas. Through this comparison, the goal is to highlight the structural challenges women face in these disciplines and the need for strategies to promote greater gender equity in doctoral programs. The detailed results are presented below, distinguishing between Economics, related fields, and STEM.

In doctoral programs, female participation is recorded only in Economics, showing significant fluctuations throughout the analyzed period. In some years, it reaches peaks of nearly 45%, but towards the end of the period, it drops sharply to around 15% (Figure 53). In contrast, no data is available on female graduates in related fields, highlighting the lack of representation in these areas and the need to promote greater inclusion at higher levels of education.

In comparison, female participation in STEM doctoral programs shows greater sta-

bility, with values ranging between 20% and 40% (Figura 53). This underscores the distinct challenges in achieving gender representation in these disciplines.

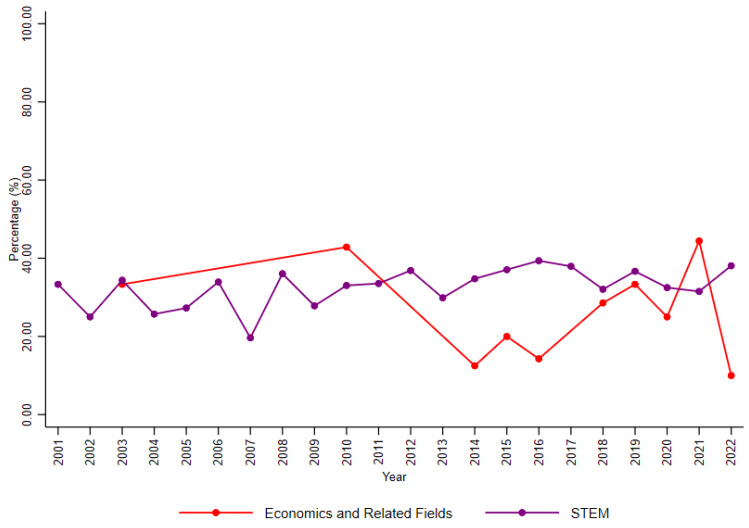

Figure 53: Percentage of women PhD graduated in Economics, Related Fields and STEM

As depicted in Figure 54, when analyzing by type of institution, it is observed that in the public sector, female participation in Economics and related fields shows greater fluctuations, peaking at 75% in 2018 but dropping sharply toward the end of the period. In contrast, participation in STEM is more stable, with values ranging between 15% and 40%. In the private sector, data for Economics is more limited, showing graduates only in recent years, with a marked decline toward the end. On the other hand, STEM maintains a more consistent trend in this sector, with higher female participation ranging from 30% to 50%. These differences highlight significant challenges in achieving female representation across both sectors and disciplines, emphasizing the need for specific strategies to foster inclusion.

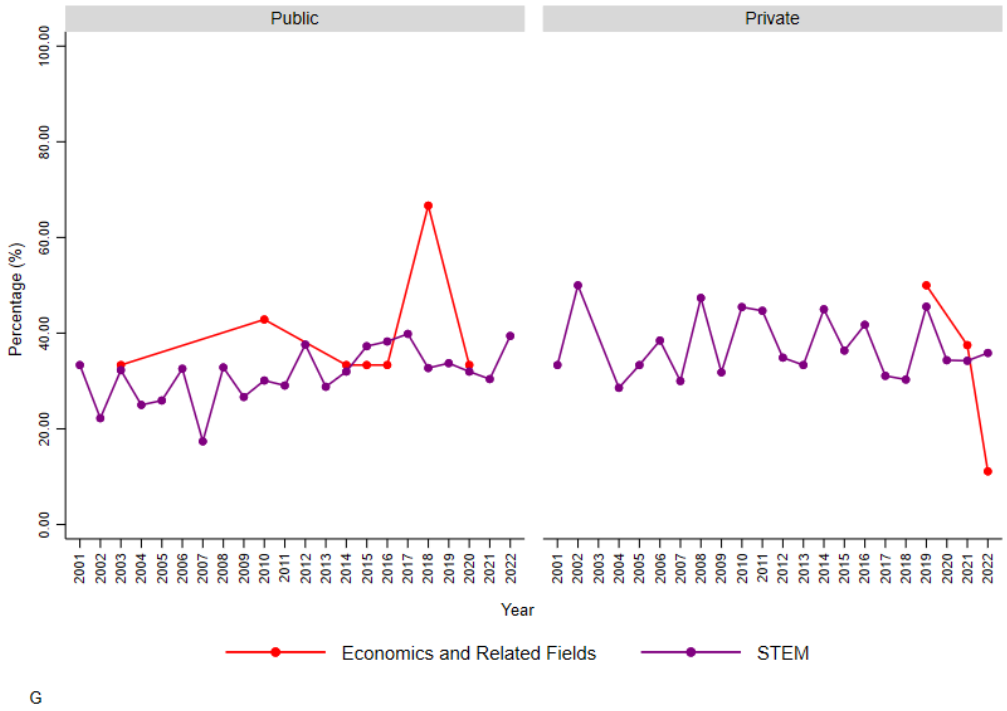

Figure 54: Percentage of women PhD graduated in Economics and STEM by sector

As shown in Figure 55, female participation in doctoral programs in Colombia varies by discipline and region. In Economics, female graduates are exclusively concentrated in the Andean region, while no data is recorded for female graduates in related fields. In contrast, in STEM disciplines, female participation is more widespread, extending to regions such as the Caribbean, Amazon, and Pacific. This disparity suggests that, although women are accessing STEM doctoral programs across various regions of the country, their presence at the doctoral level in Economics is mainly limited to the Andean region. This concentration may reflect factors such as program availability, regional academic opportunities, or disciplinary preferences, highlighting the need to promote greater inclusion and female representation in Economics doctoral programs throughout Colombia.

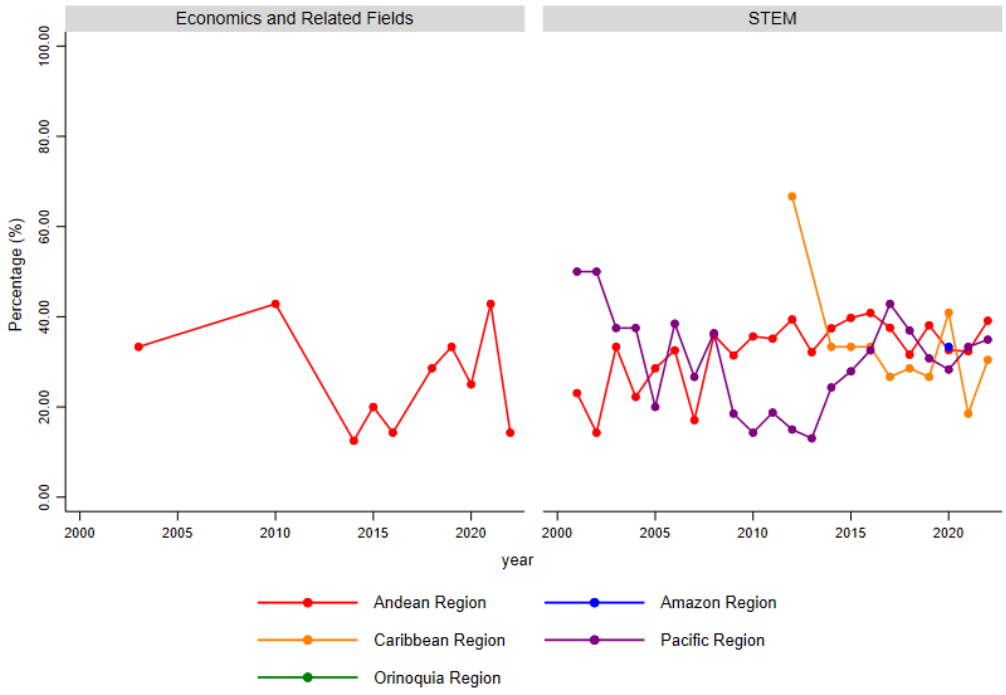

Figure 55: Percentage of women PhD graduated in Economics and STEM by region

5 Dean's Office

The gender distribution in the deanships of economics faculties reveals that only 39% of these positions are held by women, as shown in Figure 56. This proportion indicates a significant underrepresentation of women in leadership roles within economics-related academic institutions. These findings underscore the need to examine the barriers that may be limiting women's participation in decision-making roles in economics faculties and emphasize the importance of implementing measures to promote gender equity in these academic contexts.

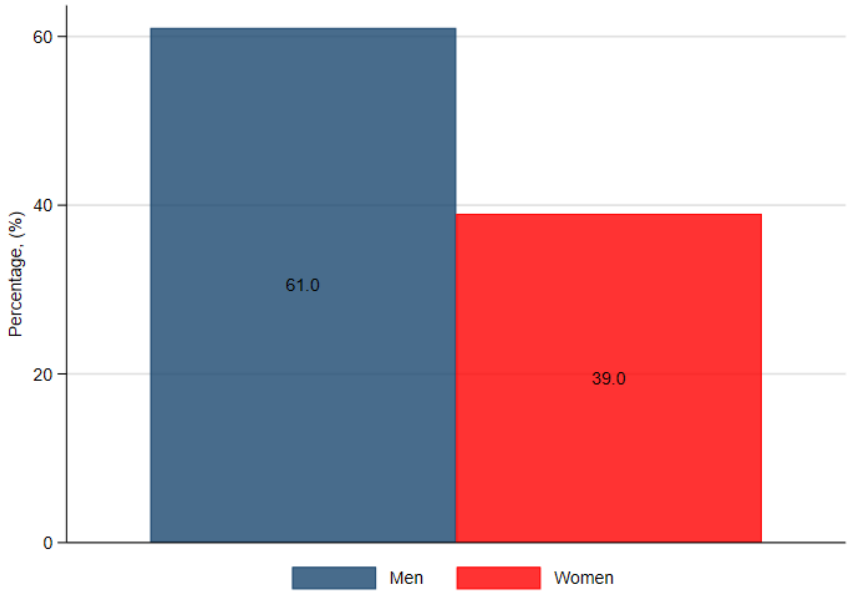

Figure 56: Gender distribution of Faculty in Economics Departments.

6 Colombian Economic Association - Boards

The analysis of the Boards of Directors of Colombian Economic Associations, as shown in Figure 57, reveals a significant gender disparity, with men outnumbering women in most associations. However, Conalpe stands out, with women making up 75% of its Board of Directors. Notably, this high percentage represents only three women, as highlighted in Table 1. These findings highlight the need for a closer examination of gender dynamics within the governing bodies of economic associations and emphasize the importance of promoting initiatives to encourage more equitable female participation in these leadership spaces.

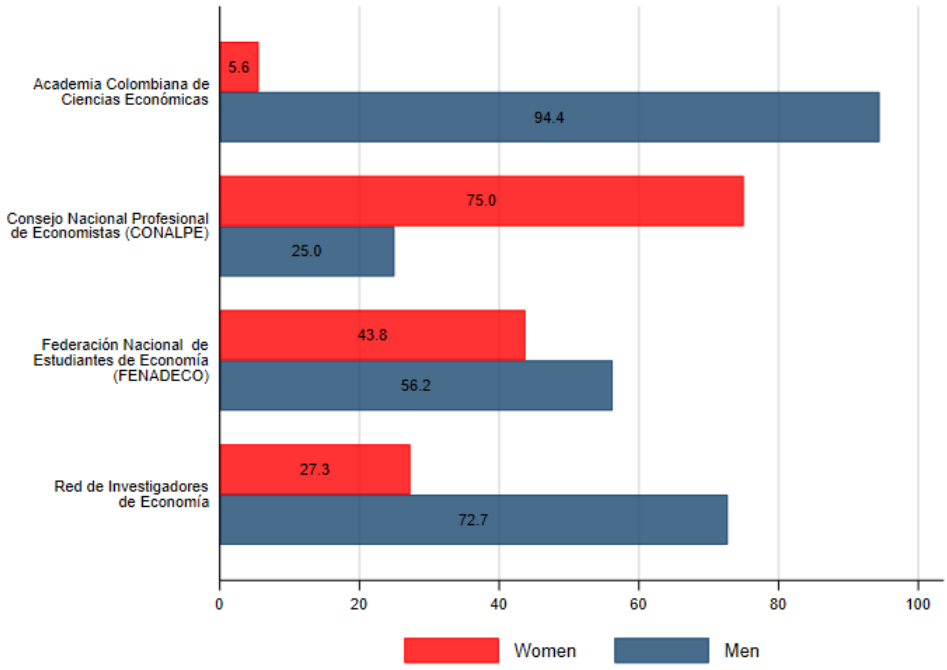

Figure 57: Gender distribution in boards.

