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Gender wage gap in Italian companies

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Sommario

INTRODUCTION

In our lives, we often take the most obvious aspects for granted and seldom question what seems natural. As White reminds us, one enduring aspect of an individual we never fail to note and remember is their sex. "*We remember it because, like it or not, sex is significant, and it is this significance that we denote by the term gender*" (White, 1989, 17-18).

Gender is often perceived as given; we instinctively categorize individuals as male or female and view it as part of the "natural order" for them to dress differently, style their hair in distinct ways, and exhibit diverse behaviors and roles. It's precisely this belief that renders the behavior of those who deviate from this model (such as homosexuals) scandalous, as society seeks to channel individuals' behavior according to certain patterns.

Simone de Beauvoir[1] famously said, "One is not born, but rather becomes, a woman", highlighting that gender isn't predetermined but develops gradually in our lives, often leaving room for ambiguity.

The terms "sex" and "gender" are often used interchangeably, conflating biological attributes with psychological, cultural, and relational dimensions. "Sex" refers, biologically, to the specific pair of chromosomes (XX and XY) that determine somatic development. The feminist movements of the 1960s brought about an increased discussion of gender equality, extending into literary, historical, and linguistic analyses.

By the 1970s, gender began to be discussed in terms of imbalance and asymmetry. Critique was directed toward a hierarchy based on the biological origins of female inferiority. This newfound awareness necessitated a new terminology; the term "gender" encompassed all issues and problems related to it, although originally the word meant "to produce", and in English, "gender" referred to a specific distinction between noun classes corresponding to distinctions of sex, underscoring how language is imbued with these distinctions (in Indo-European languages, nouns, adjectives, and pronouns are distinguished by masculine, feminine, and neuter genders). The common understanding of gender denotes the cultural difference between men and women based on biological difference, namely, the social significance of sexual differences. The term encompasses all the characteristics, behaviors, and expectations that end up being associated with males and females. This definition raises objections regarding the reductionist dichotomous distinction of gender that fails to consider nuances and individual differences.

To truly define gender, the focus must shift from difference to relationships, as gender is a social structure that bases itself on reproductive processes and bodily differences and has ramifications on all aspects of life.

The term "gender", therefore, since its inception, remains closely linked to that of "power" because belonging to a gender creates boundaries and inequalities that serve to consolidate and maintain most of the power and wealth in the hands of men. Gender is a powerful variable that enables the social construction of an "ordered" world in the realms of reproductive and social production, and it underpins society's very ability to survive. Thus, gender can also be considered a political issue because it's within politics that the origins of reform movements lie, as well as strong resistance to change and to this upheaval of power and the "natural order".

[1] Simone de Beauvoir was a French philosopher, writer, and political activist. She is primarily known for her philosophical work and her role as a key figure in the feminist movement. One of her most famous works is "The Second Sex" (Le Deuxième Sexe), published in 1949, in which she analyzes the condition of women in society and female oppression. Beauvoir was the life partner of philosopher Jean-Paul Sartre, and her influence in the intellectual world of the 20th century was significant.

1. Gender disparity

In the contemporary global landscape, gender disparity remains a widespread social, economic, and political challenge. Gender disparity refers to systematic differences in opportunities, access, and resources between men and women, often rooted in cultural norms, discriminatory practices, and structural differences. This disparity is reflected in multiple areas of life, including education, employment, political participation, access to economic resources, and health.

Despite the advancements made in recent decades to promote gender equality, many parts of the world still face significant disparities. Women face significant challenges in accessing quality education, dignified employment, political participation, and control over economic resources. These disparities are often exacerbated by intersecting factors such as social class, ethnicity, sexual orientation, and disability, which amplify inequalities and create situations of structural disadvantage for certain groups of women.

Gender disparity is not only a matter of social justice but also has serious implications for sustainable development and the overall well-being of societies. Investments in eliminating gender disparities not only promote dignity and fundamental human rights but also stimulate economic growth, improve social stability, and foster global peace and security.

In this perspective, exploring the causes, impacts, and solutions to gender disparity becomes essential for building a more equitable, inclusive, and sustainable world. This document aims to analyze the complex dynamics of gender disparity in the global context, examining the challenges still present, best practices, and strategies to promote gender equality and social progress worldwide.

1.1 Background of the Gender Disparity

It's essential to distinguish between sex and gender to analyze these issues more specifically. "Sex" refers to the biological and anatomical characteristics of individuals: female or male. It's determined by chromosomes and is primarily, but not exclusively, visible in primary and secondary sexual organs. Sex is natural, universal, and clearly unchangeable over time.

The term "gender" refers to the process of social construction of biological differences. It indicates the social and cultural traits that give meaning to sex, qualifying behavior, attitudes, and experiences in terms of masculinity and femininity: woman and man. Since gender is a social construction, it

varies from culture to culture, is relational, social, flexible, and mutable (Piccone Stella and Saraceno, 1996)[2].

What does it mean to be a woman or a man? What does it mean to be feminine or masculine? What does it mean to say that gender is performative and related to body techniques? We'll discover that much of what comes to mind (work, games, dressing styles, behaviors, ways of speaking) is something that "is done," not something that "is". It's a matter of personal experience, linked to how we grow up, what we do, how we present ourselves, and how we relate to others. The essence of learning masculinity and femininity inscribes gender difference in bodies in the form of walking styles, speaking styles, attitudes, gaze, and sitting postures (Bordieu, 1998).

What is learned, starting from childhood, mostly consists of acquiring a certain gender competence, from which children learn models of personal life practices called "femininity" and "masculinity" (Connel, 2006). Expressions like "don't act like a girl", "you seem like a boy" constitute one of the many ways in which such practices are learned. However, it's essential to specify that there isn't a single model of masculinity and femininity: gender is plural, relational, and situational. It's a set of behaviors produced in specific situations (Kimmel, 2004). Terms like hegemonic masculinity or hegemonic femininity indicate not only a plurality of femininities or masculinities but also relationships among different types, relationships that are alliances, dominations, and subordinations (Connel, 1996). Considering all these elements, we can see how society influences the construction of femininity and masculinity.

Even today, sports activities are gendered, despite the recent increase in female participation in sports like soccer and boxing. Think about the management of physical education hours in many Italian schools: activities are often identified and divided by gender, for example, volleyball for females and soccer for males (Bellassai, 2004).

[2] Silvia Piccone Stella and Chiara Saraceno are prominent Italian sociologists known for their work on gender studies and family sociology. They co-authored the book "Genere. La costruzione sociale del femminile e del maschile," published by Il Mulino in 1996.

In this regard, it's crucial to mention the concept of performance introduced by Judith Butler (Butler, 1990). Butler is an American theorist influenced by linguistic constructionism, where material facts are always experienced through cultural, social, and discursive mediations, including sex and gender. Sexual difference is, according to Butler, both material (biological) and cultural (discursive).

Sex isn't a bodily given upon which gender as a social construction is built but is rather a cultural norm of power that regulates conception within a culture of bodies. Humans perform gender throughout their lives, iterating behaviors that subject them to gender norms. Gender is thus a bodily style, a series of acts, a cultural strategy, a repetition, a simulation. Asserting that sex is performative means stating that bodies are never just described but are constructed in the act of their description. The doctor who declares, "it's a boy/girl" not only reports what he sees but, according to Butler, has the power to assign a sex and gender to that body, and his statement is therefore performative (Butler, 1993).

1.1.1 Management field

The evolution of management practices has ushered in a reevaluation of perspectives, particularly through the lens of women. Ikujiro Nonaka[3] (1995) posits that management transcends mere techniques and it embodies values. Innovators often commence with personal beliefs, attempting to transform them into tangible concepts within their organizations, thus realizing them practically.

For years, the female value system, characterized by unique sensitivity and perhaps undiscovered intuitive intelligence, has been overshadowed by dominant male culture. Yet, contemporary shifts seem to permit women to articulate unconventional ideas, potentially leading to success and profitability. Despite progress, the corporate world's acceptance of women remains incomplete. Motherhood, primarily viewed in terms of cost, poses a challenge. However, reframing the question to assess the cost of not selecting women underscores their importance to companies.

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[3] Ikujiro Nonaka is a distinguished Japanese organizational theorist and a trailblazer in knowledge management. He is renowned for his research on how organizations generate knowledge and foster innovation, notably through his concept of the "Knowledge-Creating Company." Nonaka's theories highlight the significance of tacit knowledge, which is personal and context-specific, and its transformation into explicit knowledge that can be shared and leveraged within an organization to enhance innovation and competitive advantage.

Priscilla Dike[4] (2013) underscores the significance of supporting women during motherhood in the workplace. Investing in maternity support is economically favorable compared to exclusion. Gender diversity can enhance a company's image, responsiveness, and productivity by leveraging individual strengths. Dike advocates for organizational transformation from control-based to trust-based structures, enabling women's active participation despite daily challenges, including those related to motherhood. She envisions businesses as environments where diverse individuals converge, contributing to value creation.

However, translating theoretical intentions into practice remains challenging. McKinsey and LeanIn.Org's Women in the Workplace Report (2019) reveals disparities in female representation and challenges faced by women in leadership roles.

The solution proposed by Dike involves increasing female representation to foster balance and enhance overall performance. Embracing gender equality has become crucial, prompting companies to integrate diversity management into governance structures.

Numerous studies, including those by Post and Byron (2015) and Solakoglu and Demir (2015), have investigated the positive correlation between gender diversity and corporate performance, offering valuable insights for organizational improvement.

These studies shed light on the potential advantages of diverse boards, highlighting the benefits of integrating both men and women. Despite challenges, the findings underscore the importance of gender diversity in driving corporate success and fostering inclusive work environments.

In conclusion, integrating women into leadership roles is not just a matter of social justice but also a strategic necessity for companies aiming to excel in today's dynamic business environment. Embracing gender diversity can result in increased innovation, better decision-making, and sustainable growth. Hence, organizations must continue to prioritize initiatives that promote gender equality and cultivate inclusive cultures that empower all individuals to reach their full potential.

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[4] Priscilla Dike is a distinguished figure in midwifery and an advocate for women's health. After moving from Nigeria, she made London her home in 1985. She began her career as a general nurse and later specialized in midwifery. With over sixteen years of experience as a university lecturer, she has shared her knowledge with many aspiring midwives. Priscilla Dike's career is notable for her activism against Female Genital Mutilation (FGM), her role as a consultant midwife, and her significant contributions to medical research and publications focused on women's health.

1.2 Concept, definition and causes of gender gap

The gender gap, a term coined to describe the unequal treatment and opportunities between men and women, has deep historical roots dating back centuries. Throughout history, societal norms, cultural beliefs, and institutional structures have perpetuated disparities between genders, shaping the lives and experiences of individuals based on their sex. In ancient civilizations, gender roles were often rigidly defined, with women assigned domestic duties and caregiving responsibilities while men held positions of power and authority in the public sphere. These traditional gender roles persisted through the Middle Ages and into the early modern period, influencing social, economic, and political systems.

The Industrial Revolution led to the rise of factories and urbanization, causing major changes in labor patterns. Men primarily took on industrial jobs, while women were pushed into low-paying, marginalized roles such as textile workers and domestic servants. This labor division reinforced gender hierarchies, restricting women's economic opportunities and autonomy. The suffrage movements of the late 19th and early 20th centuries were crucial in the struggle for gender equality. Women activists worldwide mobilized to demand voting rights, political representation, and equal legal treatment. Events like the Seneca Falls Convention in the United States and the suffragette campaigns in Europe exemplified these efforts, challenging the prevailing beliefs in women's inferiority and setting the stage for future advocacy. Despite significant advancements in women's rights and legal protections during the 20th century, gender disparities persisted across various areas. After World War II, more women entered the workforce due to economic necessity and changing societal attitudes. However, they faced barriers to career advancement, wage discrimination, and limited access to leadership roles, reflecting deep-seated gender biases and systemic inequalities.

The feminist movements of the 1960s and 1970s brought global attention to gender inequality and discrimination. Women activists advocated for reproductive rights, workplace equality, and the eradication of gender-based violence, igniting widespread social and political transformations. The enactment of laws such as the Equal Pay Act in the United States and the adoption of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW[5]) by the United Nations demonstrated international commitments to advancing gender equality and protecting women's rights.

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[5]The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) is a groundbreaking international treaty adopted by the United Nations General Assembly in 1979. Often dubbed the "international bill of rights for women", CEDAW seeks to eradicate discrimination against women in all areas and advocates for the equal rights of women and girls worldwide. This treaty plays a crucial role in the efforts of UN Women and other international organizations dedicated to gender equality and the empowerment of women.

In recent decades, the push to address the gender gap has gained momentum, driven by increasing awareness of its extensive effects on individuals, communities, and economies. Efforts such as affirmative action policies, gender mainstreaming strategies, and specific interventions aim to advance gender equality and empower women in various areas of life. Despite progress, substantial challenges remain in closing the gender gap, especially in education, employment, healthcare, and political representation. Women still encounter obstacles in accessing quality education, attaining economic independence, and fully participating in decision-making processes. Structural inequalities, patriarchal norms, and cultural attitudes continue to hinder efforts to achieve gender parity and social justice.

Looking ahead, addressing the gender gap demands coordinated efforts from governments, civil society organizations, and the private sector to dismantle systemic barriers, challenge gender stereotypes, and implement inclusive policies and practices. By creating environments that value diversity, promote gender equality, and empower women and girls, societies can build more equitable and inclusive futures for all individuals, regardless of gender.

The gender gap, a persistent disparity between men and women in various societal domains, arises from multiple interwoven factors that manifest across diverse contexts. These primary causes of the gender gap are embedded in social, economic, cultural, and political dynamics, which significantly influence individuals' opportunities and outcomes based on their gender.

- Gender Discrimination and Stereotypes: gender discrimination, grounded in cultural and social stereotypes, is a leading cause of the gender gap. Predefined gender expectations that assign specific roles and behaviors to men and women restrict opportunities for personal and professional growth. This systemic discrimination is evident in workplace bias, wage disparities, and limited access to leadership positions.
- Limited Access to Education: in many regions worldwide, girls and women encounter substantial obstacles to obtaining quality education. Cultural, economic, and social barriers can hinder girls from attending school or pursuing higher education, thereby limiting their career opportunities and personal growth.
- Disparities in Labor Market Access: despite the growing number of women entering the workforce, significant disparities in employment and career opportunities persist. Women are often concentrated in low-paying and unstable sectors, while men dominate high-income professions and leadership roles. Discriminatory hiring and promotion policies, coupled with gender expectations, continue to reinforce these inequalities.

- Wage Disparities: the gender wage gap is one of the most glaring and widespread indicators of gender inequality. Even with existing laws and regulations designed to prevent wage discrimination, women typically earn less than men for performing the same jobs or roles of equal value. This disparity in earnings is the result of various factors, including discriminatory practices, entrenched gender stereotypes, and the segregation of occupations by gender.

- Unequal Division of Domestic and Care Work: strict social expectations regarding gender roles significantly impact the division of domestic and caregiving responsibilities within families. Women frequently shoulder the burden of unpaid labor, such as household chores and caring for children and the elderly. This unequal distribution limits their time and opportunities to fully engage in the workforce and pursue their professional goals.

- Lack of Political Representation: women are frequently underrepresented in political decision-making processes and public institutions. The absence of gender parity in political and leadership roles affects policymaking and the representation of women's interests in the public domain.

Tackling the primary causes of the gender gap necessitates a global commitment to promoting gender equality, combating discrimination and biases, and establishing inclusive and equitable systems that enable both men and women to realize their full potential. Only through coordinated and sustained efforts can we significantly diminish the gender gap and create fairer, more inclusive societies for everyone.

1.2.1 Economic Sphere

Gender disparities within the economic sphere represent a critical aspect of broader societal inequalities. These gaps encompass a range of economic indicators, from wage differentials to career opportunities, reflecting systemic biases and structural barriers that hinder women's full participation and advancement in the economy.

In the economic realm, gender gaps refer to the unequal distribution of resources, opportunities, and rewards between men and women. These disparities are evident in various dimensions:

- Wage Discrepancies: despite having similar qualifications and job roles, women often earn less than their male colleagues. Contributing factors include occupational segregation, pay discrimination, and the undervaluation of sectors predominantly

occupied by women. The gender pay gap not only reflects existing inequalities but also impacts women's economic stability and retirement security.

- Occupational Segregation: women frequently find themselves in lower-paying and less prestigious sectors, while men dominate higher-paying industries and leadership roles. This occupational divide is rooted in persistent gender norms, limited access to mentorship and networking, and biases in hiring and promotion practices. Additionally, women are often funneled into roles perceived as extensions of household duties, which are undervalued in the labor market.

- Leadership Representation: women continue to be underrepresented in senior management and executive positions across various industries. Glass ceilings, insufficient support for work-life balance, and gender biases in leadership evaluations hinder women's progress to top-tier roles. This lack of representation perpetuates inequalities in decision-making and resource allocation, resulting in a scarcity of diverse perspectives in leadership.

- Access to Financial Resources: female entrepreneurs often encounter significant barriers in accessing capital, loans, and venture funding compared to their male peers. Discriminatory lending practices, stereotypes suggesting women are more risk-averse, and limited networking opportunities impede women's ability to launch and grow businesses. These constraints stifle economic growth and innovation, as diverse entrepreneurial ventures are less likely to secure the necessary support.

Achieving gender equality in the economic necessitates diverse strategies, including policy reforms, educational and training programs, corporate responsibility, financial accessibility, and cultural transformation.

- Policy Reforms: governments must implement and uphold equal pay legislation, foster workplace policies that support families, and endorse affirmative action initiatives that promote gender diversity in recruitment and career advancement.

- Education and Training: ensuring women and girls have equal access to education and vocational training is essential. Promoting involvement in STEM fields and offering scholarships and incentives for women can help close the gender gap.

- Corporate Accountability: companies must be responsible for meeting gender diversity goals. This involves creating inclusive workplaces, providing mentorship and leadership development programs specifically for women, and ensuring equal opportunities for

career progression. Transparent reporting on gender diversity metrics and progress toward these goals can enhance accountability and drive change.

- Financial Inclusion: it is crucial to broaden access to financial services and entrepreneurial support programs tailored to women. Microfinance initiatives, mentorship networks, and investor groups targeting female-led businesses can act as powerful drivers for economic empowerment and wealth creation.

- Cultural Shifts: achieving societal change to address entrenched gender norms and stereotypes is essential. Media campaigns, educational initiatives, and community programs that advocate for gender equality and challenge traditional gender roles can help transform cultural perceptions.

By tackling these fundamental issues and adopting a comprehensive approach that combines policy measures, corporate efforts, and societal transformations, we can establish a more equitable and prosperous economic environment for all. This inclusive strategy not only benefits women but also fosters economic growth, drives innovation, and enhances social well-being.

1.2.2 Political and social fields

Gender disparities persist not only in the economic sector but also in political and social spheres, reflecting deep-rooted inequalities that hinder the full participation and representation of women. Tackling these disparities demands concerted efforts across political, social, and cultural domains to dismantle barriers and promote gender equality.

In the political realm, women continue to encounter significant obstacles in achieving equal representation and influence. Despite advancements in some regions, women are still underrepresented in decision-making bodies, such as parliaments, cabinets, and local governments. This lack of representation limits the diversity of perspectives and undermines the legitimacy of democratic governance. Additionally, women in politics often face gender-based discrimination, harassment, and stereotyping, further hindering their ability to lead effectively. Efforts to bridge the gender gap in politics must include targeted strategies to enhance women's political participation and leadership. This can involve implementing affirmative action measures, such as gender quotas, to ensure greater representation of women in elected positions. Furthermore, cultivating a supportive political culture that values and respects women's contributions is crucial for creating an enabling environment for women in politics.

In the social realm, gender disparities appear in various forms, including unequal access to education, healthcare, and social services. Discriminatory social norms and practices perpetuate gender-based violence, restrict women's autonomy, and limit their opportunities for personal and professional growth. Gender stereotypes and traditional roles constrain individuals' choices and sustain inequalities across generations.

To address gender gaps in the social sphere, comprehensive strategies are necessary to challenge discriminatory norms and promote gender-sensitive policies and programs. This includes investing in girls' education, promoting reproductive rights and healthcare access, and implementing measures to prevent and respond to gender-based violence. Additionally, empowering women economically by providing access to resources, employment opportunities, and social protection programs is crucial for advancing gender equality and social inclusion.

Moreover, promoting gender equality requires engaging men and boys as allies in the fight against gender-based discrimination and violence. By challenging harmful masculine norms and fostering positive attitudes towards gender equality, societies can create more inclusive and equitable environments that benefit everyone.

In summary, overcoming gender gaps in political and social spheres necessitates broad and coordinated actions to remove systemic obstacles, counter discriminatory norms, and advance gender equality. By focusing on women's political involvement, leadership, and social empowerment, societies can unlock the full potential of gender equality, fostering more equitable and inclusive environments for everyone.

Although women in various EU Member States achieved the right to vote and hold political office around a century ago, their representation in political decision-making remains insufficient at local, national, and EU levels, as indicated by EU-wide data. Despite some progress in recent decades, particularly in political influence, the gender gap remains most pronounced in this domain. The pandemic highlighted progress in gender equality primarily within political power, while other vital sectors like employment and education saw stagnation or setbacks in many EU countries. Sweden and Finland lead with scores above 90 on the political power indicator, reflecting superior gender balance in political representation. Other Member States, such as France, Austria, Belgium, and Spain, have also made notable strides. Conversely, countries at the lower end of the ranking, including Italy, Portugal, and Lithuania, have improved significantly from lower starting points, though those at the very bottom still score below 50 points.

Since the inaugural European Parliament elections in 1979, the proportion of female Members of the European Parliament (MEPs) has gradually increased, reaching 41% after the 2019 election. Currently, it stands at 39.4%, exceeding both the global average for national parliaments (26.5%) and the European average (31.0%). However, there are substantial differences among Member States; some are close to achieving gender parity, whereas others, like Romania, Cyprus, and Greece, have less than a quarter of their MEPs who are women. Notably, Bulgaria has progressed significantly, with the percentage of female MEPs increasing from 17.6% to 29.4% in the most recent European Parliament term[6].

The proportion of women in the European Commission has varied over time. In 2019, Ursula von der Leyen, the first female President of the European Commission, aimed for gender parity among Commissioners. At the beginning of the current Commission term, 12 out of 27 Commissioners were women, compared to 9 out of 28 in the previous term. With the addition of Mairead McGuinness in October 2020, the Commission now includes 13 women (48.1%) and 14 men. Additionally, one of the three executive vice-presidents and two of the five other vice-presidents are women. Female Commissioners manage a variety of portfolios, covering areas such as the digital age, health, transport, and international partnerships. Ursula von der Leyen has committed to achieving full gender equality at all levels of Commission management by the end of 2024.

Gender disparities persist across multiple sectors, including economic, political, and social spheres, reflecting deep-seated inequalities that limit women's full participation and representation. Addressing these disparities requires coordinated efforts across political, social, and cultural domains to break down barriers and promote gender equality

In politics, women face substantial hurdles in achieving equal representation and influence, despite advancements in some regions. They remain underrepresented in decision-making bodies such as parliaments and cabinets, which limits the diversity of perspectives and undermines democratic legitimacy. Moreover, women in politics often encounter gender-based discrimination and stereotyping, which impedes their ability to lead effectively.

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[6]Data from: https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/739383/EPRS_BRI(2023)739383_EN.pdf

Efforts to bridge the political gender gap require targeted initiatives, including affirmative action policies like gender quotas, to enhance women's participation and leadership roles in politics. Additionally, creating a political culture that appreciates and supports women's contributions is essential.

In the social sphere, gender inequalities manifest in various forms, such as unequal access to education, healthcare, and social services. Discriminatory norms perpetuate gender-based violence and limit women's autonomy, sustaining generational inequalities.

To address these issues, comprehensive strategies must challenge discriminatory norms and promote gender-sensitive policies and programs. This involves investing in girls' education, ensuring reproductive rights, and tackling gender-based violence. Empowering women economically by providing access to resources, job opportunities, and social protection programs is crucial for achieving gender equality and social inclusion. Furthermore, engaging men and boys as allies in combating gender-based discrimination and violence is vital for promoting gender equality and fostering inclusive social environments.

In conclusion, addressing gender gaps in the political and social spheres requires comprehensive and coordinated efforts to dismantle systemic barriers and promote gender equality. By prioritizing women's political participation, leadership, and social empowerment, societies can become more just and inclusive for everyone.

Despite progress in various EU Member States, significant disparities in women's political representation persist. While some countries are approaching gender parity, others still lag, underscoring the need for ongoing efforts to enhance women's participation in decision-making processes.

Similarly, the European Commission has made strides towards gender balance, with more women holding key positions compared to previous terms. However, achieving full gender equality across all levels of Commission management remains an objective, reflecting continuous efforts to address gender disparities and promote inclusivity.

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1.2.3 Educational opportunities

In recent decades, strides have been made towards achieving gender equality in education. However, significant disparities still exist, particularly in the opportunities afforded to different genders within the educational system.

One area where these differences are evident is in access to certain fields of study. Despite efforts to encourage gender-neutral education, certain subjects continue to be perceived as more suitable for one gender over the other. For example, STEM (Science, Technology, Engineering, and Mathematics) fields are often dominated by males, while humanities and social sciences may see a higher proportion of female students. These stereotypes and societal expectations can limit the choices and opportunities available to individuals based on their gender.

Moreover, even when girls and boys have equal access to education, they may experience different treatment within the classroom. Studies have shown that teachers may unintentionally exhibit biases towards certain genders, affecting students' confidence and performance. Additionally, societal norms and expectations can influence the subjects and activities that boys and girls feel comfortable participating in, further perpetuating gender disparities in educational attainment. Beyond the classroom, access to educational resources and support systems may also vary based on gender. In some communities, cultural norms prioritize boys' education over girls', leading to disparities in enrollment rates and dropout rates. Economic factors can also play a significant role, with families facing financial constraints more likely to prioritize the education of one gender over the other.

Addressing these disparities requires a multi-faceted approach. Educators must be trained to recognize and challenge gender biases in the classroom, ensuring equal opportunities for all students. Additionally, efforts to diversify curricula and promote non-traditional gender roles can help break down stereotypes and encourage students to explore a wider range of academic interests. Outside of schools, community-based initiatives and policy interventions can help address systemic barriers to education, such as poverty and cultural norms. By investing in girls' education, societies can unlock the full potential of their populations, leading to greater economic prosperity and social development.

The Global Gender Gap Report 2020[7] revealed that 88% of females worldwide had completed primary education, while the percentage for males stood at 91%. Conversely, a higher proportion of females had achieved tertiary education. This report, which benchmarks national gender disparities across economic, political, educational, and health domains, highlighted Iceland as the leading country in 2020 with a score of 0.87.

In 1960, women in the 126 surveyed countries had an average of 2.6 years of education. By 2010, this figure had nearly tripled to 7.7 years. Women now receive more education than ever before across all nations. During the same period, men's education also saw an increase, from 3.5 years in 1960 to 8.2 years in 2010. The United Arab Emirates had the most significant increase in female education, rising from an average of 0.9 years in 1960 to 10 years in 2010. Even Senegal, which had the smallest increase in female education, showed significant improvement. In most countries, the rise in women's education paralleled the increase in men's education.