Organization	Women	Men
Academia Colombiana de Ciencias Económicas	1	17
Consejo Nacional Profesional de Economistas (CONALPE)	3	1
Federación Nacional de Estudiantes de Economía (FENADECO)	21	27
Red Investigadores de Economía	3	8

Table 1: Distribution of men and women in leadership positions in economic associations

7 Academy

This section seeks to analyze the landscape of researchers in the field of economics in Colombia, with a particular focus on gender disparity within academia. The analysis utilizes Google Scholar as the primary data source, compiling relevant academic outputs such as articles, theses, books, and other resources. It is important to note that this data was gathered through web scraping techniques applied to 48 universities (31 private and 17 public) using R Studio software, ensuring comprehensive coverage and representativeness of the available information. Specifically, the web scraping process targeted research conducted by scholars affiliated with these institutions, filtering the data to focus on those associated with the field of economics.

The collected data provides a detailed perspective on the gender composition of economic researchers in Colombia, enabling the identification of patterns and differences in male and female participation and representation. By examining a series of descriptive statistics, this analysis aims to explore the dynamics that influence women's professional opportunities in the Colombian economic sector. The ultimate goal is to promote a more inclusive and equitable academic environment that facilitates the active and balanced participation of both men and women in economic research and decision-making within this discipline.

7.1 Economic Researchers in Colombia

An analysis of gender distribution among researchers in the field of economics in Colombia, as shown in Figure 58, reveals a significant gender imbalance, with men comprising 74.3% of economists compared to 25.7% women. This disparity suggests the presence of barriers that hinder women's access to educational and financial opportunities, as well as potential gender biases in academic selection and promotion processes. Addressing this gap requires the implementation of targeted measures aimed at fostering equal opportunities and eliminating gender bias at every stage of the academic and professional pipeline. These measures could include gender equity policies and support programs specifically designed to encourage and support women pursuing careers in economic research.

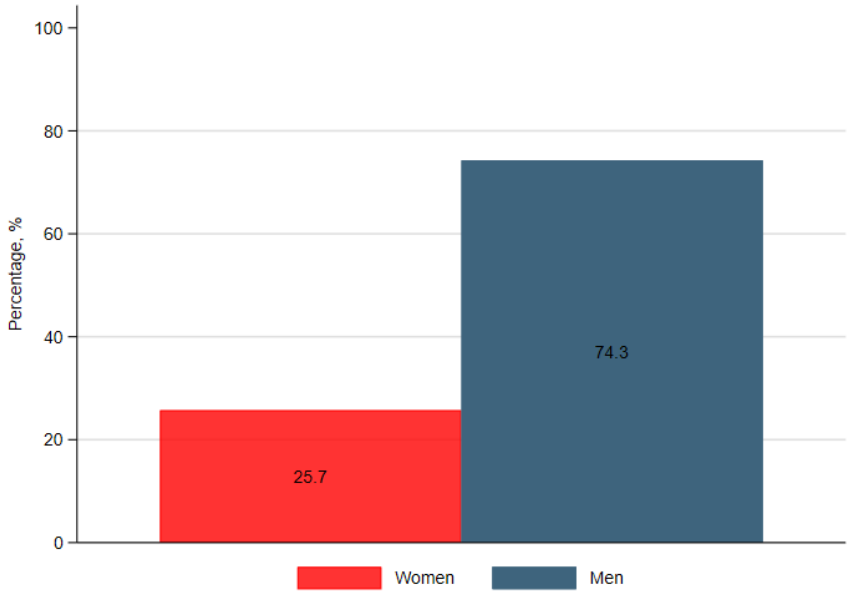

Figure 58: Distribution by gender of researchers in economics in Colombia.

When analyzing the gender distribution of researchers in higher education institutions in Colombia, both public and private, Figure 59 reveals a significant gender disparity across both sectors. In private institutions, 74.4% of academic papers are authored by men, while in public institutions, men account for 74.0% of authorship. This disparity suggests that the issue may not be limited to the policies or practices of one type of institution, but rather reflects broader trends within academia. These trends may include cultural and social biases that influence perceptions of women's capabilities in economics and impact individual decisions regarding career paths. Additionally, gender stereotypes in academic selection and promotion processes may contribute to the ongoing under representation of women in the field.

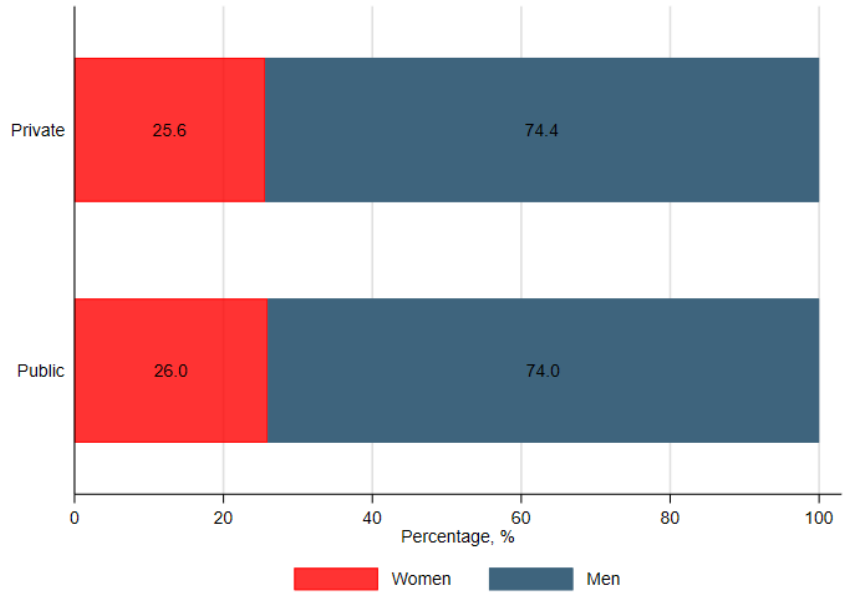

Figure 59: Gender distribution in research by Institution Type

When analyzing the average number of citations by gender in higher education institutions in Colombia, distinguishing between the private and public sectors, Figure 60 shows that citation parity exists in the private sector, with both men and women averaging 460.9 citations. In contrast, in the public sector, women have a significantly higher average number of citations (399.7) compared to men (166.3). These discrepancies may reflect differences in the evaluation and visibility of research between genders. Furthermore, the higher average citations among women could be linked to the dynamics of co-authorship in academic research. In many cases, women may be listed as co-authors but not necessarily as primary authors, a scenario that could stem from gender biases in the attribution of academic credit. In this context, men often receive greater recognition for their contributions, even when women are actively involved in the research process.

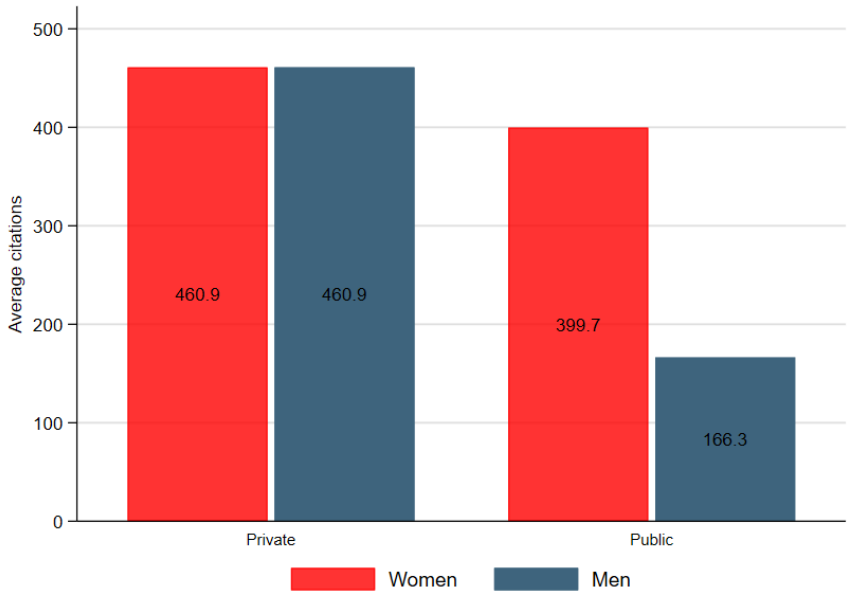

Figure 60: Average number of citations by gender and Institution Type

In relation to the previous results, Figure 61 presents the average number of citations since 2019, broken down by gender and the sector of higher education institutions in Colombia. This graph reaffirms that women in the public sector have a higher average number of citations compared to men, while in the private sector, men and women maintain similar averages. However, this new graph indicates a lower overall average number of citations compared to the previous one for both genders and sectors. This decline may suggest that publications since 2019 are still in the early stages of their academic life cycle and, therefore, are still being discovered and cited by other researchers.

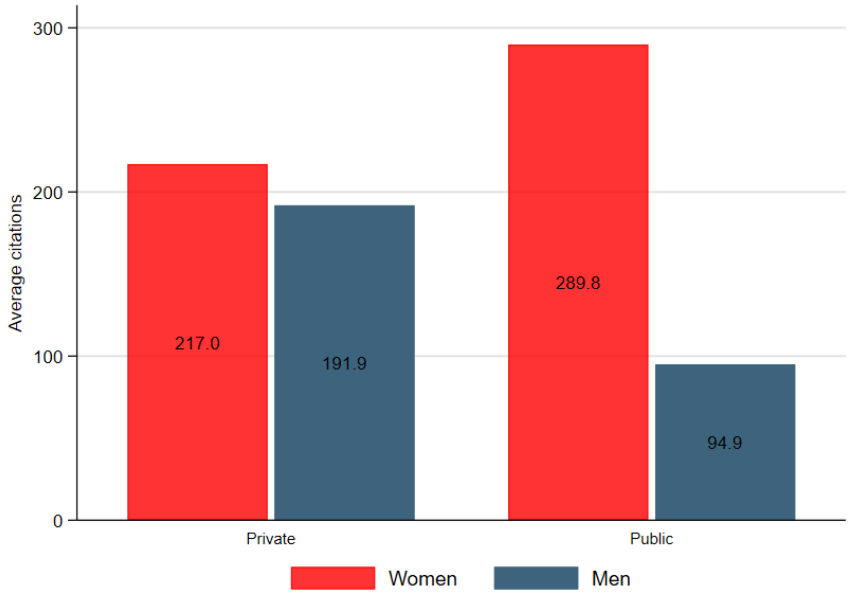

Figure 61: Average number of citations since 2019 by gender and Institution Type

Figure 62 presents the average H-index, which measures the productivity and impact of researchers by counting the number of articles that have been cited at least h times, grouped by gender and sector of higher education institutions in Colombia. The data shows that in private institutions, men have a slightly higher H-index (7.1) compared to women (6.5), though the gap is small. In public institutions, however, women have a higher H-index (6.0) than men (4.9), suggesting that female researchers in the public sector tend to have greater scientific impact and productivity. This could be linked to factors such as specialization, research experience, and institutional support. However, these figures may also be influenced by co-authorship dynamics, where women contribute to research papers without necessarily being lead authors. This dynamic may distort the true contribution of female researchers, as men often receive greater recognition, even when women are actively involved in the research process (West et al., 2013).