Exceptions to the trend include Afghanistan, Yemen, and the Central African Republic, where women's educational progress lagged that of men. However, these are outliers, as women's educational attainment exceeded men's in 94 out of 126 countries. Even in regions with minimal gains, significant improvements were observed. For instance, in Haiti, where Latin America and the Caribbean saw the smallest increase, women's education rose over six-fold, from just over half a year to more than three years. Similarly, in Yemen, despite minimal progress, women's education increased from virtually none in 1960 to over two years in 2010. New Zealand, with modest gains in East Asia and the Pacific, saw an increase of 1.6 years, though women's education was already high in 1960 at an average of 9.8 years.

Dramatic improvements in women's educational attainment were evident across all regions. In Malaysia, for example, women's education jumped from 1.5 years in 1960 to over 10.2 years in 2010. Botswana experienced a sixfold increase, from 1.5 years to 9.4 years. Overall, women's educational attainment more than doubled in 107 out of 126 countries and increased by over five years in 70 countries. The Middle East and North Africa witnessed the largest average gain, with women's education rising by over six years. Even in historically low-education regions for women, such as South Asia and Sub-Saharan Africa, women's education more than quadrupled, despite smaller gains compared to other regions. Despite these disparities, the overall trend shows that women now receive more education than ever before across all countries and regions.

[7] The Global Gender Gap Report 2020, produced by the World Economic Forum, is an extensive analysis that examines the progress of 153 nations toward gender equality in four key domains: economic participation, educational attainment, health and survival, and political empowerment.

Gender disparities often worsened before showing signs of improvement. Despite the overall positive trend over fifty years, many countries experienced widening gender gaps before seeing a reduction. This phenomenon is particularly evident in the Middle East and North Africa, as well as Sub-Saharan Africa. In the Middle East and North Africa, the gap expanded from -1.1 years in 1960 to -1.4 years in 1985, before gradually narrowing to -0.4 years by 2010. Similarly, in Sub-Saharan Africa, the gender gap worsened from -0.72 years in 1960 to -1.22 years in 1985, eventually improving to -0.90 years by 2010. This pattern contrasts with regions that had higher average education levels in 1960. For instance, in Europe and Central Asia, the gender gap steadily decreased from -1.05 years in 1960 to -0.14 years by 2010. Likewise, in East Asia and the Pacific, the gap consistently improved from -1.43 years in 1960 to -0.40 years in 2010. In Latin America and the Caribbean, where women initially lagged men by 0.42 years in 1960, the gap only slightly widened to -0.46 years by 1985 before narrowing to -0.08 years by 2010.

Few countries exhibit a scenario where men are highly educated while women are not; typically, as men's education levels rise, women's education levels follow. In 1960, only seven countries in the sample had high levels of male educational attainment, with just two of them displaying gender gaps. Most countries had low levels of male education, with around 42% also experiencing significant gender gaps in educational attainment.

By 2010, the number of countries with high educational attainment had risen to 68. More than half of these sampled countries had achieved high education levels with minimal gender disparities by 2010. Additionally, nearly half of the nations with low education levels for both genders in 1960 had transitioned to high male education levels with narrower gender gaps by 2010. However, in countries where male educational attainment remained low from 1960 to 2010, the gender gap fluctuated, making future trends uncertain. Conversely, in countries where men had high levels of education, gender gaps in educational attainment generally decreased over time. All seven countries that had high male education levels in 1960 maintained these levels and showed small gender gaps by 2010. Even countries that had significant gender disparities in 1960, such as Israel and Japan, saw these gaps diminish by 2010. On the other hand, countries like Bolivia, Ghana, Iraq, South Korea, and Tunisia had high male education levels in 2010 but still exhibited notable gender gaps.

The educational trajectory of these countries demonstrates a pattern where male education initially surpasses female education, but over time, female attainment catches up. While progress varied among these nations, gender gaps in educational attainment generally began to close between 1980 and 1990. If current trends continue, Bolivia, Ghana, and Tunisia could potentially eliminate gender

gaps by 2051, although Iraq may not achieve this until 2098. Despite fluctuations, the number of countries with high male educational attainment has steadily increased over time. However, the proportion of these high-education countries with significant gender gaps has been declining since 1965. Although some countries experienced brief periods with high male education levels and considerable gender gaps, many eventually saw these gaps decrease. Nonetheless, in 2010, 30 countries still had gender gaps of more than one year in educational attainment, with most of these nations also ranking low on other development indicators. These challenges highlight the multifaceted obstacles hindering progress in girls' education, particularly in fragile states. Addressing gender disparities in education often requires comprehensive strategies that tackle broader issues of governance and development, rather than solely focusing on interventions for girls' education.

1.3 National Context of the Gender Gap

In Italy, as in many other societies, gender issues remain both highly relevant and complex. Despite notable advancements towards gender equality over recent decades, significant inequalities and disparities continue to impact various aspects of daily life. One prominent area of gender disparity is employment. According to Eurostat, women constituted 46.5% of the Italian labor force in 2020. Nonetheless, despite their considerable presence in the workforce, women are underrepresented in leadership positions. Data from the National Institute of Statistics (ISTAT) indicates that women hold only 33.9% of leadership roles within Italian companies. Additionally, Eurostat reported that the gender pay gap in Italy was 5.8% in 2020, underscoring the ongoing wage disparities between men and women.

These disparities result from a combination of cultural, social, and economic factors. In Italy, the impact of motherhood and family responsibilities on women's employment opportunities is particularly significant. According to a report by the Organization for Economic Co-operation and Development (OECD[8]), women in Italy devote an average of 20 hours per week to unpaid care work, compared to only 8 hours for men. This significant disparity often forces women to make difficult choices between advancing their careers and managing family responsibilities, contributing to wage gaps and hindering true equality in the workplace.

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[8] The Organization for Economic Co-operation and Development (OECD) is a global organization founded in 1961 to promote economic growth and international trade. It consists of 38 member nations and originated from the Organization for European Economic Co-operation (OEEC), which was established in 1948 to oversee the Marshall Plan for the reconstruction of Europe following World War II.

Beyond employment, gender disparities are also present in education, politics, and health. Although Italian women are attaining higher levels of education, their involvement in political life is still limited. The Inter-Parliamentary Union (IPU) reports that women occupy only 35.9% of the seats in the Italian Parliament. Moreover, reproductive and sexual health issues continue to spark debate and controversy, with public policies often reflecting gender biases that restrict women's access to essential services and information.

Therefore, gender disparity in Italy is a complex and multifaceted issue that demands a sustained commitment from society to foster equal opportunities and challenge stereotypes and discrimination. Achieving a truly fair and inclusive society for all requires an inclusive, rights-based approach.

1.3.1 Italian Recovery Plan

The National Recovery and Resilience Plan (PNRR) includes a wide-ranging set of investments and reforms designed to improve Italy's equity, efficiency, and competitiveness. It aims to attract investment and increase the confidence of both citizens and businesses. For Italy, this program is not only a chance to achieve a full ecological and digital transition but also an opportunity to tackle long-standing disadvantages that have historically affected the country, particularly impacting vulnerable groups like people with disabilities, youth, women, and those in the Southern regions.

The plan is structured around six Missions, addressing various areas such as digitalization, innovation, competitiveness, culture, and tourism; green revolution and ecological transition; sustainable mobility infrastructure; education and research; inclusion and cohesion; and health. To be effective and in line with the goals of the European Pillar of Social Rights, the country's recovery must ensure equal conditions for all its citizens.

Significant hurdles to economic growth are posed by persistent gender disparities and unequal opportunities. Thus, the Plan's six Missions integrate overarching priorities to tackle gender, generational, and territorial inequalities. To enhance gender equality, regulatory provisions will require companies involved in PNRR, REACT-EU, and FCN-funded programs to link project implementation with the hiring of women and young individuals. These initiatives are designed to increase the labor market inclusion and representation of women and youth.

In August 2021, the Italian government, through the Department for Equal Opportunities, introduced a national strategy for gender equality covering the period from 2021 to 2026. This strategy focuses

on five key priorities: work, income, skills, time, and power, with the objective of improving Italy's position in the Gender Equality Index of the European Institute for Gender Equality by at least five points by 2026.

The strategy aims to boost female participation in the labor market both directly and indirectly, addressing gender disparities that limit access to equal opportunities from a young age. Measures will be adopted to ensure equal opportunities in employment, pay, skills development, work-life balance, and leadership access. By implementing this strategy, the goal is to foster a more inclusive work environment where women have equal opportunities for employment, career advancement, and leadership roles. Additionally, it seeks to narrow the gender pay gap, ensuring that women receive fair and equal compensation compared to their male counterparts.

Ultimately, the aim is to build a more equitable and just society where both men and women have equal chances to achieve their full potential and contribute to the nation's social and economic progress. Gender equality is not only a fundamental right but also a vital element for economic growth and sustainable development. An analysis of the Missions indicates that the majority focus on achieving these goals.

- Mission 1 (Digitalization, innovation, competitiveness, culture, and tourism), for example, seeks to guarantee equal opportunities for workforce entry and career advancement by implementing new recruitment procedures in the Public Administration and reassessing promotion pathways to top management positions. Additionally, this mission aims to rejuvenate cultural and tourism offerings, targeting sectors with higher female participation, such as restaurants, hospitality, and cultural activities.
- Mission 4 (Education and research) focuses on supporting mothers with young children and increasing female employment by expanding childcare services, enhancing early childhood educational services for ages 3-6, and extending full-time school hours. The shortage of childcare services and the unequal distribution of domestic and family responsibilities adversely affect women's participation in the labor force, reducing the percentage of women in employment. Additionally, the Plan invests in the development of scientific and technological skills among high school students to enhance their future employment prospects.
- Mission 5 (Cohesion and Inclusion) aims to bolster female entrepreneurship, guide businesses towards reducing disparities in areas that hinder women's professional development and enhance wage transparency. This mission also seeks to reduce the burden of unpaid care

activities traditionally assigned to women by improving social infrastructure and creating innovative pathways to independence for individuals with disabilities. The employment policy introduced in this mission focuses on promoting the creation of women-led businesses and implementing gender equality certification. It also strives to achieve the full economic and social emancipation of women in the labor market by systematically restructuring current support tools to better align with women's needs. This will be accomplished through an integrated strategy of financial investments and support services specifically designed to promote female entrepreneurship.

- Mission 6 (Health) aims to alleviate the caregiving burden on women by enhancing support services for home and proximity care. Through these improvements, the mission seeks to provide better support to those who require care while reducing the disproportionate caregiving responsibilities that often fall on the female population.

To understand the effects of the PNRR initiatives on female employment, the MACGEM-IT[9] model has been employed. This Computational General Equilibrium (CGE) model, tailored to the specific characteristics of the Italian economic system, quantifies the detailed, direct, and indirect impacts of various fiscal policies and reform scenarios throughout the entire duration of the PNRR.

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[9] The MACGEM-IT model is a static Computable General Equilibrium (CGE) model specifically designed for the Italian economy. Developed by the Treasury Department in collaboration with the University of Macerata, its primary goal is to quantify both the direct and indirect impacts of fiscal policies. Grounded in the national accounting system, the model incorporates widely accepted assumptions about functions and exogenous parameters. It simulates the behavior of various economic agents, including households, firms, the government, and the rest of the world, and their interactions in production, consumption, and accumulation processes. Particularly detailed in its representation of government activities, the MACGEM-IT model includes taxation and expenditure in line with current fiscal regulations. This comprehensive approach allows for the assessment of policy impacts on macroeconomic aggregates, providing valuable insights into the sectoral and overall economic effects of different fiscal measures.

1.3.2 Italian Overview

The recently released "Gender Balance Report" for 2022 by the Ministry of Economy and Finance provides a thorough analysis of the measures and financial allocations aimed at addressing gender disparities in Italy. Beyond summarizing the implemented reforms and expenditures, the report presents a comprehensive array of statistical data, tracking the evolution of gender inequalities within the country.

Central to this report is the Gender Equality Index, an essential metric for measuring progress toward gender parity. Italy has shown notable advancements in certain areas. In the "knowledge" sector, Italy's index increased by 3.2 points above the EU average, elevating the country from twentieth to fourteenth position within the EU. This progress is largely due to the rising number of female graduates aged 25 to 34, though the percentage still lags the European average. Notably, Italy has a higher rate of female graduates in STEM disciplines compared to the EU average, despite a slight decline in recent years.

In the "decision-making power" domain, Italy has also seen substantial improvement, mainly due to legislative measures like the Gender Quota Law. This has led to a significant increase in the representation of women on corporate boards, exceeding the EU average by 2021. However, women continue to hold fewer top-tier managerial positions.

Political representation has also seen a positive shift, with a notable increase in the presence of women at both European and national levels. Despite these significant strides, achieving true gender parity in positions of influence remains an ongoing challenge.

Moreover, Italy's progress in the "health" domain has been commendable, with growth exceeding the EU average. However, gender-based violence continues to be a significant issue, as highlighted by the troubling statistics on femicides. While Italy has one of the lowest femicide rates among EU nations, sustained efforts are essential to effectively address this issue.

In conclusion, Italy has made significant progress in various areas, but achieving full gender equality remains a work in progress. The 2022 Gender Balance Report provides detailed insights into the challenges and potential pathways for further advancement toward a more equitable and inclusive society.

1.4 International Context of the Gender Gap

The position of women in European societies has undergone a dramatic transformation over the past century. In the early 1900s, women's rights were severely restricted in most European countries, with limited access to voting, property ownership, and employment outside the home, except in certain specific roles. By the 21st century, women in Europe have gained the freedom to pursue careers, run businesses, hold governmental leadership positions, and make significant life choices independently.

This shift towards legal equality marks a significant advancement. However, legal equality has not entirely translated into social and economic parity between genders. Women often earn less than men and are underrepresented in management and ownership roles, despite gradual improvements in these disparities over recent decades.

The Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) are particularly notable for their achievements in gender equality. These nations are frequently cited as global exemplars in this regard, a success often attributed to their robust welfare systems and comprehensive women's rights, especially in areas like family planning.

Despite ongoing challenges and disparities in the workplace, women in Europe have made significant strides in reducing economic inequalities over the past fifty years. While women still trail men in key economic metrics such as full-time employment, median earnings, and representation in management and ownership roles, the gaps have been narrowing, often at an accelerating rate. For instance, the gender pay gap in the European Union decreased from 16.4% in 2013 to less than 13% in 2021. Additionally, women's share of total labor income in Europe has steadily increased, rising from about one-third in 1991 to nearly 39% in 2019[10].

Women's participation in the labor force has also grown substantially since the 20th century. In the mid-20th century, many women were restricted from full-time employment due to societal expectations to be housewives and discriminatory hiring practices. Today, the employment rate for women in the European Union is nearly 66%. The employment rate gap between men and women has decreased significantly, shrinking from over 17% in 2005 to less than 10% in 2023.

Despite these advancements, women often encounter a "glass ceiling" in their careers, a metaphorical barrier that prevents them from reaching higher professional levels due to discrimination or external responsibilities. Notably, as of 2020, no European country had achieved gender parity in business

management, and in terms of business ownership, no country had even a third of its business owners being female.

Women in Europe face not only economic disparities and discrimination but also significant social challenges. These challenges include unfair treatment based on gender by acquaintances or strangers, harassment or abuse, and tragically, targeted assaults and crimes. For instance, 44% of women in Germany reported experiencing sexual harassment or aggression on the street within the past year. Regarding workplace harassment, 68% of women in Germany, 66% in Spain, and 57% in the United Kingdom reported experiencing sexual harassment during their lifetimes. In 2020, Poland reported the highest number of femicides, gender-related killings of women or girls, with 400 cases, while France had the highest number of rape cases with female victims.

Educational disparities also impact women's health outcomes. Women with lower education levels report worse health compared to their male counterparts, though at higher education levels, health outcomes are roughly equal. Despite this, women have higher life expectancies than men across all regions of Europe, with women in Western Europe living an average of 84 years. The improvements in women's social, economic, and educational outcomes in recent decades are often attributed to better family planning and access to abortion services. In 2021, Sweden, Iceland, and the United Kingdom had the most progressive abortion policies in Europe, whereas Poland, Hungary, and Bosnia offered the least access.

As social inequality between men and women diminishes over time, women have increasingly assumed positions of political power. In 2022, women held 32.3% of cabinet minister positions in the European Union, and 41% of the European Parliament members were women, marking a 25% increase since the first European Parliament election in 1979.

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[10]Data are from: https://www.statista.com/topics/3719/gender-equality-in-europe/#topicOverview

1.4.1 A Union of Equality: Gender Equality Strategy 2020-2025

The Treaties mandate the promotion of equality between women and men as a core responsibility of the European Union. Gender equality is not only a fundamental value of the EU but also a core right and a key principle of the European Pillar of Social Rights. It reflects our identity and is crucial for building an innovative, competitive, and prosperous European economy. To reach our full potential in business, politics, and society, we must leverage all our talent and diversity. Gender equality enhances employment opportunities and boosts productivity, which is vital as we undergo green and digital transformations and face demographic challenges.

The European Union is recognized as a global leader in gender equality, with 14 out of the top 20 countries worldwide in this area being EU Member States. This progress is attributed to robust equal treatment laws, judicial decisions, efforts to integrate gender perspectives into various policy domains, and legislation targeting specific inequalities. These combined efforts have enabled the EU to make significant strides in gender equality over the past decades.

Despite significant efforts, no Member State has yet achieved full gender equality, and progress remains slow. In the EU Gender Equality Index 2019, Member States averaged a score of 67.4 out of 100, marking an improvement of only 5.4 points since 2005. This slow progress underscores the need to renew efforts to achieve gender equality. Although the gender gap in education is closing, disparities in employment, pay, care, power, and pensions persist. Violations of gender equality continue through sexist hate speech and obstruction of measures against gender-based violence and stereotypes. Alarming levels of gender-based violence and harassment persist, as highlighted by the #MeToo[11] movement, which has exposed widespread sexism and abuse faced by women and girls. This movement has also empowered women worldwide to share their experiences and seek justice in court.

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[11] The #MeToo movement in Europe was inspired by the global effort to end sexual harassment and assault, ignited by the initial movement in the United States. It quickly gained momentum on social media, where women openly shared their experiences of harassment and abuse. The movement in Europe highlighted the widespread occurrence of these issues across various fields, including politics, media, and entertainment. As a result, it led to greater public awareness, prompted policy discussions, and spurred legislative actions aimed at protecting women's rights and creating safer work environments.

This Gender Equality Strategy details the European Commission's approach to advancing gender equality and sets forth the policy goals and key actions for 2020-2025. The strategy aims to build a gender-equal Europe, eliminating gender-based violence, sex discrimination, and structural inequalities between women and men. It envisions a Europe where everyone, regardless of gender, has equal opportunities to follow their chosen paths, succeed, and participate equally in leading society.

The strategy's implementation will use a dual approach, combining specific measures to promote gender equality with enhanced gender mainstreaming. The Commission will strengthen gender mainstreaming by systematically integrating a gender perspective at all stages of policy development across all EU policy areas, both internal and external.

Intersectionality, which examines how gender intersects with other personal characteristics or identities to create unique experiences of discrimination, will serve as a cross-cutting principle in the strategy's execution. In 2020, the 25th anniversary of the adoption of the Beijing Declaration and Platform for Action marked the first universal commitment and action plan to advance gender equality. This strategy represents the EU's contribution to creating a better world for women and men, girls and boys. It supports the achievement of the gender equality Sustainable Development Goal (SDG 5), prioritizes gender equality across all SDGs, and reaffirms the EU's commitment to the UN Convention on the Rights of Persons with Disabilities.

In this chapter, we will analyze the Gender Equality Strategy 2020-2025 by breaking it down into four key parts: being free from violence and stereotypes, thriving in a gender-equal economy, leading equally throughout society, and funding actions to advance gender equality in the EU. Each section will explore the specific goals, initiatives, and measures outlined in the strategy to promote gender equality across different aspects of society and the economy.

A) Being free from violence and stereotypes

Violence against women, stemming from gender-based motives and disproportionately impacting them, persists as a deeply rooted issue tied to gender inequality. This violence is often under-reported and ignored, both in the EU and globally. The EU is devoted to preventing and addressing this violence, ensuring support and protection for victims, and holding perpetrators accountable.

The 'Istanbul Convention,' formally known as the Council of Europe Convention on preventing and combating violence against women and domestic violence, establishes the international standards in

this area. The EU signed the Convention in 2017, marking a significant commitment to these standards. Finalizing the EU's accession to the Convention is a top priority for the Commission. To expedite this process, the European Parliament requested an opinion from the European Court of Justice in 2019.

If obstacles persist in the EU's accession to the Istanbul Convention, the Commission plans to propose alternative measures in 2021 to achieve the Convention's objectives within the scope of EU competence. The Commission aims to introduce an initiative to expand the areas of crime that can be harmonized to include specific forms of gender-based violence, as specified in Article 83(1) TFEU (Treaty on the Functioning of the European Union), known as Eurocrimes[12].

For areas already covered under existing Eurocrimes in Article 83(1) TFEU, the Commission will propose additional measures to prevent and combat specific forms of gender-based violence, such as sexual harassment, abuse of women, and female genital mutilation (FGM).

Practices such as female genital mutilation, forced abortions, forced sterilizations, early and forced marriages, so-called 'honor-based violence,' and other harmful actions against women and girls represent severe violations of their rights and are forms of gender-based violence both within the EU and globally. To address these issues, the EU plans to introduce a Recommendation that focuses on preventing these harmful practices. This initiative will highlight the importance of proactive measures and the crucial role of education. It will also call for stronger public services, enhanced prevention and support measures, professional capacity-building, and ensuring that victims have access to justice.

Furthermore, in 2020, the Commission intends to launch a Victims' Rights Strategy. This strategy will specifically address the needs of victims of gender-based violence, including domestic violence, and will build upon the existing Victims' Rights Directive.

Women with health problems or disabilities are at a heightened risk of experiencing different forms of violence. To address this, the Commission intends to develop and fund initiatives focused on tackling abuse, violence, forced sterilization, and forced abortion. These initiatives will encompass capacity-building for professionals and awareness campaigns about rights and access to justice.

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[12] "Eurocrimes" are serious offenses that the European Union (EU) has determined require a coordinated approach across all Member States. These crimes are especially grave due to their cross-border implications and their significant impact on society and individuals. The basis for addressing these crimes is found in Article 83(1) of the Treaty on the Functioning of the European Union (TFEU), which authorizes the European Parliament and the Council to establish minimum standards for defining criminal offenses and penalties in areas of serious crime that transcend national borders.

Preventing violence effectively is essential and involves educating boys and girls about gender equality from a young age, fostering non-violent relationships. A collaborative approach among various professionals and services is also necessary, including those in the criminal justice system, victim support services, perpetrator programs, and social and health services. Addressing violence against women and ideologies that undermine women's rights can help prevent radicalization that leads to violent extremism and terrorism.

To support these efforts, the Commission will establish an EU network focused on preventing gender-based and domestic violence. This network will bring together Member States and stakeholders to share best practices. Additionally, the Commission will provide funding for training, capacity-building, and support services, with a particular emphasis on initiatives targeting men, boys, and concepts of masculinity.

In tackling violence and harassment in the workplace, the Commission will continue to encourage Member States to ratify the International Labor Organization (ILO[13]) Convention on combating violence and harassment in the work environment. The Commission will also ensure the enforcement of existing EU regulations protecting workers from sexual harassment and increase public awareness of these rules. Furthermore, as an employer, the Commission will introduce a new comprehensive legal framework that includes both preventive and reactive measures against workplace harassment.

Online violence against women has become alarmingly common, with severe and targeted repercussions that are completely unacceptable. This type of violence prevents women from fully participating in public life. Bullying, harassment, and abuse on social media platforms have a profound impact on the daily lives of women and girls. To tackle this issue, the Commission plans to introduce the Digital Services Act, which will define the obligations of online platforms in managing user-generated content. The Act will detail the necessary measures that platforms must take to combat illegal online activities while safeguarding fundamental rights. Moreover, it will empower users to address other harmful and abusive content that, although not always illegal, can be extremely damaging. To further improve online safety for women, the Commission will promote the development of a new cooperation framework among internet platforms.

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[13] The International Labor Organization (ILO) is a specialized agency of the United Nations dedicated to promoting social justice and internationally recognized human and labor rights. Founded in 1919, the ILO is unique in its tripartite structure, which includes representatives from governments, employers, and workers from its 187 member states.

Women and girls constitute most trafficking victims both within the EU and globally, with most being trafficked for sexual exploitation. The EU addresses human trafficking comprehensively by coordinating efforts across various sectors. A key priority is to combat the impunity of users, exploiters, and profiteers. Policies need to focus on the specific needs of trafficked women and girls. As part of the Security Union, the Commission will introduce a new EU strategy aimed at eradicating human trafficking and another strategy to enhance the fight against child sexual abuse.

To effectively combat gender-based violence, the EU needs comprehensive, current, and comparable data. Understanding gender-based violence requires data that is detailed by relevant intersectional aspects and indicators, including age, disability status, migrant status, and rural-urban residence. Eurostat will coordinate an EU-wide survey to gather data on the prevalence and dynamics of violence against women and other forms of interpersonal violence. The findings from this survey are expected to be published in 2023.

B) Thriving in a gender-equal economy

Increasing women's participation in the labor market significantly benefits the economy, particularly in addressing the challenges of a shrinking workforce and skills shortages. Furthermore, it empowers women to take control of their lives, participate in public life, and achieve economic independence.

Although the employment rate for women in the EU is at an all-time high, many still encounter barriers to entering and remaining in the labor market. Certain groups of women, such as those from ethnic or religious minorities or with a migrant background, are consistently underrepresented due to the intersection of gender with other vulnerabilities or forms of marginalization.

Enhancing work-life balance for workers is crucial for addressing gender disparities in the labor market. It is essential that both parents feel responsible and empowered to participate in family care. The Work-Life Balance Directive sets minimum standards for family leave and flexible working arrangements, promoting an equal distribution of caregiving responsibilities between parents. The Commission will ensure that Member States properly transpose and implement this directive, allowing both men and women to thrive personally and professionally. Additionally, it urges Member States to exceed these minimum standards in their policy reviews and provide quality solutions, such as childcare, even in less populated areas of Europe. Within its own administration, the Commission will encourage and monitor the equal use of flexible working arrangements by all employees.

The European Semester will persist in monitoring gender equality challenges within Member States, particularly focusing on labor market dynamics, social inclusion, and education. The Social Scoreboard will continue to track these aspects as part of the European Pillar of Social Rights. Since the 2019-2020 Semester cycle, country reports have been instrumental in monitoring the Sustainable Development Goals (SDGs), including SDG 5 on gender equality, and assessing how economic and employment policies can support these objectives.

The Structural Reform Support Program is available to help Member States integrate gender considerations into public administration, budgeting, and financial management. It also supports the implementation of national structural reforms aimed at reducing the gender employment gap and addressing the higher rates of poverty among women, especially elderly women. Policies related to the economy, taxation, and social protection should not perpetuate structural gender inequalities based on traditional gender roles in both professional and private spheres. The Commission will offer guidance to Member States on how national tax and benefit systems can influence financial incentives or disincentives for secondary earners.