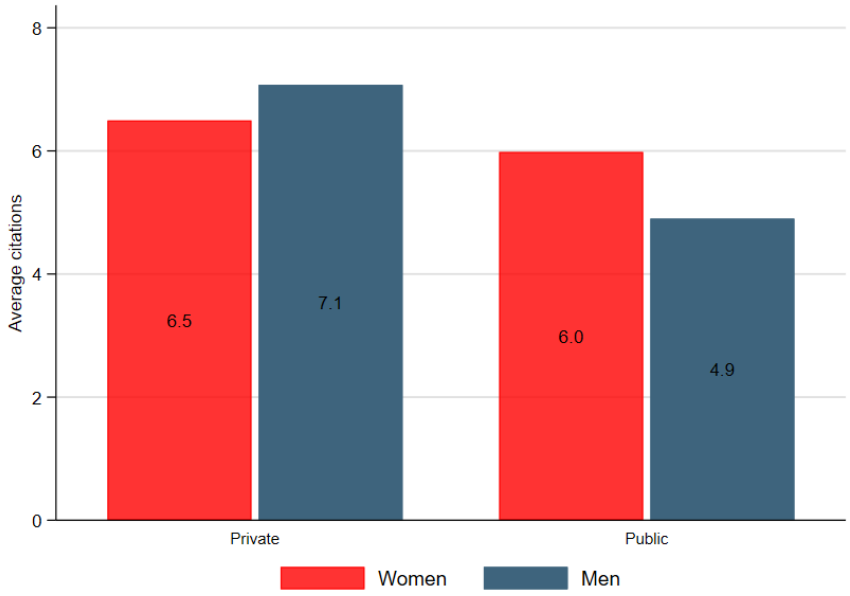

Figure 62: Average H-index distribution by gender and Institution Type

The analysis in Figure 63, which shows the average H-index since 2019, broken down by gender and sector, indicates lower levels compared to the previous cumulative data. In the private sector, the difference between men and women is minimal, while in the public sector, women continue to have a higher average, though the gap has narrowed. These observations underscore the importance of considering co-authorship dynamics, where women may contribute to research without being recognized as lead authors, affecting the overall visibility of their work.

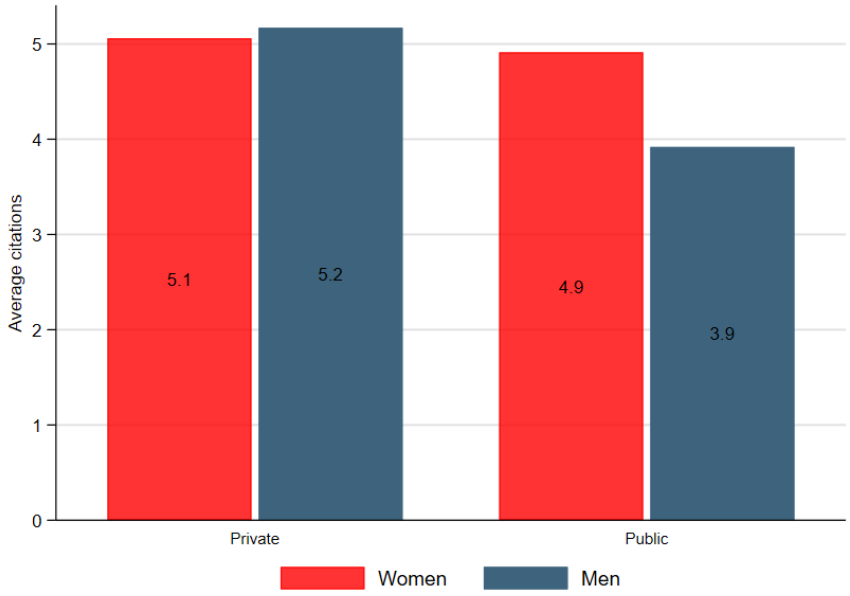

Figure 63: Average H-index distribution since 2019 by gender and Institution Type

Turning to the i10 index, which reflects the number of publications by a researcher that have received at least 10 citations, Figure 64 presents the average index by gender and sector. In private institutions, men have a higher average (9.0) compared to women (6.8), suggesting a higher number of publications with at least 10 citations among men. In contrast, in the public sector, women lead with an average of 8.1, surpassing the result for men, who average 4.3. This disparity highlights differences between sectors and genders that may reflect varying dynamics in academic visibility and collaboration. However, women's higher average i10 index in the public sector may be linked to their participation as co-authors in research, while in the private sector, men may be more likely to receive credit as lead authors in high-impact publications. As noted by West et al. (2013), even when the total publication count is similar across genders, men tend to dominate in prestigious first and last author positions.

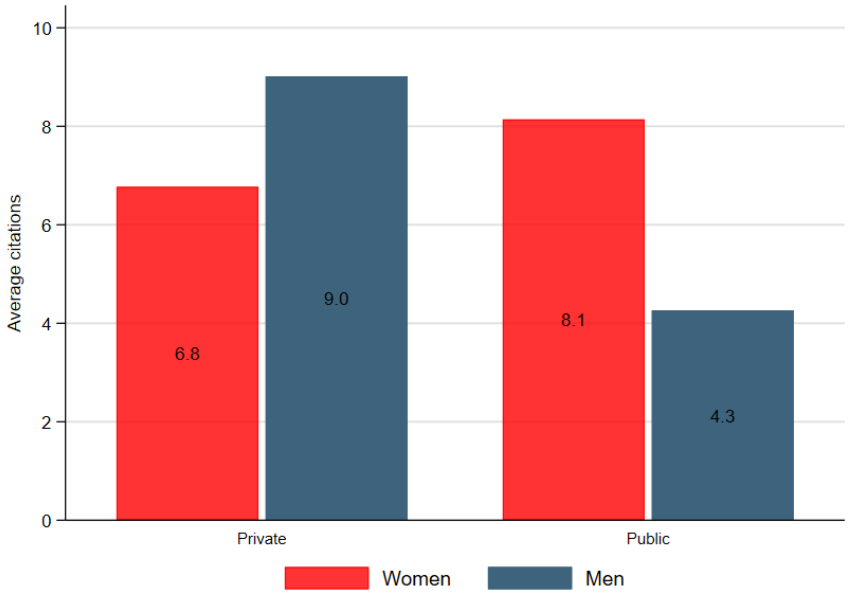

Figure 64: Average i10 Index distribution by gender and Institution Type

Figure 65 further analyzes the i10 index from 2019 onward, showing that in the private sector, the gender difference is minimal, with men having a slight advantage. However, in the public sector, women exhibit a significantly higher average, indicating greater production of works cited at least 10 times. This trend again reflects the importance of considering co-authorship dynamics, which may influence these results and require further analysis in the final report.

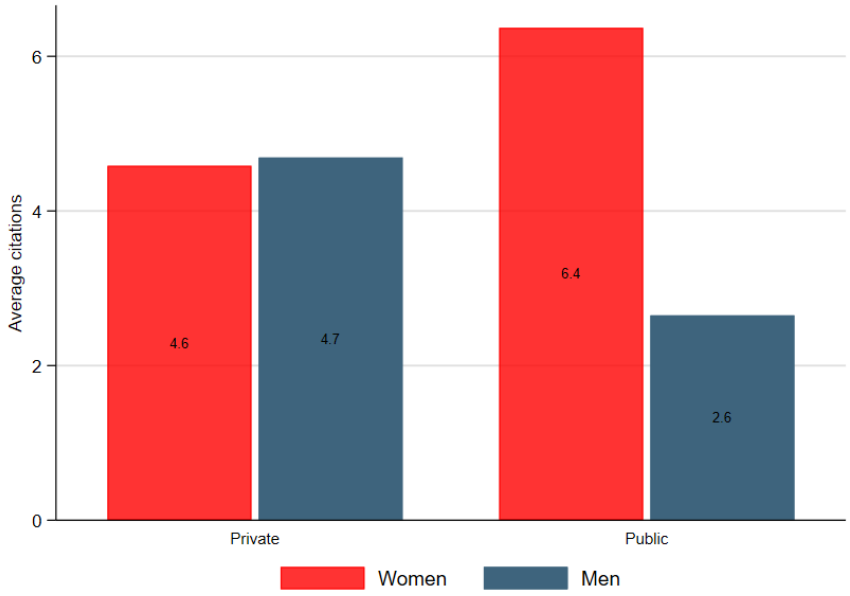

Figure 65: Average i10 Index distribution since 2019 by gender and Institution Type

In conclusion, a detailed analysis of the situation of researchers in economics in Colombia reveals clear gender inequality, with men predominantly occupying higher academic positions. This disparity is evident across various metrics, including the average number of citations and the H-index, suggesting the existence of gender barriers and biases in academic access and recognition. While there have been improvements in women's representation and productivity, particularly in the public sector and in recent publications, significant challenges remain. These challenges require continued attention and the implementation of effective measures to promote gender equality in economic research in Colombia.

7.2 Research Areas

Gender diversity in academic research remains a crucial issue that warrants significant attention. From gender distribution across various research areas to representation at different academic levels and within institutional sectors, there are clear patterns that reflect ongoing challenges in achieving gender equality.

Figure 66 illustrates the distribution of researchers by gender across several fields of economic research, revealing significant differences between men and women in each area. For instance, in the field of Economic and Social Development, men constitute 23.4%, outnumbering women, who account for 17.6%. In contrast, in Environmental and Natural Resource Economics, both men and women demonstrate lower participation, with 3.7% and 4.9%, respectively, indicating a general lack of interest in this field.

Meanwhile, areas such as Applied Economics and Quantitative Methods show near parity in gender representation, with men at 21.3% and women at 22.1%.

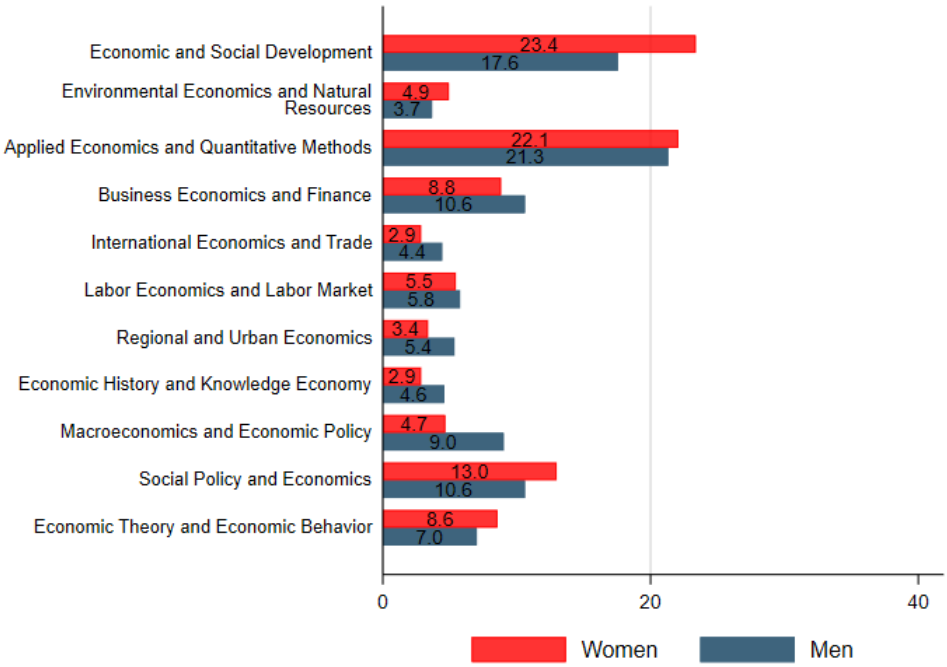

Figure 66: Distribution by Gender and Research Area

Figure 67 further details the gender distribution of researchers by research area, comparing private and public institutions. The data shows notable differences between the two sectors. In private institutions, men overwhelmingly outnumber women across most fields, with male representation ranging from 67.5% to 83.5%, while women account for 16.5% to 32.5%. Similarly, in public institutions, male dominance persists, with representation varying between 68.0% and 90.2%, compared to female representation, which ranges from 9.8% to 32.0%. However, women exhibit stronger presence in the field of Social Policy and Economics in the public sector, where they make up 31.0%, a notable exception to the overall trend.

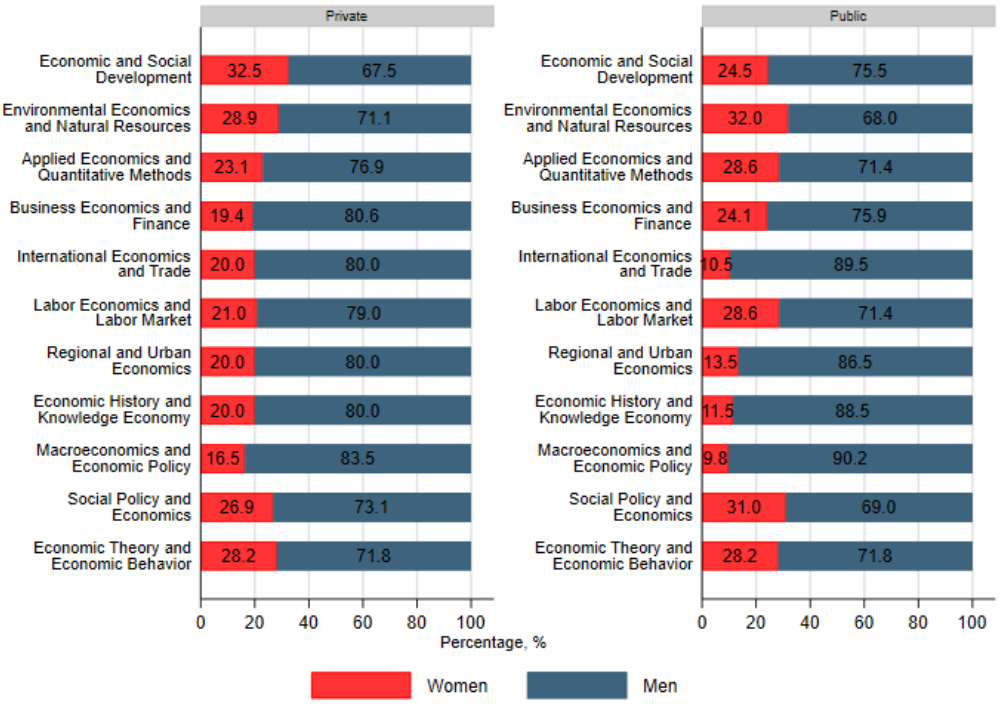

Figure 67: Distribution of authors by Gender, Institution Type and Research Area

7.3 Gender Distribution in Academic Roles

An analysis of gender distribution across different professional roles in universities offers valuable insights into gender equity in higher education. By examining the representation of men and women in positions such as Full Professors, Associate Professors, and Assistant Professors across both private and public institutions, patterns of gender inequality become evident.

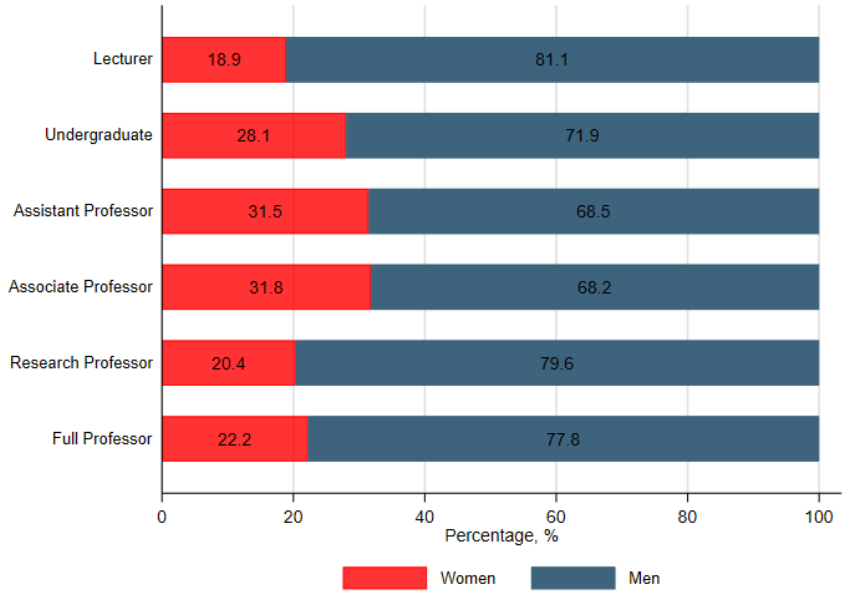

Figure 68: Distribution by gender and position

In both private and public institutions, gender disparity is pervasive across academic roles, as shown in Figure 69. In private institutions, men overwhelmingly dominate every level, from Lecturer to Full Professor. Notably, women hold a slightly higher share of Associate Professor roles (29.2%). In public institutions, the gender gap is even more pronounced in roles such as Lecturer, where women represent only 15.0%. However, at the Associate Professor level, the gap narrows, with women accounting for 43.8%.

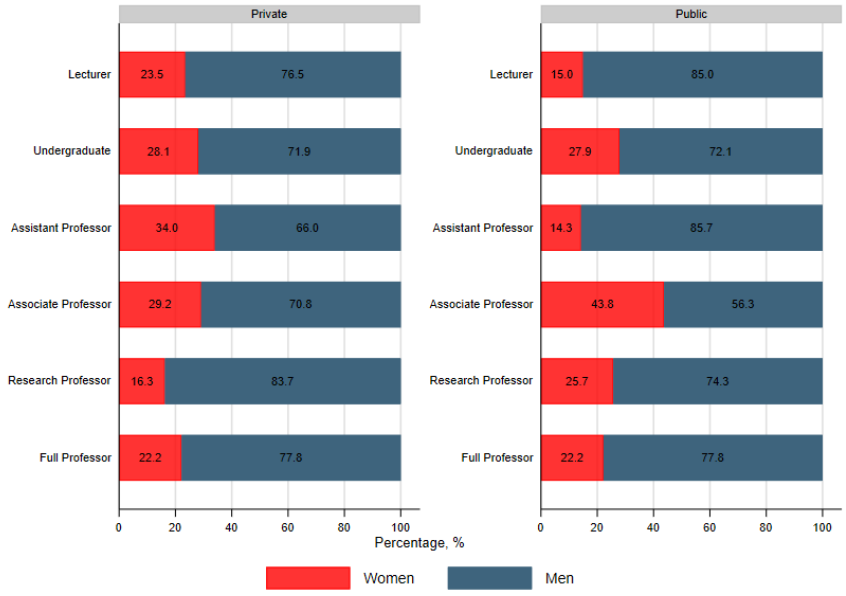

Figure 69: Distribution by Gender, Position and Institution Type

When examining the average number of citations by gender and academic position, Figure 70 reveals that men consistently have more citations than women across all roles, with the largest gap at the Full Professor level, where men average 879.7 citations compared to women's 701.0.

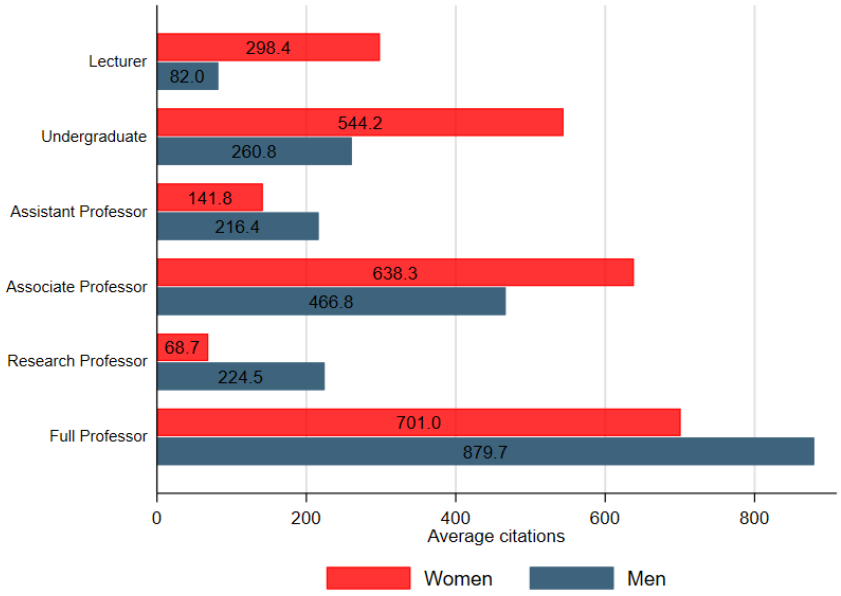

Figure 70: Average citations by Gender and Position

Interestingly, as shown in Figure 71, when focusing on citations since 2019, a different trend emerges. Women in the Full Professor category have a slightly higher average number of citations (350.4) than men (336.4). However, in all other categories, men continue to have more citations, with the largest difference at the Undergraduate level, where men average 297.8 citations compared to women's 102.7.

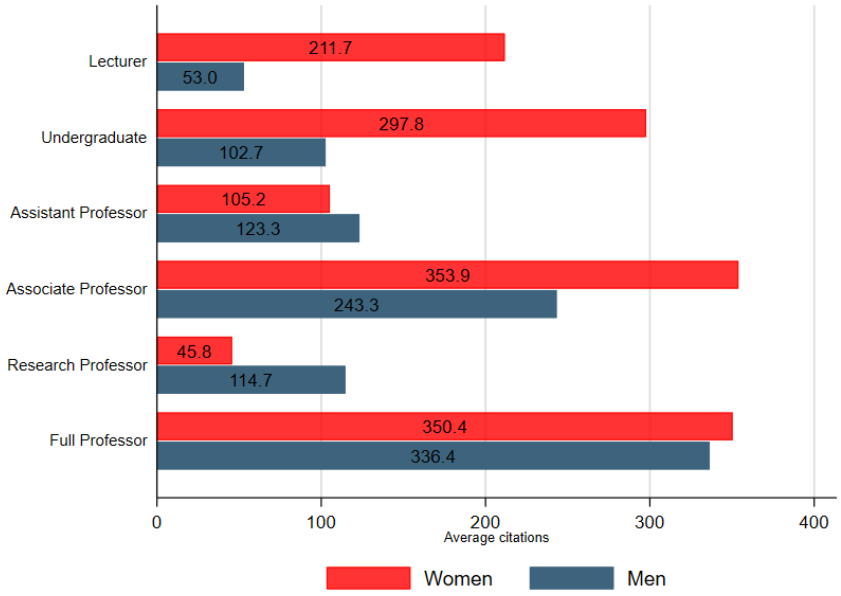

Figure 71: Average number of citations since 2019 by Gender and Position

Figures 72 and 73 further compare the average number of citations by gender and academic position across both private and public institutions, covering total citations and those since 2019. A clear gender disparity is evident across most academic positions, particularly at the Full Professor level in private institutions, where men outnumber women in terms of citations. However, since 2019, the gap has narrowed at this level, with women slightly outnumbering men on average in the private sector.