Creating opportunities for women to excel as investors and entrepreneurs is essential for empowering them in the labor market. The EU cohesion policy supports women's entrepreneurship, their reintegration into the workforce, and promotes gender equality in sectors traditionally dominated by men. Targeted initiatives to enhance women's participation in innovation will be developed under the Horizon Europe European Innovation Council. This includes a 2020 pilot program designed to promote women-led start-ups and innovative small and medium-sized enterprises.

The Commission will advocate for increased representation of women in decision-making roles within private equity and venture capital funds. It will also support funds that invest in gender-diverse portfolios through the InvestEU program, which aims to mobilize private and public investment in Europe for sustainable, inclusive, and innovative growth.

Although women outnumber men in university graduations across Europe, they remain underrepresented in higher-paying professions. More women are found in low-paid jobs and sectors, and they often occupy lower-ranking positions. This disparity is influenced by discriminatory social norms, stereotypes regarding the skills of women and men, and the undervaluation of women's work.

The digital transition plays a pivotal role in this context. With the rapid digitization of the economy and labor market, 90% of jobs now require basic digital skills. However, women make up only 17% of those in ICT studies and careers in the EU and only 36% of STEM graduates, despite girls

outperforming boys in digital literacy. To address this gap and paradox, the updated Digital Education Action Plan and the implementation of the Ministerial declaration of commitment on 'Women in Digital' will be key strategies. The 'Women in Digital' scoreboard will be used more systematically to track progress.

The Updated Skills Agenda for Europe will target horizontal segregation, stereotyping, and gender gaps in education and training. The Commission's proposal for a Council recommendation on vocational education and training aims to improve gender balance in professions traditionally dominated by one gender and to challenge gender stereotypes. Additionally, the reinforced Youth Guarantee will focus specifically on young women who are not in education, employment, or training (NEET) to ensure they have equal opportunities.

In the Commission's upcoming communication on the European Education Area, gender equality will be emphasized as a crucial component. The renewed strategic framework for gender equality in sports will focus on increasing the participation of women and girls in sports and physical activities, as well as achieving gender balance in leadership roles within sports organizations.

The principle of equal pay for equal work or work of equal value has been enshrined in the Treaties since 1957 and is a part of EU law, offering legal recourse in cases of discrimination. However, women still earn, on average, less than men. The cumulative gender gaps in employment and pay over a lifetime result in a larger pension gap, which puts older women at a higher risk of poverty compared to men.

To eliminate the gender pay gap, it is essential to address its root causes. These include women's lower participation in the labor market, the prevalence of invisible and unpaid work, higher reliance on part-time work and career breaks, and both vertical and horizontal segregation driven by gender stereotypes and discrimination.

Pay transparency is essential for uncovering pay gaps and discrimination. Many women remain unaware of or unable to prove they are being underpaid due to a lack of transparency. To address this, the Commission plans to introduce binding measures on pay transparency by the end of 2020. This initiative will strengthen employees' rights to access pay information, though it might create an administrative burden for employers. Achieving the right balance requires consulting with social partners and national administrations. The Commission has thoroughly evaluated the current framework on equal pay for equal work or work of equal value. Alongside this strategy, the Commission is launching an extensive consultation process with the public, Member States, and

social partners. Furthermore, the Commission will re-engage with social partners to discuss ways to enhance gender equality in the workplace, including within their own structures, and promote efforts to address gender employment and pay gaps.

Reduced earnings, a higher prevalence of part-time work, and career interruptions due to caregiving responsibilities significantly contribute to the gender pension gap. In the 2021 edition of the Pension Adequacy Report, the Commission, in collaboration with the Council's Social Protection Committee, will examine how risks and resources are distributed in pension systems between women and men. To protect pension rights and encourage the equal sharing of care responsibilities, the Commission will collaborate with Member States and stakeholders to explore providing pension credits for care-related career breaks in occupational pension schemes, as recommended by the High-Level Group on Pensions.

Balancing a successful career with caregiving responsibilities is particularly challenging, especially for women. Often, women's decisions about their careers are influenced by their caregiving duties and whether these responsibilities are shared with a partner. This challenge is even more pronounced for single parents, most of whom are women, and for those living in remote rural areas with limited support services. Women also shoulder a disproportionate share of unpaid work, which makes up a significant portion of economic activity. Achieving an equal distribution of caregiving responsibilities at home is crucial, as is ensuring the availability of childcare, social care, and household services, especially for single parents. Limited access to quality and affordable formal care services is a major contributor to gender inequality in the labor market. Therefore, investing in care services is essential to support women's participation in paid employment and their professional development. This investment also has the potential to create jobs for both women and men.

Although the Barcelona targets for early childhood education and care have largely been met, some Member States still lag significantly behind. To address this, the Commission will propose revising the Barcelona targets to encourage further progress in early childhood education and care among Member States. Additionally, the Commission's 2021 proposal for a Child Guarantee will tackle the most significant barriers preventing children from accessing essential services for their well-being and personal development, aiming to break the cycle of poverty and reduce inequalities.

The Commission will continue to support Member States in improving the availability and affordability of quality care services for children and other dependents. This support will be provided

through investments from the European Social Fund Plus, the European Regional Development Fund, the InvestEU programme, and the European Agricultural Fund for Rural Development.

C) Leading equally throughout society

Women continue to be underrepresented in leadership roles across politics, government agencies, top courts, and company boards. This issue remains even when there is gender parity at lower levels. When men dominate top positions for extended periods, it often results in recruitment patterns influenced by unconscious bias. Effective leadership requires the representation of both women and men. Inclusive and diverse leadership is essential to address the complex challenges faced by today's decision-makers. Greater inclusion and diversity are key to fostering new ideas and innovative approaches, which are beneficial for a dynamic and thriving EU society. Enabling citizens from all backgrounds to participate meaningfully in society is fundamental for a well-functioning democracy and results in more effective policymaking.

A diverse array of talents and skills enhances decision-making and corporate governance, driving economic growth. Despite some progress in recent years, women remain underrepresented in leadership positions within Europe's businesses and industries.

To address this issue, the Commission will advocate for the adoption of the 2012 proposal for a Directive aimed at improving gender balance on corporate boards, setting a target of at least 40% representation of the underrepresented sex among non-executive board members. Concurrently, the Commission will encourage the exchange of best practices to achieve gender balance in executive boards and managerial roles, highlighting national or regional initiatives led by governments, civil society, or the private sector. The EU Platform of Diversity Charters will facilitate this exchange. Additionally, the Commission will maintain collaboration with EU-wide projects like the European Gender Diversity Index (EGDI[14]).

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[14] The European Gender Diversity Index (EGDI) is a comprehensive tool designed to track and measure gender diversity in corporate leadership across Europe. It evaluates the representation of women in decision-making positions within European companies. The primary aim of the index is to provide insights into the progress towards gender equality in corporate governance and to pinpoint areas that still require improvement.

Ensuring equal opportunities for participation is crucial for representative democracy at all levels: European, national, regional, and local. The Commission will promote the participation of women as voters and candidates in the 2024 European Parliament elections, in partnership with the European Parliament, national parliaments, Member States, and civil society. This initiative will include funding and promoting best practices. European political parties seeking EU funding are encouraged to be transparent about the gender balance within their membership.

EU institutions and bodies must also pursue gender balance in leadership positions, and the Commission is dedicated to leading by example. With President von der Leyen's strong support for gender parity within the College of Commissioners, the number of female Commissioners is at an all-time high. The Commission's goal is to achieve a 50% gender balance across all management levels by the end of 2024. To reach this target, the Commission will implement measures such as setting specific targets for female appointments and launching leadership development programs. Furthermore, efforts will be made to increase the proportion of female managers in EU agencies and ensure gender-balanced representation among speakers and panelists at its events.

The Commission will support Member States in crafting and executing more effective strategies to boost the number of women in decision-making roles through the Mutual Learning Program in Gender Equality. Additionally, it will collaborate with the European Institute for Gender Equality (EIGE) to provide data and analysis on trends in the representation of women and men in leadership positions.

D) Funding actions to make progress in gender equality in the EU

The Commission's proposals for the Multi-Annual Financial Framework (MFF[15]) guarantee the incorporation of a gender perspective across the entire financial structure. This integration is particularly evident in various EU funding and budgetary guarantee instruments, including the European Social Fund Plus, the European Regional Development Fund, Creative Europe, the European Maritime and Fisheries Fund, the Cohesion Fund, and the InvestEU Programme.

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[15] The Multi-Annual Financial Framework (MFF) is an essential financial instrument for the European Union, offering a long-term budgetary plan that spans multiple years to ensure stable and predictable funding for various EU policies and programs. The current MFF, which extends from 2021 to 2027, establishes the annual maximum spending limits (ceilings) for different policy areas. This framework is vital for the EU's operations, as it aligns financial planning with the Union's strategic priorities. For the 2021-2027 period, the MFF has allocated a total budget of €1,074 billion, which is distributed across seven major areas.

These funds are dedicated to supporting initiatives aimed at enhancing women's participation in the labor market and improving work-life balance, investing in care facilities, fostering female entrepreneurship, reducing gender segregation in specific professions, and addressing the unequal representation of girls and boys in certain educational and training fields.

The proposed Common Provisions Regulation includes specific "enabling conditions" that require Member States to have a national gender equality strategic framework in place as a prerequisite for accessing funds aimed at improving gender balance in the labor market, work-life balance, or childcare infrastructure. Another horizontal 'enabling condition' mandates the effective implementation of the Charter of Fundamental Rights, which includes gender equality as a key principle, applying to all investments under this regulation.

Dedicated funding will be available through the Citizens, Equality, Rights and Values Program for projects benefiting civil society organizations and public institutions implementing specific actions, such as preventing and combating gender-based violence. Particular attention will be given to women and girls in the asylum and migration area. Through the Asylum and Migration Fund, the Commission will encourage Member States to target actions addressing the specific needs of women in the asylum process and support the integration of women into their new communities. Additionally, the fund will enhance the protection of vulnerable groups, including women victims of gender-based violence in asylum and migration contexts.

In the domain of research and innovation, the Commission will implement new measures to enhance gender equality within Horizon Europe. These may include mandating a gender equality plan from applicants and promoting initiatives to boost the number of women-led technology start-ups. Additionally, funding will be allocated for gender and intersectional research.

There will be avenues to increase women's expertise in entrepreneurship and their involvement in decision-making processes, as well as to invest in the enhancement of basic services in rural areas under the Common Agricultural Policy. To further empower women, a new initiative focusing on women in the "blue economy" will be launched as part of the next European Maritime and Fisheries Fund for 2021-2027. Moreover, an Inclusion and Diversity Strategy for the future Erasmus+ program will offer guidance on addressing gender inequalities across all sectors of education, training, youth, and sports.

The Commission's guidance on socially responsible public procurement seeks to address discrimination and promote gender equality in public tenders. In response to ongoing requests from

several Member States and the European Parliament, the Commission will evaluate the gender impact of its initiatives and monitor spending related to gender equality at the program level within the 2021-2027 MFF. The findings from the recent audit by the European Court of Auditors on gender mainstreaming in the EU budget will be integral to this process. This approach will strengthen the incorporation of gender considerations in the Commission's budgetary procedures, ensuring that policy development and resource distribution are more closely aligned with gender equality goals.

1.4.2 Exploring the Nations with the Narrowest Gender Gaps: Iceland, Finland, Norway, New Zealand, and Sweden

Analyzing the eight distinct geographical regions, it becomes clear that the pace of progress towards gender equality varies widely. Tables 1 and 2 showcase the advancements achieved over the past decade in terms of gender equality across East Asia and the Pacific, Eastern Europe and Central Asia, North America, Western Europe, South Asia, Sub-Saharan Africa, the Middle East and North Africa, and Latin America and the Caribbean.