Figure 72: Average citations by Gender, Position, and Institution Type

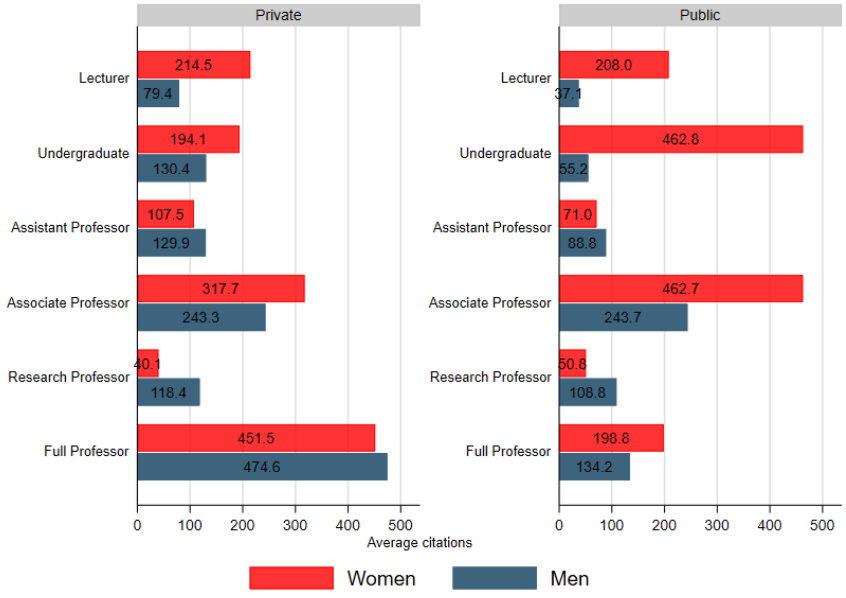

Figure 73: Average citations since 2019 by Gender, Position, and Institution Type

Figures 74 and 75 present gender disparities in the h-index across academic positions,

with one figure covering total averages and the other focusing on data since 2019. In both figures, men have a higher h-index across all positions, indicating a greater accumulation of widely cited research articles.

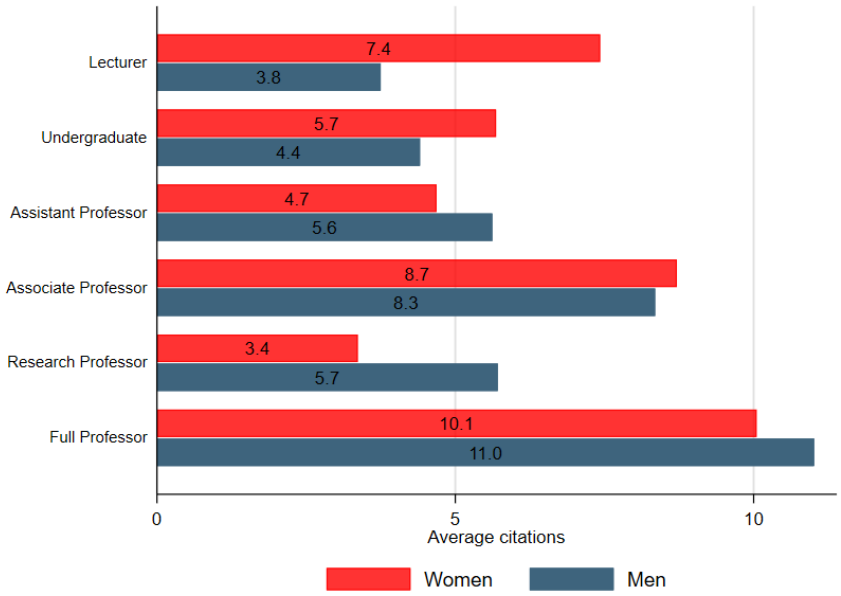

Figure 74: Average h-index by Gender and Position

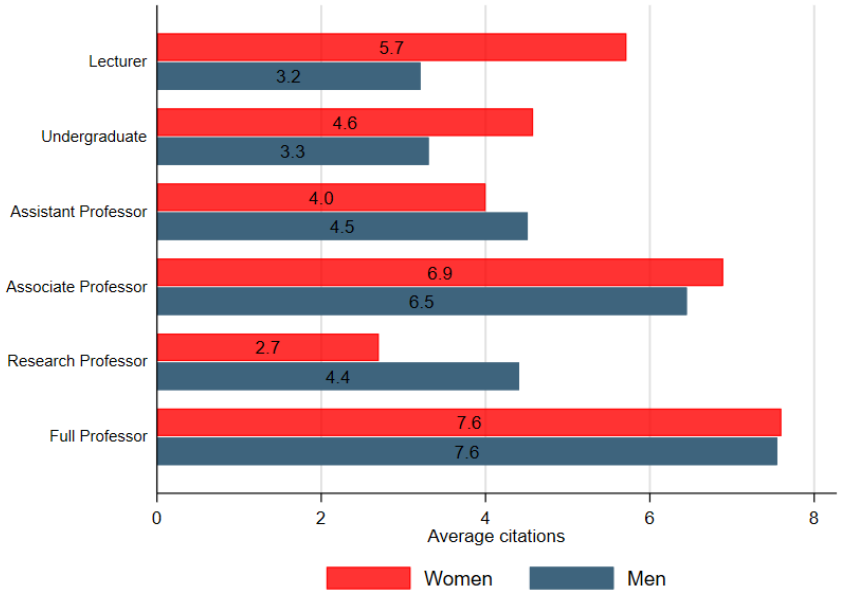

Figure 75: Average h-index since 2019 by Gender and Position

The average h-index by gender, academic position, and sector of higher education institutions, as shown in Figure 76, reveals that in private institutions, men generally have a higher h-index across all positions, with the only near parity observed at the Associate Professor level.

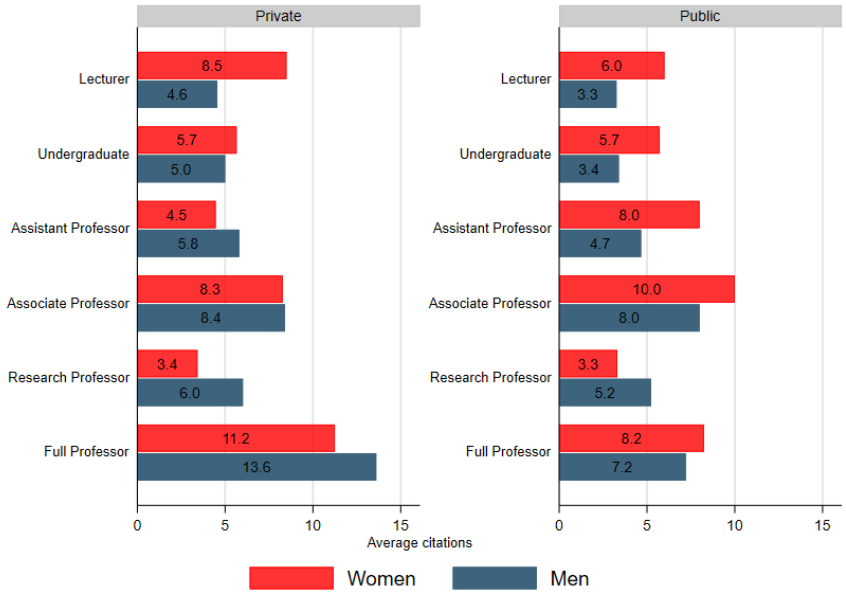

Figure 76: Average h-index by Gender, Position, and Institution Type

Since 2019, the gap in the average h-index has slightly reduced in most positions across both private and public institutions, as shown in Figure 77. Men maintain a higher average, but the difference is smaller compared to the overall average, especially in Assistant and Full Professor positions in public institutions. These differences suggest that, although men generally have a higher h-index than women, the gap may be decreasing over time, particularly in more recent publications, which could indicate progressive changes in the visibility and impact of women's research in academia.

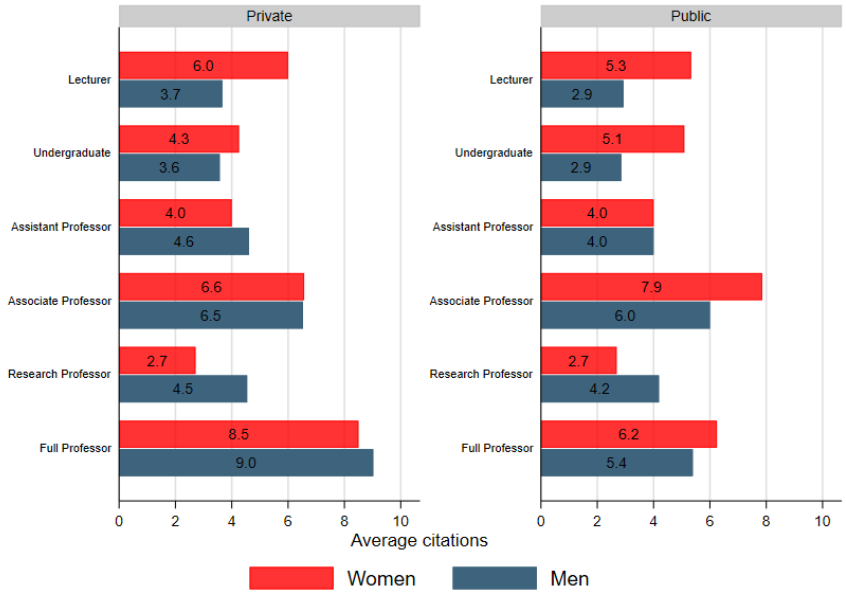

Figure 77: Average h-index since 2019 by Gender, Position, and Institution Type

When analyzing the i10 index, Figure 78 shows that men have a higher average i10 index than women in all academic categories, with the largest difference at the Full Professor level. Lecturers and Research Professors have the lowest averages, but the gender gap is still notable.

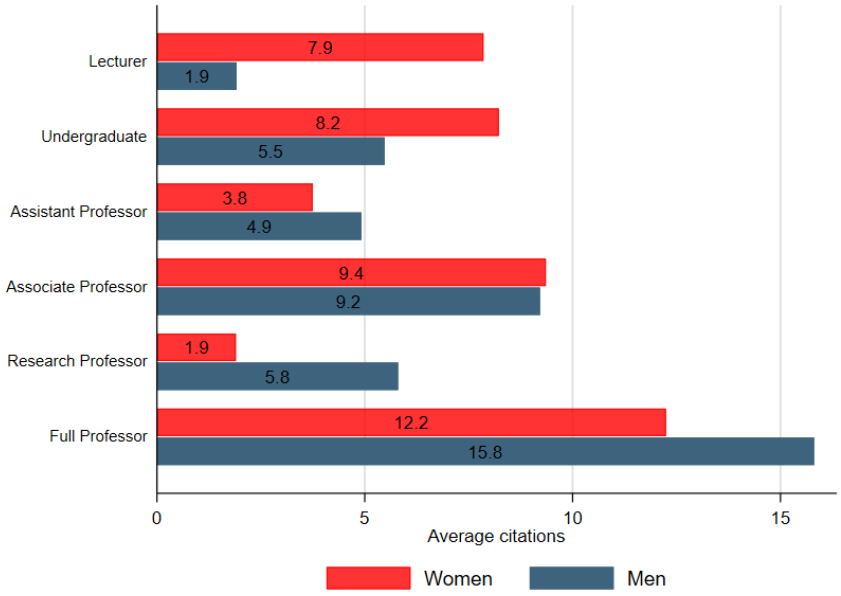

Figure 78: Average i10 index by Gender and Position

Figure 79 shows that since 2019, the differences in the i10 index between men and women have narrowed, especially at the Full Professor level, where near parity is observed.

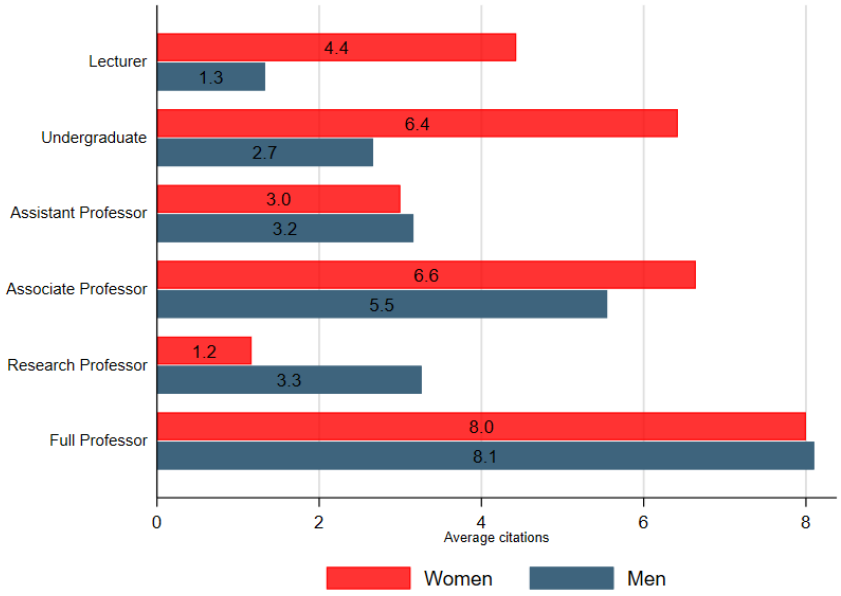

Figure 79: Average i10 index since 2019 by Gender and Position

When analyzing the institutional sector (private and public) for both the overall average number of citations and data since 2019, Figure 80 shows that men have a higher average i10 index than women across all academic positions and institution types. The most significant disparity is observed in the Full Professor category within private institutions. This trend highlights a persistent gender gap in research impact as measured by the i10 index.

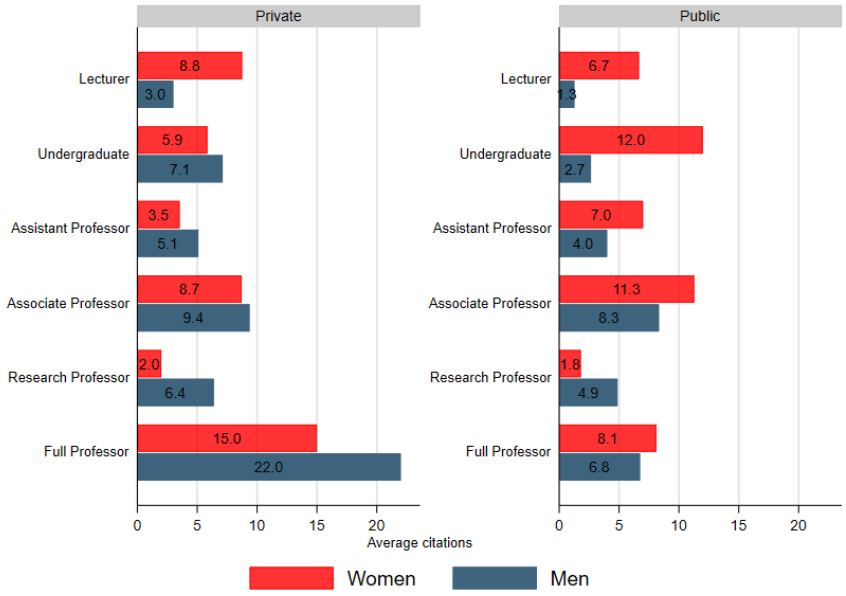

Figure 80: Average i10 index by Gender, Position, and Institution Type

Figure 81, which presents the average i10 index since 2019, reveals a decline in i10 index averages for both genders, likely due to the shorter time frame for accumulating citations. Notably, in public institutions, women surpass men in the Lecturer position, and the differences in other academic roles either narrow or remain relatively stable compared to earlier data. These findings suggest that while a gender disparity in the visibility of academic research persists, the more recent data since 2019 may indicate a gradual narrowing of the gender gap in certain positions and sectors.

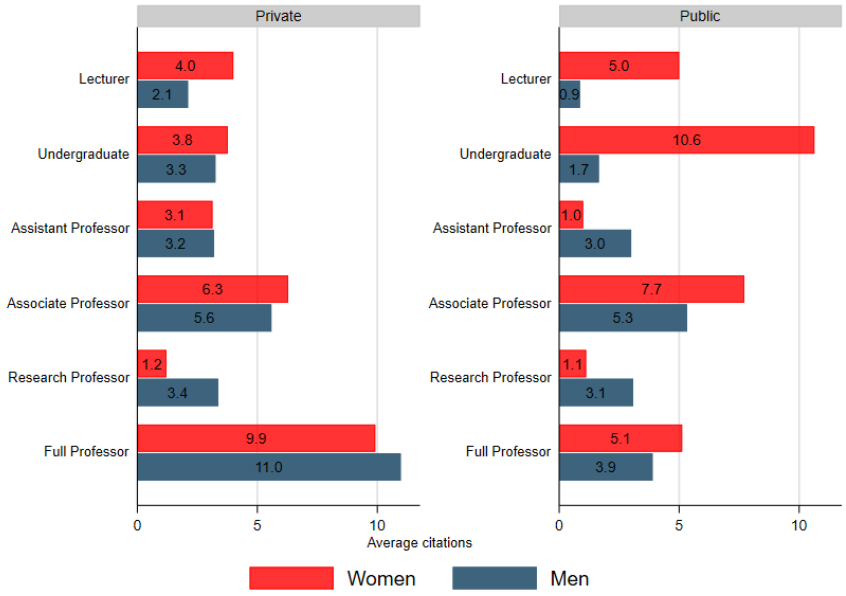

Figure 81: Average i10 index since 2019 by Gender, Position, and Institution Type

7.3.1 Full Professor

A striking gender imbalance emerges in the research areas of full professors within the field of economics in Colombia. Figure 82 highlights that men dominate across all fields, representing 70% in Economic and Social Development and an overwhelming 90.9% in Regional and Urban Economics. In contrast, women make up just 30% and 9.1% in these same areas, respectively.

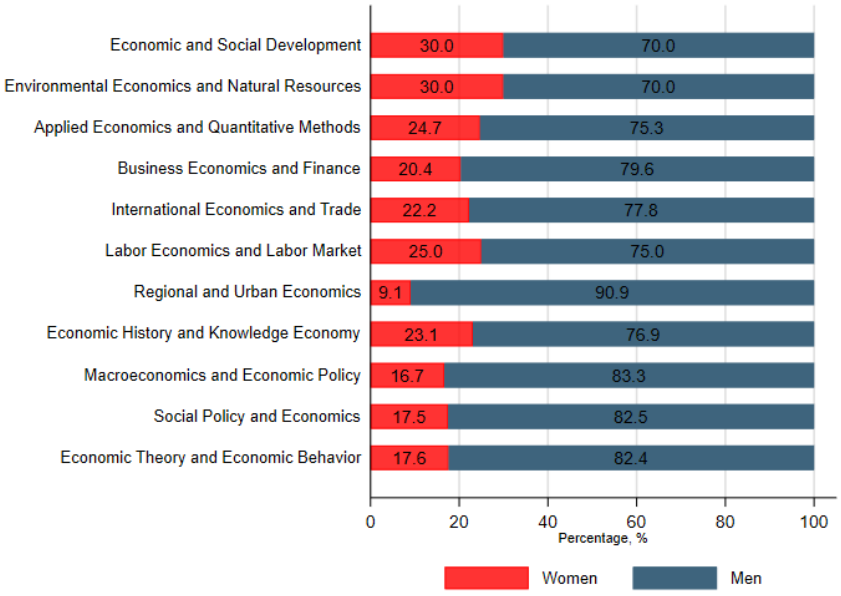

Figure 82: Gender Distribution and Research Areas of Full Professors in Economics

Figure 83 delves deeper into the gender distribution between public and private higher education institutions, revealing a similar pattern of male dominance across all areas. However, the gender gap is slightly less pronounced in the private sector, particularly in Applied Economics, Quantitative Methods, and Economic Theory and Behavior.

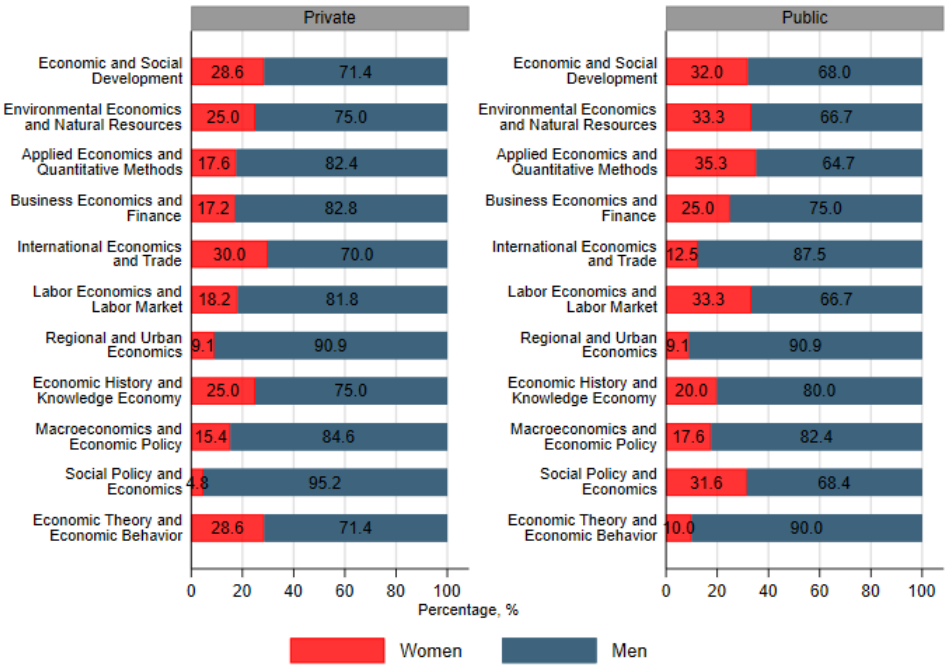

Figure 83: Distribution by Gender, Institution Type and Research Areas of Full Professors in Economics

These findings underscore a significant gender gap at the full professor level in economics, likely driven by a range of factors including historical barriers, gender biases, and unequal opportunities for promotion and career advancement. While some fields, such as International Economics and Trade in the private sector and Social Policy and Economics in the public sector, show slightly higher female representation, the overall disparity remains significant. These results suggest that, despite some progress toward gender equity in certain areas, there is still a long way to go to achieve a more balanced academic environment for full professors in economics.

7.3.2 Lecturer

The gender distribution among Lecturers in economics in Colombia reveals a notable imbalance across research areas. Figure 84 highlights a dominant male presence at the rank of Research Professor, with men fully represented in fields such as International Economics and Trade, Labor Economics and Labor Market, and Macroeconomics and Economic Policy. However, women show stronger representation in Environmental Economics and Natural Resources, where they account for 40%.