The Global Gender Gap Index rankings by region, 2023

Eurasia and Central Asia

Country	Rank Regional	Rank Global	Score
Moldova, Republic of	1	19	0.788
Belarus	2	41	0.752
Armenia	3	61	0.721
Kazakhstan	4	62	0.721
Ukraine	5	66	0.714
Georgia	6	76	0.708
Kyrgyzstan	7	84	0.700
Azerbaijan	8	97	0.692
Tajikistan	9	111	0.672
Türkiye	10	129	0.638

East Asia and the Pacific

Country	Rank Regional	Rank Global	Score
New Zealand	1	4	0.856
Philippines	2	16	0.791
Australia	3	26	0.778
Singapore	4	49	0.739
Lao PDR	5	54	0.733
Viet Nam	6	72	0.711
Thailand	7	74	0.711
Mongolia	8	80	0.704
Indonesia	9	87	0.697
Cambodia	10	92	0.695
Timor-Leste	11	95	0.693
Brunei Darussalam	12	96	0.693
Malaysia	13	102	0.682
Korea, Republic of	14	105	0.680
China	15	107	0.678
Vanuatu	16	108	0.678
Fiji	17	121	0.650
Myanmar	18	123	0.650
Japan	19	125	0.647

Europe

Country	Rank Regional	Rank Global	Score
Iceland	1	1	0.912
Norway	2	2	0.879
Finland	3	3	0.863
Sweden	4	5	0.815
Germany	5	6	0.815
Lithuania	6	9	0.800
Belgium	7	10	0.796
Ireland	8	11	0.795
Latvia	9	13	0.794
United Kingdom	10	15	0.792
Albania	11	17	0.791
Spain	12	18	0.791
Switzerland	13	21	0.783
Estonia	14	22	0.782
Denmark	15	23	0.780
Netherlands	16	28	0.777
Slovenia	17	29	0.773
Portugal	18	32	0.765
Serbia	19	38	0.760
France	20	40	0.756
Luxembourg	21	44	0.747
Austria	22	47	0.740
Croatia	23	55	0.730
Poland	24	60	0.722
Slovakia	25	63	0.720
Bulgaria	26	65	0.715
Montenegro	27	69	0.714
Malta	28	70	0.713
North Macedonia	29	73	0.711
Italy	30	79	0.705
Bosnia and Herzegovina	31	86	0.698
Romania	32	88	0.697
Greece	33	93	0.693
Hungary	34	99	0.689
Czech Republic	35	101	0.685
Cyprus	36	106	0.678

Tab 1, source: World Economic Forum, Global Gender Gap Index, 2023

The Global Gender Gap Index rankings by region, 2023

Latin America and the Carribean

Country	Rank		Score
	Regional	Global	
Nicaragua	1	7	0.811
Costa Rica	2	14	0.793
Jamaica	3	24	0.779
Chile	4	27	0.777
Barbados	5	31	0.769
Mexico	6	33	0.765
Peru	7	34	0.764
Argentina	8	36	0.762
Colombia	9	42	0.751
Ecuador	10	50	0.737
Suriname	11	52	0.736
Honduras	12	53	0.735
Bolivia	13	56	0.730
Brazil	14	57	0.726
Panama	15	58	0.724
Uruguay	16	67	0.714
El Salvador	17	68	0.714
Dominican Republic	18	81	0.704
Belize	19	89	0.696
Paraguay	20	91	0.695
Guatemala	21	117	0.659

Southern Asia

Country	Rank		Score
	Regional	Global	
Bangladesh	1	59	0.722
Bhutan	2	103	0.682
Sri Lanka	3	115	0.663
Nepal	4	116	0.659
Maldives	5	124	0.649
India	6	127	0.643
Pakistan	7	142	0.575
Iran (Islamic Republic of)	8	143	0.575
Afghanistan	9	146	0.405

Middle East and North Africa

Country	Rank		Score
	Regional	Global	
United Arab Emirates	1	71	0.712
Israel	2	83	0.701
Bahrain	3	113	0.666
Kuwait	4	120	0.651
Jordan	5	126	0.646
Tunisia	6	128	0.642
Saudi Arabia	7	131	0.637
Lebanon	8	132	0.628
Qatar	9	133	0.627
Egypt	10	134	0.626
Morocco	11	136	0.621
Oman	12	139	0.614
Algeria	13	144	0.573

Sub-Saharan Africa

Country	Rank		Score
	Regional	Global	
Namibia	1	8	0.802
Rwanda	2	12	0.794
South Africa	3	20	0.787
Mozambique	4	25	0.778
Burundi	5	35	0.763
Cabo Verde	6	37	0.761
Liberia	7	39	0.760
Zimbabwe	8	45	0.746
Eswatini	9	46	0.745
Tanzania, United Rep. of	10	48	0.740
Madagascar	11	51	0.737
Botswana	12	64	0.719
Ethiopia	13	75	0.711
Kenya	14	77	0.708
Uganda	15	78	0.706
Lesotho	16	82	0.702
Zambia	17	85	0.699
Togo	18	90	0.696
Cameroon	19	94	0.693
Mauritius	20	98	0.689
Ghana	21	100	0.688
Senegal	22	104	0.680
Burkina Faso	23	109	0.676
Malawi	24	110	0.676
Sierra Leone	25	112	0.667
Comoros	26	114	0.664
Angola	27	118	0.656
Gambia	28	119	0.651
Côte d'Ivoire	29	122	0.650
Nigeria	30	130	0.637
Niger	31	135	0.622
Guinea	32	137	0.617
Benin	33	138	0.616
Congo, Dem. Rep. of the	34	140	0.612
Mali	35	141	0.605
Chad	36	145	0.570

North America

Country	Rank		Score
	Regional	Global	
Canada	1	30	0.770
United States of America	2	43	0.748

Tab 2, source: World Economic Forum, Global Gender Gap Index, 2023

Nonetheless, the top positions in the index continue to be dominated by small Western European nations, with the Nordic countries and New Zealand particularly standing out in the top five.

Iceland is at the forefront of gender equality, consistently advancing towards closing the gender gap since the index's inception in 2006. Remarkably, Iceland has maintained the number one spot for 14 consecutive years, achieving a 91.2% closure of the gender gap, which is a 0.4% point improvement

from the previous year. Iceland's strong performance in the Political Empowerment and Economic Participation and Opportunity sub-indices significantly enhances its overall gender parity ranking. Notably, Iceland has nearly doubled its gender parity score in Political Empowerment since 2006, with female leadership being a key factor in this progress. Over two-fifths of ministerial and parliamentary positions in Iceland are held by women, contributing to the country's impressive 90.1% gender gap closure.

Although Iceland holds a commendable 14th place with a score of 79.6% in the Economic Participation and Opportunity sub-index, there have been some regressions since 2021. Specifically, issues have arisen in wage equality and the representation of senior officials. Despite these challenges, Iceland has consistently maintained gender parity in the proportion of women in technical roles since 2006.

In terms of Health and Survival parity, there has been a slight decline, partly due to a decrease in women's healthy life expectancy by 1.5 years since the 2020 edition. Nonetheless, Iceland continues to achieve nearly perfect parity in Educational Attainment, with a score of 99.1%.

Overall, Iceland's ongoing progress towards gender parity over the years is commendable, particularly with significant advancements in political empowerment and economic participation. However, areas such as economic opportunities and health outcomes still require improvement. Iceland is a leader in gender equality, but there is still work to be done to achieve complete parity across all sectors of society.

Norway has steadily advanced towards gender equality, achieving an improved gender parity score of 87.9% and rising to 2nd place in this year's index. A major contributor to Norway's ongoing progress is its accomplishments in Political Empowerment, with a score of 76.5%, reflecting a 27.1 percentage point increase since 2006. Currently, women hold 50% of ministerial positions and 46.2% of parliamentary seats. Additionally, Norway has experienced female leadership for 18 of the past 50 years. The country also achieves gender parity in primary and tertiary education enrollment.

However, challenges remain in attaining gender parity in Economic Opportunity and Participation (80%). Despite a slight recovery since the last edition, it is still 1.8% points below the 2016 level. While there has been a reduction in the gender pay gap since 2016 and full parity in technical roles has been achieved and maintained, the gender gap in senior roles (score 50.3%) has widened, and the labor force participation rate (84.5%) has yet to fully recover from the pandemic. The healthy life

expectancy of women at birth is 71.6 years, 2.7 years less than the 2020 edition, contributing to a 1.1% point widening of the gender gap in health attainment to 96.1% compared to the 2020 edition.

Despite these advancements, challenges persist in achieving complete gender equality across all sectors of Norwegian society.

Finland has made notable progress toward gender equality, although its advancements have slowed in recent years. In the 2023 edition, Finland reached a gender equality score of 86.3%, a slight increase of 0.3% from the previous edition, securing third place globally. One area where Finland has consistently performed well is education, maintaining gender equality for an extended period. Additionally, the country has seen improvements in political empowerment, with recent female leadership and gender parity in ministerial positions, resulting in a political empowerment score of 70%, the fourth highest in the world.

However, Finland's progress in economic participation and opportunities has shown signs of stagnation, with minor setbacks in senior positions and wage equality compared to the last edition. Despite this, Finland has consistently maintained gender equality in technical roles, with women representing 50% or more of these positions since 2006. Like other high-income economies, Finland has experienced a decline in women's healthy life expectancy by nearly 1.5 years since 2006. This decline has slightly widened the gender gap in health and survival, currently at 97%. While Finland has made significant strides in various areas of gender equality, continued efforts are necessary to address disparities in economic participation and opportunities and to improve health outcomes for women.

Over the past five years, New Zealand has made substantial progress in gender equality, closing over 5% of the overall gender gap and achieving an impressive gender parity score of 85.6%. These achievements have elevated New Zealand to the 4th position globally in 2023.

New Zealand excels significantly in political empowerment, achieving gender parity in parliamentary positions and having had a woman as head of state for 16 of the last 50 years. This places New Zealand third globally for political empowerment parity, highlighting the country's commitment to inclusivity and equal representation. Furthermore, New Zealand has successfully closed the gender gap in enrollment at all education levels and literacy rates, demonstrating its dedication to providing equal educational opportunities for both men and women.

Despite these accomplishments, some areas still require further improvement. In economic participation and opportunity, a gender gap of 12.5% persists in labor force participation, with a score of 73.2%. Although estimated earned incomes for both men and women have increased since 2006, men's incomes have risen at a faster rate, resulting in a 4% increase in the gender pay gap, now standing at a score of 64.2%. This highlights the ongoing need to address wage disparities and ensure equal economic opportunities for all.

In the realm of health and survival, there has been a concerning decline in women's healthy life expectancy over the past three years. This decrease has affected parity in this sub-index, resulting in a score of 96.6%. It is essential to investigate and address the underlying factors contributing to this decline to ensure equitable access to healthcare and improve the overall well-being of women in New Zealand.

Sweden retains its 5th position in the Global Gender Gap Report, having made significant strides in closing the gender gap. The country has closed 81.5% of the gender gap, although this is 0.7 percentage points lower than the previous edition in 2018.

In terms of political empowerment, Sweden performs exceptionally well, with women making up 46.4% of parliamentarians and 47.8% of ministers, resulting in a political empowerment parity score of 50.3%. Women in Sweden occupy significant political leadership roles, contributing to a more balanced and inclusive decision-making process. However, challenges persist in achieving gender parity in economic participation and opportunity. The parity score in this area stands at 79.5%, having stagnated and even decreased by 1.7 percentage points since the last edition. The labor force participation rate for women has not shown significant improvement, and the gender gap in this aspect has widened. Despite this, there has been steady progress in increasing the proportion of women in senior positions over the past decade. Notably, Sweden has maintained over 50% of women in technical roles since 2006, indicating a positive trend in this sector.

Sweden has consistently attained full parity in educational attainment, showcasing its commitment to providing equal educational opportunities for both men and women. This notable achievement highlights the country's dedication to promoting gender equality from an early age.

In contrast, there has been a decline in parity in health and survival, with the current score at 96.3%. This decrease is primarily attributed to a reduction of nearly 1.3 years in female healthy life expectancy at birth since the 2020 edition. It is essential to address the factors contributing to this decline and ensure equitable access to healthcare and well-being for women in Sweden.

Overall, while Sweden has made progress in various domains, challenges remain in achieving complete gender equality. The Nordic countries (Iceland, Finland, Norway, and Sweden) have implemented a range of specific policies and initiatives to advance gender equality, which explains why they have such a small gender gap.

For example, Norway has introduced mandatory paternity leave, known as the "daddy quota", which encourages greater paternal involvement in childcare and fosters gender equality in both family and professional life. Norway was also one of the first countries to implement gender quotas on the boards of publicly traded companies, aiming to increase women's representation in corporate decision-making roles. Additionally, these countries strictly enforce laws and policies to ensure equal pay for equal work, prohibiting gender-based wage discrimination.

Finland provides high-quality and accessible childcare services, allowing women to fully participate in the workforce without compromising family needs. In Sweden, significant investments are made in women's education, with eliminating gender disparities in education being a top priority. Iceland stands out for its initiatives promoting women's participation in the workforce, such as support for female entrepreneurship and women's training programs.

In conclusion, all these countries have implemented anti-discrimination laws that prohibit gender-based discrimination in various contexts, including employment and education.

2. Gender Wage Gap

The concept of the "Gender Wage Gap" delineates the disparity in earnings between men and women, typically assessed through variations in average gross hourly wages prior to tax and deductions. This metric serves as a barometer for gauging discrimination and imbalances prevalent in both the labor market and broader societal frameworks. However, interpreting this index is not straightforward due to its nuanced nature, varying significantly across countries and failing to encapsulate factors that intricately influence it, such as educational discrepancies, work experience differentials, hours allocated to work, job typology, and additional remuneration components like benefits, seasonal bonuses, or productivity incentives.

In essence, when the gender wage gap is computed based solely on average salaries, it's termed the "unadjusted gender wage gap". Conversely, factoring in some of the influencing variables transforms it into the "adjusted gender wage gap." It's imperative to recognize that labor market dynamics are inherently complex and not uniformly comparable across nations owing to distinct legislative frameworks governing employment practices.

Within the discourse surrounding gender pay gaps, economists traditionally emphasize factors such as human capital – encompassing educational attainment, professional tenure, and the division of unpaid labor – as potential mitigating variables against wage disparities. The conventional human capital model posits that women earn less than men due to their perceived lack of accumulated work experience. However, this explanation falls short in elucidating gender wage gaps observed across Europe and the United States. Contemporary analyses delve deeper, considering the influence of legislative enactments, psychological attributes, non-cognitive traits, and individual competencies to arrive at a more comprehensive understanding of this multifaceted phenomenon.

From a neoclassical economic standpoint, given identical productive resources, technological infrastructure, and individual inclinations, a rational and self-regulating market system should ideally ensure equitable resource allocation. Consequently, gender-based wage discrepancies are viewed as discriminatory, with women being remunerated less than their male counterparts for reasons unrelated to productivity. This theoretical framework underscores the detrimental impact of non-productivity-related gender differentials on market efficiency and social equity.

The root causes of gender wage disparities are manifold and interconnected, encompassing differential labor market participation, overt discrimination, occupational segregation, career progression impediments, educational attainment levels, undervaluation of feminized sectors, and

persistent gender imbalances in decision-making realms and caregiving responsibilities within households. For instance, women often encounter lower employment prospects, characterized by precarious contracts and part-time engagements, alongside challenges in balancing work-life dynamics, particularly during pivotal stages conducive to career advancement and family-building endeavors.