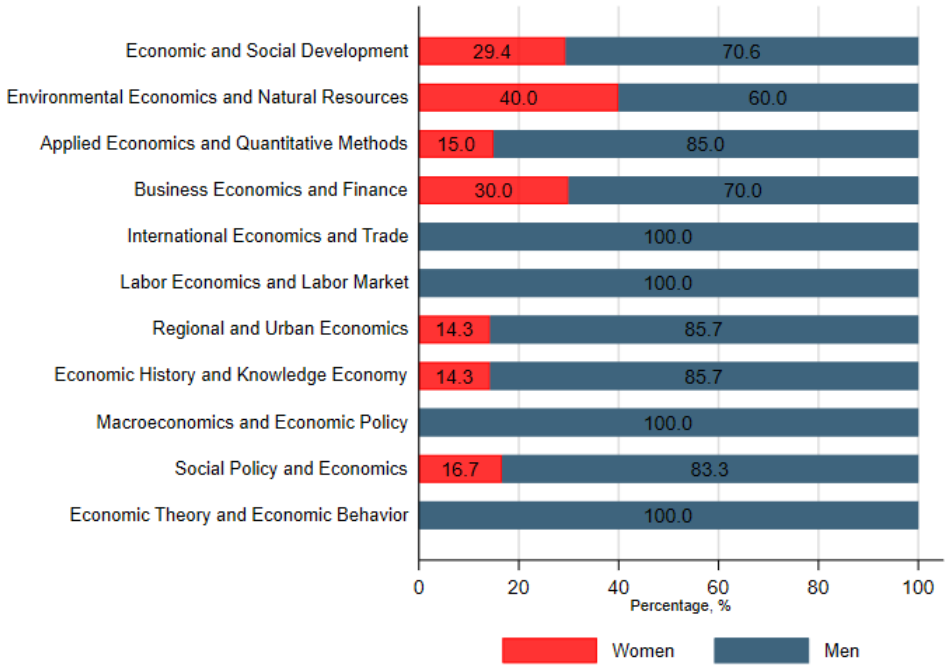

Figure 84: Distribution by Gender and Research Areas of Lecturers in Economics

Figure 85, which compares the distribution by institutional sector, shows a similar trend of male predominance across both private and public institutions. In private institutions, men maintain a 100% presence in several research areas, while public institutions display a slight female representation in Environmental Economics and Natural Resources (25%) and Social Policy and Economics (25%). These findings highlight persistent gender inequality in higher academic positions within the field of economics in Colombia, particularly in private institutions. The results suggest that institutional policies may play a role in shaping gender equity in economic research.

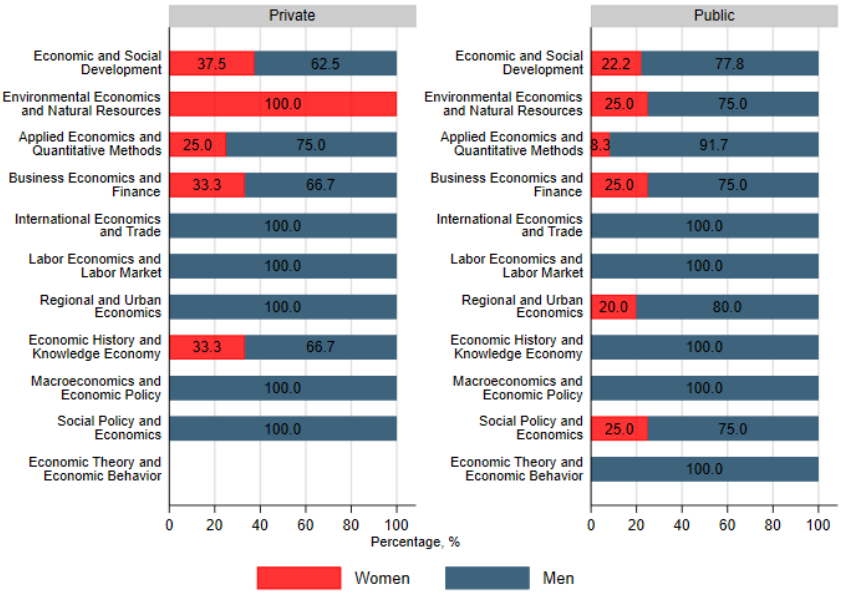

Figure 85: Distribution by Gender, Institution Type and Research Areas of Lecturers in Economics

7.3.3 Associate Professor

An analysis of the gender distribution of Associate Professors in economics across various research areas, and a comparison between private and public institutions in Colombia, reveals notable patterns. Figure 86 shows that men generally have a stronger presence across most research areas. However, in Economic and Social Development, there is a more balanced distribution, with women representing 40.4%. Women also hold significant representation in fields such as Labor Economics and Labor Market, and Social Policy and Economics.

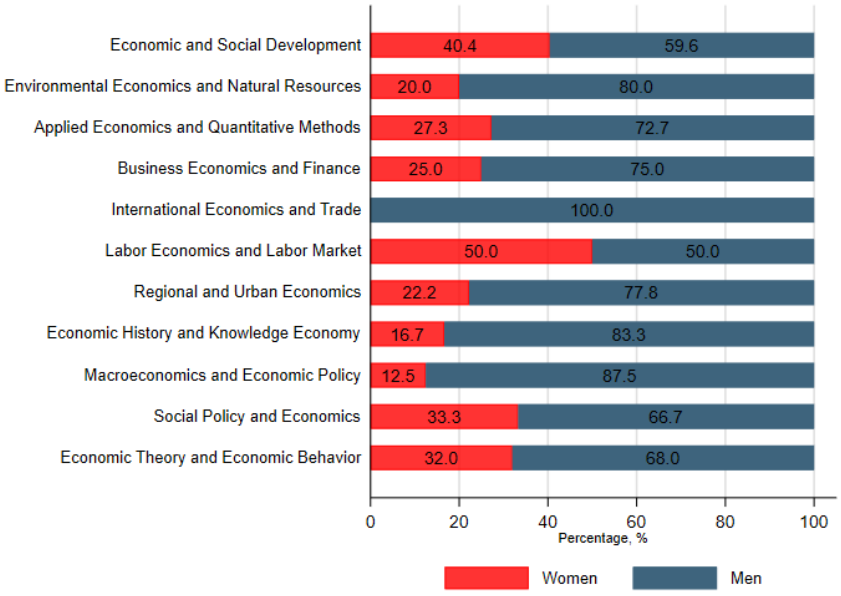

Figure 86: Distribution by Gender and Research Areas of Associate Professors in Economics

Figure 87 highlights variations between private and public institutions. In public institutions, the gender distribution in Economic and Social Development is completely balanced, with 50% for each gender. In contrast, private institutions show male dominance in most research areas, with men exclusively represented in International Economics and Trade and Macroeconomics and Economic Policy. These findings suggest that public institutions may implement policies that promote greater gender equality or provide more opportunities for women to advance to Associate Professor positions, particularly in certain research areas. On the other hand, private institutions may present higher barriers to entry or promotion for women, or reflect a longer-standing tradition of male dominance in the field of economics.

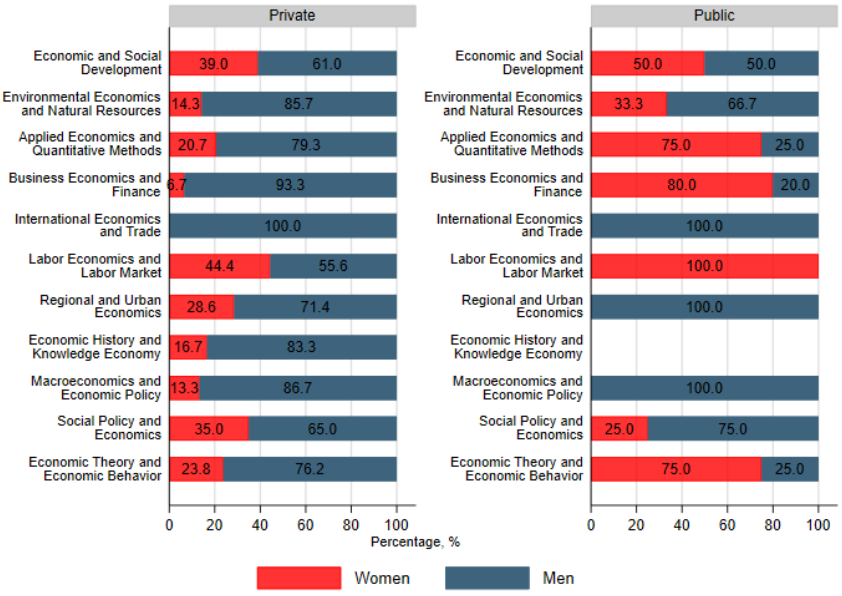

Figure 87: Distribution by Gender, Institution Type and Research Areas of Associate Professors in Economics

7.3.4 Assistant Professor

Figure 88 illustrates the gender distribution of assistant professors in various research areas within economics, in both private and public institutions in Colombia. Revealing a sharp gender divide in specific research fields, with extremely low female representation in areas such as International Economics and Trade and Labor Economics and Labor Market. However, there is notable gender equity in Regional and Urban Economics and Social Policy and Economics, where women hold 50% of positions.

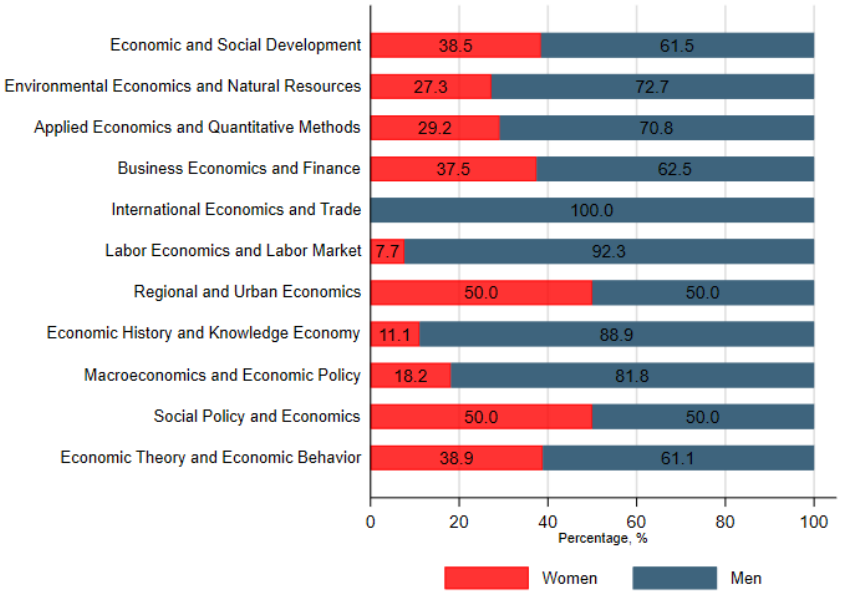

Figure 88: Distribution by Gender and Research Areas of Assistant Professors in Economics

Figure 89, which takes into account the type of institution, shows contrasting extremes in the public sector, with a complete absence of women in several research areas. In the private sector, while men still dominate most fields, female representation is more significant, particularly in Business Economics and Finance, and Economic Theory and Economic Behavior. These results suggest that women may face particular challenges in public institutions when pursuing Assistant Professor positions, or that fewer women are choosing academic careers in these fields within the public sector. Additionally, the findings could indicate that private institutions provide a slightly more equitable environment or have policies that encourage greater gender inclusion in certain areas of economics. Nonetheless, gender inequality remains prevalent in most areas of economic research.

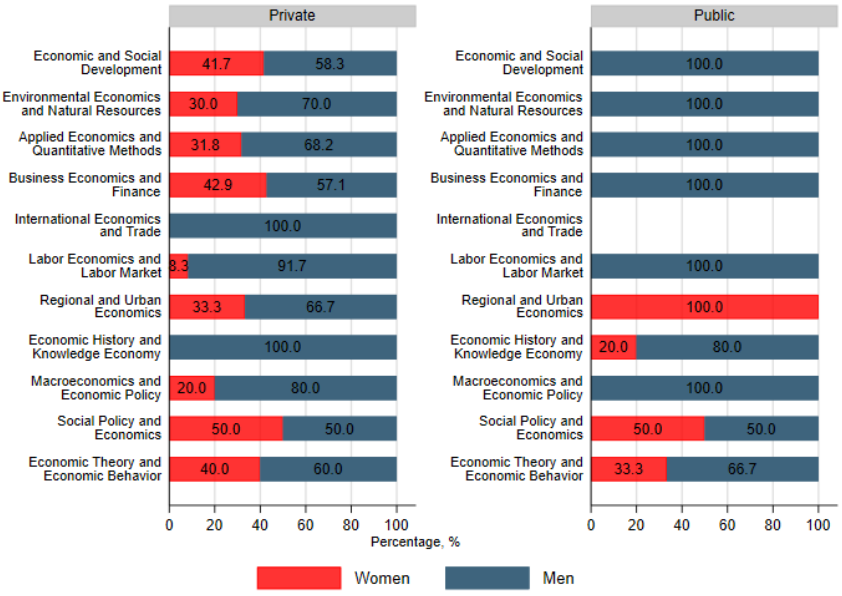

Figure 89: Distribution by Gender, Institution Type and Research Areas of Assistant Professors in Economics

7.3.5 Research Professor

Figure 90 highlights the gender distribution among Research Professors in economics, differentiated by research area and institutional sector in Colombia. It reveals that men dominate across all research areas, with the highest female participation in Environmental Economics and Natural Resources, as well as Economic and Social Development, where women account for 30%. In contrast, fields like Macroeconomics and Economic Policy and Economic Theory and Economic Behavior show the lowest female representation, with only 16.7% and 17.6%, respectively.

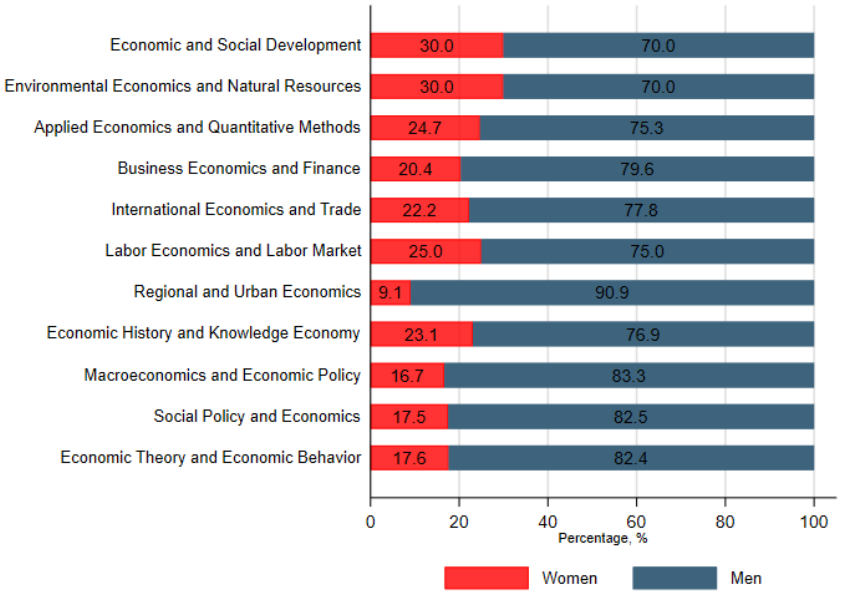

Figure 90: Distribution by Gender and Research Areas of Research Professors in Economics

Figure 91 differentiates between private and public institutions, revealing a considerable gender gap in both sectors. However, there is a trend toward greater female representation in the private sector, particularly in areas like Social Policy and Economics (9.5%) and Economic Theory and Economic Behavior (26.6%). In the public sector, several research areas show a total absence of women, potentially indicating higher barriers or a lower overall presence of women in research positions within public economics.

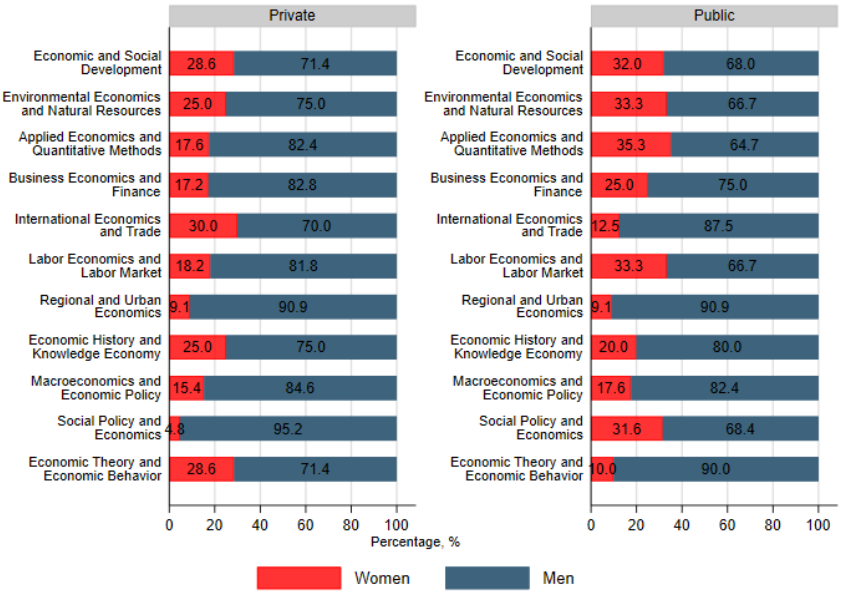

Figure 91: Distribution by Gender, Institution Type and Research Areas of Research Professors in Economics

7.3.6 Undergraduate Students

Figure 92 presents the gender distribution of undergraduate students involved in research within the field of economics in Colombia, differentiating between private and public institutions. It shows that men dominate across all research areas, with the most gender equity observed in Environmental Economics and Natural Resources, where women represent 29.4% compared to 70.6% of men. Areas such as Economic History and Knowledge Economy and Macroeconomics and Economic Policy show the lowest female representation.

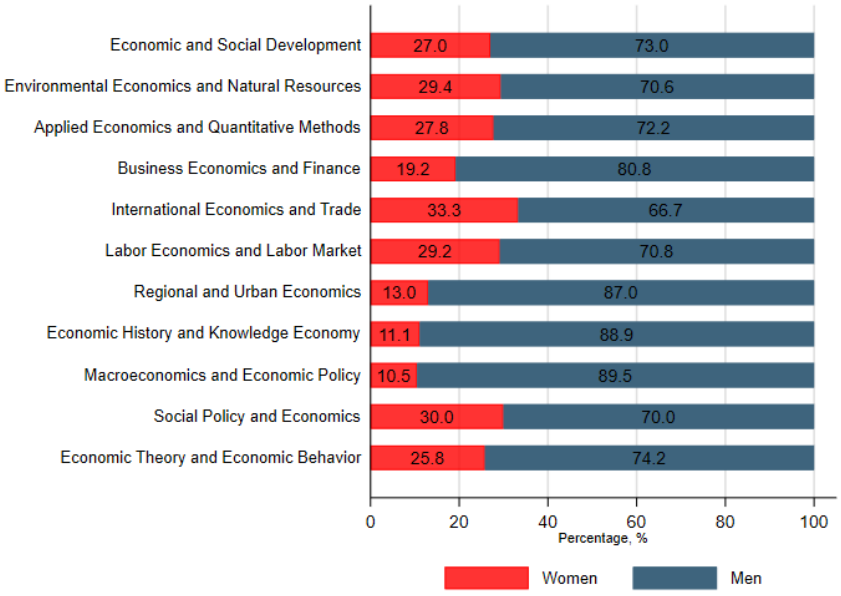

Figure 92: Distribution by Gender, Institution Type and Research Areas of Undergraduate Students involved in Economic Research

Figure 93 reveals that while the overall trend of male predominance persists in both sectors, there are subtle differences. In the public sector, for instance, women have a higher representation in Environmental Economics and Natural Resources compared to the private sector. However, female representation remains significantly low in areas such as Labor Economics and Labor Market and Regional and Urban Economics, particularly in the public sector. These findings may be shaped by a combination of socioeconomic and cultural factors that influence undergraduate students' choice of field, as well as the availability of mentors, resources, and institutional support in specific research areas. Additionally, they could reflect varying levels of motivation or interest among female students to participate in economic research, potentially due to perceived gender barriers within certain economic subdisciplines.

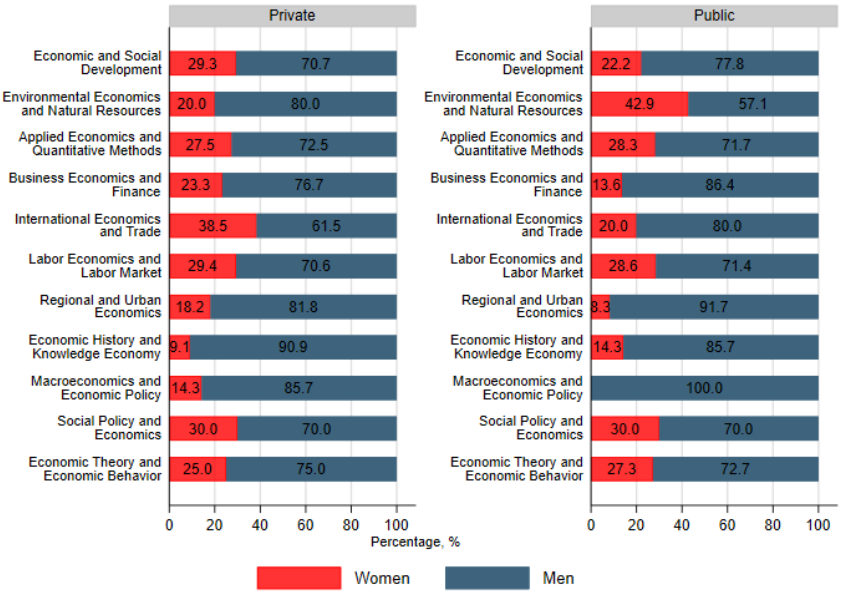

Figure 93: Distribution by Gender, Institution Type and Research Areas of Undergraduate Students involved in Economic Research

7.4 Conclusion

The findings from the analysis of gender distribution in academic roles within the field of economics in Colombia highlight the complex factors influencing women's research participation. Women tend to be more involved in certain areas of economics due to a combination of structural and contextual factors. Notably, women are more prominently represented in fields perceived as aligned with social welfare or offering opportunities to address gender-related issues, such as Social Policy and Economics. This trend may be driven by a greater sense of gender equity and more accessible opportunities for participation in these areas, as well as the presence of mentors and resources that encourage women to pursue research in these fields.

Conversely, the underrepresentation of women in male-dominated areas of economics can be linked to historical barriers, persistent gender biases, and disparities in career advancement and promotion opportunities. These factors contribute to gender imbalances, limiting women's participation in traditionally male-dominated research areas. Additionally, the differences in institutional policies between the public and private sectors may play a role in shaping gender distribution across academic roles and research fields. This underlines the importance of implementing policies that foster an inclusive and equitable environment in academia, ensuring that all researchers, regardless of gender, have equal opportunities to participate and advance in their academic careers.

8 Next Steps in Identifying Gender Gaps in Economics Research

Building upon the data collected through web scraping from Google Scholar, our initial analysis identified researchers in economics, along with detailed information regarding their publications, authorship, and co-authorship. The next phase of our research will focus on conducting a gender-based analysis of authorship and co-authorship within this body of literature. Specifically, we will examine the gender dynamics in publication collaborations, aiming to identify the gender patterns with which female researchers tend to co-publish in the field of economics.

To enhance the robustness of this analysis, we plan to replicate the process using additional databases such as Scopus, RePEc, and JSTOR. This multi-source approach will ensure that our findings are comprehensive and validated across different platforms, further strengthening the reliability of the results.

Moreover, given that the data downloaded from these universities includes researchers from fields beyond economics—such as STEM disciplines—we will extend the analysis by comparing the gender dynamics observed in economics with those in STEM fields. This comparative analysis will provide valuable insights into gender patterns across different academic disciplines.

In parallel, we will consolidate the information requested from universities with economics faculties. This will include data on students, such as academic performance averages for undergraduate, master's, and doctoral programs, as well as details on age at enrollment and graduation. Additionally, we will compile detailed information on faculty members, taking into account their academic qualifications, university of graduation, contract type, academic rank, and time dedicated to the university. This will further enrich our report, providing a more comprehensive understanding of the gender landscape in economics academia.