Moreover, social welfare systems wield considerable influence over gender pay gaps by determining the accessibility and affordability of crucial support services like childcare facilities and early childhood education. Additionally, state interventions, such as parental leave policies and flexible work arrangements, profoundly shape women's labor force participation rates, thereby influencing overall wage differentials.

Vertical and horizontal occupational segregation, compounded by the phenomenon of the "glass ceiling", further exacerbate gender-based income disparities, perpetuating entrenched inequalities within organizational hierarchies. Women's inclination towards non-competitive work environments, attributed to personality traits and societal expectations, also contributes to this pervasive wage gap, manifesting in diminished opportunities for career progression and leadership roles.

Ultimately, bridging the gender wage gap necessitates a multifaceted approach, encompassing legislative reforms, social policy interventions, educational initiatives, and cultural shifts to dismantle systemic barriers and foster an environment conducive to gender parity in economic realms. Addressing the gender pay gap is not merely an economic imperative but a fundamental step towards achieving societal equity and justice, ensuring that individuals, irrespective of gender, can realize their full potential and contribute meaningfully to collective prosperity.

2.1 Definition and studies on Gender Wage Gap

The "Gender Wage Gap" refers to the disparity in earnings between men and women, determined by examining the difference in average gross hourly wages, which are wages before taxes and deductions. This metric highlights discrimination and inequalities within the labor market and society. However, it is a somewhat ambiguous statistical measure because the gender pay gap varies by country and does not account for factors such as educational attainment, work experience, hours worked, the nature of the job, and additional compensation like benefits, seasonal bonuses, or production incentives. Therefore, when the gender wage gap is calculated using the average salary, it

is known as the "unadjusted gender wage gap". Conversely, when at least some influencing factors are considered, it is referred to as the "adjusted gender wage gap".

It is also important to note that the labor market is not easily comparable across countries due to differing national legislations.

Economists traditionally focus on variables such as human capital, including education, work experience, and the division of unpaid labor, to explain wage differences and discrimination. According to the human capital model, women earn less than men because they have not accumulated sufficient work experience. However, this model does not fully account for the gender pay gap in Europe or the United States. Current literature on the gender wage gap also considers the impact of laws, psychological and non-cognitive traits, and individual skills to provide a more comprehensive understanding.

Neoclassical economic theory[16] posits that, given the available productive resources, technology, and individual preferences, the market achieves the most efficient allocation of resources through a rational and self-regulating system, without the need for state intervention. In this supply and demand model, the labor market is competitive, and female workers are considered like male workers, though "not perfectly identical... but comparable in their fundamental characteristics". Thus, neoclassical theory condemns gender wage disparities as discriminatory, arguing that it is unjust for some workers (men) to be paid more and others (women) to be paid less than their marginal productivity based on characteristics unrelated to productivity, such as gender.

The causes of gender wage disparities are complex and interconnected, arising from factors such as labor market participation differences, direct discrimination, gender segregation, career and wage structures, education levels, the undervaluation of work in female-dominated sectors, and the ongoing imbalance in decision-making roles and caregiving responsibilities within families. In terms of labor market participation, economic literature indicates that women are often perceived as having low employment potential, marked by lower employment rates, temporary contracts, and part-time work. Additionally, challenges in achieving work-life balance penalize women during critical career-building stages, leading to reduced working hours compared to men.

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[16] Neoclassical economic theory is a prominent economic framework that originated in the late 19th century and continues to be influential today. It represents a revival and refinement of classical economic principles established by early economists like Adam Smith and David Ricardo, incorporating new concepts such as utility maximization and marginal analysis.

This situation frequently steers women towards low-skilled jobs with limited career advancement, satisfaction, and earnings. Furthermore, the poor quality of employment, defined by the labor market's ability to provide adequate and stable income, is a significant issue for social policies. As a result, a higher percentage of women fall into the "working poor" category, earning less than 60% of the average salary despite being employed.

It is also important to recognize that a country's welfare system plays a crucial role in influencing the gender pay gap for several reasons. Firstly, it affects the availability of public services that serve as alternatives to caregiving, such as childcare centers, nursery schools, and kindergartens. Secondly, social infrastructure supporting workers can shape incentives for entering the labor market based on age and family conditions through the tax and social security systems. Thirdly, state intervention impacts women's participation in the labor market, either temporarily or continuously, through parental leave, assistance, work flexibility, and other measures designed to promote a balance between work and private life.

Gender differences in wages and employment reflect various dimensions of gender inequalities that can either complement or counterbalance each other. For instance, the wage gap often expands when women become mothers due to likely career interruptions, which adversely affect their career progression and earnings. Horizontal segregation also contributes to the undervaluation of women's skills in occupations deemed "typically female", where their abilities are often perceived as innate rather than acquired. Furthermore, gender roles influence educational choices, such as in STEM fields (Science, Technology, Engineering, and Mathematics), which have low female representation, subsequently impacting professional opportunities. Education is one of the most significant factors contributing to gender wage disparities, with scientific research indicating that women tend to earn less than men due to the career paths they select.

Another perspective on the gender pay gap suggests that women may tend to avoid competition in the workplace for two primary reasons. Firstly, women often have lower self-confidence or self-esteem compared to men, who are generally more optimistic about their performance. Secondly, women might be more risk-averse, preferring to "play it safe". This tendency means that women might choose jobs that are less competitive and, consequently, less remunerative. Despite this, female competition exists, although it may not be as overt as male competition. In Western cultures, due to patriarchal legacies, competition is often viewed as a predominantly male trait, reinforcing gender stereotypes.

These various factors illustrate the complex interplay between gender roles, societal expectations, and structural inequalities that contribute to the gender wage gap. Addressing these issues requires comprehensive strategies that consider educational opportunities, workplace policies, and cultural attitudes towards gender and competition.

This tendency to shy away from competition can lead to a cycle where employers are less inclined to financially reward women's efforts, such as with bonuses or benefits, or provide them with opportunities for career progression. These varied gender attitudes towards competition can impact the types of jobs men and women seek, their salaries, and their career advancement. Vertical segregation plays a role here, as women often show less interest in professional growth and leadership positions, frequently leading to their placement in departments with fewer opportunities for development and advancement.

Gender discrimination in the workplace and the wage gap can be attributed to both vertical and horizontal segregation, as well as the persistent "glass ceiling", an invisible barrier that impedes women's advancement to leadership positions. These obstacles stem from the structures within male-dominated organizations that restrict women's progress to higher roles of responsibility. Even when women attain top executive positions, they often encounter the "glass cliff" phenomenon, where their tenure is shorter, and they face a higher risk of demotion.

The lower tendency for competition among women has been scientifically linked to certain personality traits, particularly emotional instability. This refers to a predisposition to experience negative emotions such as anxiety, insecurity, and anger, making women more susceptible to stress. According to a study by Müller and Schwieren[17] (2011), women with low emotional instability are more likely to choose competitive environments, while others are deterred. In contrast, this personality trait does not appear to influence men in the same way. Understanding how personality traits can be shaped could encourage women to embrace competition, emphasizing these traits during education to foster equal development in both genders.

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[17] Julia Müller and Christiane Schwieren are researchers renowned for their contributions to behavioral economics, specifically in examining how personality traits impact economic behavior. They have conducted extensive studies on the influence of the Big Five personality factors on various economic decisions and interactions. Their research frequently delves into the relationship between personality psychology and economic outcomes, providing valuable insights into individual differences in economic behavior.

The education system plays a crucial role in closing the gender gap by promoting equal opportunities. However, it is important to consider the potential drawbacks of encouraging competitiveness among women, as high emotional instability could lead to failure, reinforcing stereotypes of female weakness and potentially discouraging other women from following their example.

Finally, it is essential to acknowledge that paying women lower salaries than men have profound implications for women's societal standing, creating an obstacle to attaining gender parity in economic independence both now and in the future. The repercussions of the gender pay gap extend beyond employment, leading to a "pension gap" that increases the risk of poverty for women in retirement.

2.2 Causes of Wage Discrimination and Differential Treatment

Wage inequity and biased treatment are key drivers of the persistent gender wage gap across various sectors. These wage gap assessments illustrate the earnings disparity between women and men in all industries, capturing the diverse factors that contribute to the gender pay gap. These elements include, but are not limited to:

A) Differences in Industries or Jobs Worked

A major factor contributing to the gender wage gap is occupational segregation, where women and men are directed into different industries and roles based on societal gender norms and expectations. Historically, female-dominated jobs, like home health aides and childcare workers, tend to offer lower wages and fewer benefits compared to male-dominated jobs, such as those in the construction trades. These gender-based discrepancies are evident across all industries and occupations, impacting frontline workers, midlevel managers, and senior leaders alike.

B) Differences in Years of Experience

Women are disproportionately compelled to leave the workforce to fulfill caregiving and other unpaid responsibilities, resulting in less work experience compared to men. Access to paid family and medical leave can help women return to work sooner and more consistently. However, as of March 2019, only 19% of civilian workers had access to paid family leave through their employers, and just 40% had access to short-term disability insurance benefits for their own medical needs. The insufficient support structures exacerbate the disparity in work experience between men and women.

C) Differences in Hours Worked

Women often reduce their working hours to accommodate caregiving and other unpaid duties, which makes them more likely to engage in part-time employment. Part-time jobs usually pay lower hourly wages and offer fewer benefits than full-time jobs. This disparity in working hours is a significant factor in the gender wage gap.

D) Discrimination

Despite the illegality of gender-based pay discrimination since 1963, it remains widespread, especially affecting women of color. Such discrimination thrives in environments where discussing wages is discouraged and employees fear retaliation. Additionally, employers often perpetuate pay inequities by using prior salary histories in hiring and compensation decisions, thereby allowing past discriminatory pay practices to follow women throughout their careers.

These factors are primary contributors to the gender wage gap, but there are also influences that help narrow the gap. For instance, women increased educational attainment can reduce the disparity, particularly when women achieve higher education levels than men. Unionization also plays a crucial role, as it provides workers with collective bargaining power to advocate for better working conditions, combat discriminatory practices, and secure higher wages.

Despite these positive influences, their combined effects are not enough to completely close the wage gap. Many contributing factors are directly or indirectly shaped by gender and racial or ethnic discrimination. Societal and structural sexism often steer women into specific job roles and contribute to their disproportionate share of caregiving, housework, and other unpaid responsibilities.

Experts estimate that 38% of the wage gap cannot be accounted for by traditional measurable factors such as hours worked and years of experience, attributing this portion to discrimination. However, it is important to recognize that discrimination likely affects more than just this 38%, as it permeates various aspects of economic and social structures.

In summary, tackling wage discrimination and unequal treatment necessitates a thorough grasp of the complex factors that drive the gender wage gap. Recognizing and addressing these root causes is essential for progressing toward a fairer and more just economic environment for everyone.

2.3 Differences in Access to Career Opportunities

Despite women constituting most of the global population, they remain a minority in the workforce, facing ongoing challenges in achieving equality. Recent surveys reveal a growing perception that women are making progress toward parity with men in job opportunities. However, these views vary significantly based on factors such as age, employment status, and political ideology.

For the first time, most respondents believe that job opportunities for women are equal to those for men, with 53% holding this view compared to 46% who do not. Men are more likely to believe in this parity, with 61% asserting that women have equal job opportunities, a view they have maintained for several years. Currently, 45% of women share this belief, the highest percentage recorded since the surveys began. Additionally, women are more supportive of affirmative action programs, with 65% in favor compared to 53% of men.

Access to employment has always been a significant gap for women, particularly in the European Union, where discrimination in the labor market is prevalent. A study identified gender, race, and weight as the three most common types of discrimination. Historically, during the industrial period, women's roles were largely confined to low-cost manufacturing jobs. Since the 1970s, female employment has increased, yet gender inequalities persist.

Wage discrimination is compounded by occupational segregation, both horizontal and vertical. Horizontal segregation refers to jobs strongly associated with a specific gender, such as sales assistants for women, while vertical segregation describes the underrepresentation of women in top leadership positions, often referred to as the "glass ceiling".

One significant reason for these inequalities is the unequal distribution of family responsibilities. Women typically bear a heavier load of domestic work, engaging in essential unpaid labor that reduces their participation in the paid labor market. When men take on similar dual roles, their careers are similarly affected. These disparities are perpetuated by socially shared beliefs and norms.

In all EU countries, women's workforce participation is lower than men's. Women tend to work fewer hours and occupy lower-paid sectors and positions, leading to gender pay gaps. This gap hinders economic progress, with studies indicating that closing the gender gap could boost economic growth. Gender disparities in the labor market could account for up to a 10% loss in per capita GDP in Europe.

According to 2021 Eurostat data, the overall female employment rate in the EU is 63.3%, compared to 73.3% for men, showing a ten% point difference. In Italy, the situation is particularly severe, with male employment at 67.1% and female employment at only 49.4%, one of the widest gaps in Europe.

Despite being more qualified and having higher levels of education, women still face significant barriers. For instance, part-time employment is much higher among women (28.8%) compared to men (8.1%), leading to lower hourly wages. The gender pay gap across the EU was 36.2% in 2018, with Italy experiencing a higher disparity at 43%.

Parenthood significantly impacts women's employment rates, especially for those with young children. Women are also more likely to take on caregiving responsibilities for elderly or non-autonomous family members, leading them to reduce their working hours or leave the workforce. Economic disincentives, such as the "low-income trap" where increased earnings result in higher taxes and reduced benefits, further discourage workforce participation. High childcare and long-term care costs also deter women, especially in countries with liberal welfare states.

These factors contribute to the gender pay gap, which in turn leads to a significant pension gap, disadvantaging women in retirement due to lower pension contributions.

In conclusion, achieving gender equality in the workforce requires addressing deep-rooted systemic inequalities and societal norms that continue to perpetuate these disparities.

2.4 European Union's Fight Against the Gender Pay Gap

In the European Union, women's labor market participation lags that of men. Data from 2019 for the EU27 reveals an 11.7% employment gap between genders: 79% of men were employed compared to just 67.3% of women. Additionally, women earned 14.1% less per hour than men, and this gap widens to 36.7% when considering annual earnings. The gender pay gap varies widely among member states, with Luxembourg, Romania, and Italy reporting less than a 5% difference, while Estonia and Latvia see disparities exceeding 20% (Eurostat 2021).

The European Commission points to several major factors contributing to the pay disparity between women and men in the EU, including sectoral segregation, work-life balance issues, job position hierarchy, and discrimination (European Commission). Sectoral segregation highlights the underrepresentation of women in high-paying fields like STEM. Work-life balance issues stem from

women working fewer paid hours while taking on more unpaid responsibilities. The EU is addressing this by advocating for more equitable parental leave policies. In terms of job position hierarchy, women are significantly underrepresented in top corporate roles, comprising less than 10% of CEOs in leading companies. Female managers also earn 23% less than their male counterparts in similar positions. Despite anti-discrimination principles being enshrined in the Treaty on the Functioning of the European Union (1957), discrimination continues to perpetuate inequality.

Since 2014, the European Commission has been pushing for greater workplace transparency. This initiative aims to help employees understand the basis for their wages and compare their salaries with colleagues in similar roles. By making salary information more accessible, it becomes harder for companies to sustain pay disparities, as they would need to disclose employee compensation. The EU Action Plan for 2017-2019 addressed the gender pay gap through 24 targeted action points, focusing on the key factors contributing to this issue. In March 2021, Commission President Ursula von der Leyen[18] unveiled new measures to bolster pay transparency and ensure equal opportunities and treatment for men and women in employment, emphasizing the principle of equal pay for equal work.

To mitigate gender wage inequality, the European Commission has issued several directives. The Work-Life Balance Directive of April 2017 promotes equal sharing of personal and professional responsibilities between genders. Additionally, the Women-On-Boards Directive seeks to increase female representation among non-executive directors on corporate boards

The European Union has established 'Equal Pay Day' to draw attention to the detrimental effects of the gender pay gap through various awareness activities. Observed on November 10, this day symbolizes the point in the year when women, due to earning on average 14.1% less than men, effectively stop being paid for their work, while men continue to earn. Many EU member states also observe their own national Equal Pay Days[19] to underscore the importance of this issue.

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[18] Ursula von der Leyen is a prominent Belgian-born German politician, notable for her groundbreaking roles in European and German politics. Her tenure has been marked by her commitment to various EU-wide initiatives, focusing on defense, gender equality, and economic stability.

[19] Equal Pay Day serves as a symbolic marker illustrating the ongoing disparity in earnings between women and men. Initiated by the National Committee on Pay Equity (NCPE) in 1996, this annual event aims to raise public awareness about the gender pay gap. The date of Equal Pay Day signifies how far into the year women must work to earn what men earned in the previous year. For example, in 2024, Equal Pay Day is observed on March 12, reflecting the continuing wage gap women face in the workforce.

The global COVID-19 pandemic has underscored the disproportionate economic impact on women. Studies and expert analyses have confirmed this, with the United Nations highlighting that 'compounded economic impacts' particularly affect women, who generally earn less and have less secure jobs compared to men (United Nations 2020). This disparity is largely due to the previously discussed factors contributing to the gender pay gap. The expectation for women to balance work and family duties, along with their prevalence in lower-paid positions, makes them more vulnerable to the pandemic's economic repercussions. In response, the European Commission has put forward a draft law requiring companies with more than 250 employees to publicly disclose annual salary statistics. This initiative aims to foster transparency and equity. As Commission President Ursula von der Leyen remarked, "Women must know whether their employers treat them fairly. And when this is not the case, they must have the power to fight back and get what they deserve" (Pronczuk 2021). Smaller companies would also be obliged to provide such information upon request from an employee. Additionally, the draft law would ban employers from asking about a candidate's salary history during the recruitment process. To become law, this draft requires a majority vote from the European Parliament and unanimous consent from all 27 member states (Collins 2021).

Some, however, are less enthusiastic about the proposal. Markus J. Beyrer[20] of BusinessEurope acknowledges the initiative but downplays its effectiveness as a comprehensive solution to gender pay inequality in the labor market. He contends that instead of placing "administrative burdens" on human resources departments and inviting "unnecessary litigation", efforts should focus on "addressing the root causes of inequalities, particularly gender stereotypes, labor market segregation, and inadequate childcare provision" (Pronczuk 2021). Despite these criticisms, the European Union is making substantial efforts to address these challenges. This is demonstrated through initiatives such as issuing directives to balance work-life dynamics between men and women and promoting female employment in sectors where women have been historically underrepresented. These actions are particularly important given the pandemic's disproportionate impact on women.

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[20] Markus J. Beyrer, Director General of BusinessEurope since 2012, is a prominent figure in European business advocacy. BusinessEurope represents companies across Europe, promoting growth and competitiveness. Prior to this role, Beyrer held notable positions in Austria, including CEO of Austrian Industry Holding ÖIAG, Director General of the Federation of Austrian Industries (IV), and Director for Economic Affairs at the Austrian Federal Economic Chamber.

[21] In 2021, Monika Pronczuk reported on key events in the European Union and the migrant crisis at the Belarus-Poland border. A major focus was the rising tension between Poland and the EU, sparked by the Polish Constitutional Tribunal's ruling that some EU treaties and court decisions conflicted with Poland's constitution. This was seen by many as a step towards "Polexit." The conflict arose from legal and political changes by the ruling Law and Justice Party (PiS), which faced criticism for undermining judicial independence and violating EU laws on judges' independence and LGBTQ protections.

2.5 Gender Wage Gap in European Companies

Ensuring equal access to economic resources is crucial not only for achieving economic independence between women and men but also as a fundamental prerequisite for fostering economic growth, prosperity, and competitiveness. Analyzing the World Economic Forum (WEF) report, alongside the earlier analysis in this paper, reveals that despite numerous advancements, gender inequalities persist globally. These disparities are more pronounced in certain countries than in others. Within the European Union, there are also notable differences between member states.

In the previous analysis, Europe was divided into Western and Eastern regions. Western Europe shows the best performance on the Global Gender Gap Index (GGGI), with projections indicating full parity will be achieved in just 54 years. In contrast, the Eastern region is expected to take nearly 20 more years to reach the current standards of Western Europe (WEF, 2020).

According to the latest update of the Eurostat article "Gender pay gap statistics" from 2021, gender wage disparities vary significantly among EU Member States. In 2021, the average gross hourly earnings for women across the EU were 12.7% lower than those for men. Within the euro area, this disparity is even more pronounced, reaching 13.6%.
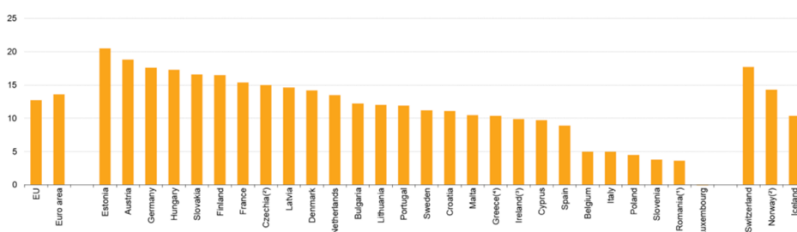
The data shows a considerable range in the gender pay gap among EU Member States, with a variation of 20.7 percentage points. For example, Luxembourg reports a negative gender pay gap of -0.2%, meaning women, on average, earn more than men. In contrast, Estonia has a substantial pay gap of 20.5%. These differences highlight the intricate interplay of socio-economic, cultural, and policy factors at the national level.

Tab 3, source: Eurostat

A lower gender wage gap is often observed in countries with lower female employment rates, typically indicating a labor market where a significant proportion of women work part-time. It is important to differentiate between the gender wage gap in part-time and full-time employment. In the EU, 4% of women worked part-time in 2021, compared to just 1.8% of men, making part-time work more than twice as common among women.

When examining gender wage gap percentages for part-time and full-time work, notable differences emerge. In Italy, the gender pay gap for part-time workers is negative (-3.6%), suggesting that women in part-time roles earn more on average than their male counterparts. This is often due to selection bias, where women in the labor market have comparatively higher skills and education levels than men. Conversely, Spain has a significant 22.7% pay gap for part-time workers, indicating a severe earnings disparity.

For full-time workers, the gender pay gap also varies significantly across EU Member States. Italy shows a negative pay gap of -0.7%, meaning women out-earn men, while Latvia has a substantial gap of 17.7%. These figures illustrate that women continue to face considerable earnings disparities even in full-time employment.

The unadjusted gender pay gap by working time (%), 2021
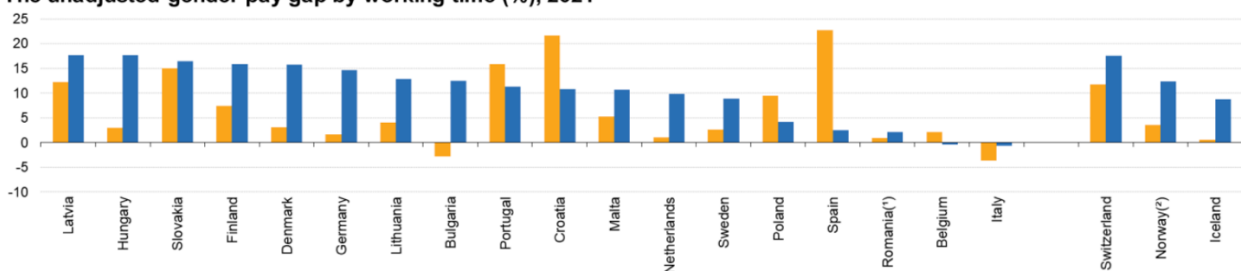
Note: For all the countries except Iceland: data for enterprises employing 10 or more employees; NACE Rev. 2 B to S (-O);
Iceland: NACE Rev. 2 sections C to H, J, K, P, Q. Data not available for CZ, EE, IE, EL, FR,CY, LU, AT and SI.
Gender pay gap data for 2021 are provisional until benchmark figures, taken from the Structure of Earnings survey, become available in December 2024
(¹) Estimated data.
(²) Definition differs (see metadata)
Source: Eurostat (online data code: earn_gr_gpgr2wt)

eurostat

Tab 4, source Eurostat

A notable observation consistently emerging from Eurostat data is the variation in the gender wage gap with age. The gap is generally much narrower for individuals under 25 and tends to widen as they get older. This trend is often attributed to the frequent career interruptions that women experience throughout their lives.

The unadjusted gender pay gap by age (%), 2021

	< 25 years	25 - 34	35 - 44	45 - 54	55 - 64	65 years +
Belgium(³)	-0.1	3.0	4.5	4.4	8.5	:
Bulgaria	6.2	14.1	17.2	14.6	4.7	-14.6
Czechia(²)	4.2	10.0	20.0	18.6	8.5	7.1
Denmark	5.2	11.1	14.3	17.1	16.7	10.5
Spain	-3.8	1.3	6.9	12.1	14.4	27.0
France	2.6	8.6	11.1	17.3	21.1	23.8
Croatia	3.9	8.5	12.4	18.2	8.1	4.7
Italy	3.0	4.9	4.7	6.7	9.2	15.8
Cyprus	17.7	4.2	8.4	13.1	9.7	21.3
Latvia	8.4	19.1	22.3	16.4	12.1	9.3
Lithuania	12.8	13.0	16.8	9.5	7.9	6.1
Hungary	7.0	14.3	22.2	19.6	12.5	13.2
Malta	12.0	6.4	12.3	12.1	8.4	16.7
Netherlands	2.3	1.3	7.6	17.9	19.7	13.6
Poland	8.2	7.2	9.4	5.5	-6.8	9.1
Portugal	7.7	9.7	11.9	14.2	12.0	28.0
Romania(¹)	5.4	8.1	4.4	-1.2	-5.4	-17.8
Slovenia	5.0	6.4	7.1	5.8	1.3	2.2
Slovakia	6.7	12.6	19.8	20.0	12.9	14.2
Finland	5.8	10.0	15.9	19.4	18.7	22.3
Sweden	5.2	7.1	12.0	15.2	14.2	7.9
Iceland	0.9	3.8	10.0	15.3	16.7	14.2
Norway	2.0	7.9	14.2	17.8	19.2	16.5
Switzerland	3.2	6.4	15.3	23.0	25.0	27.5

(:) not available

Note: For all the countries except Czechia: data for enterprises employing 10 or more employees, NACE Rev. 2 B to S (-O); for Czechia: enterprises employing 1 or more employees, NACE Rev. 2 B to S;

Data breakdown by age not available for DE, EE, IE, EL, LU, AT

Gender pay gap data for 2021 are provisional until benchmark figures, taken from the Structure of Earnings survey, become available in December 2024

(¹) Estimated data.
(²) Definition differs (see metadata)
(³) Confidential data: BE : 65 years+.

Source: Eurostat (online data code: earn_gr_gpgr2ag)

eurostat

Tab 5, source Eurostat

These wage disparities significantly impact women's retirement pensions. Additionally, an analysis by economic sectors reveals intriguing trends. In several EU Member States, the gender pay gap in financial and insurance activities exceeds that of the general business economy, ranging from 7.0% in Belgium to a striking 37.5% in Czechia. On a broader scale, Sweden reported the smallest gender pay gap at 8.6%, while Estonia had the largest at 22.3%.

Furthermore, some economic sectors exhibit negative gender pay gaps in multiple EU Member States. For example, ten countries reported negative gaps in the water supply, sewerage, waste management, and remediation activities sector. Similarly, twelve countries observed negative gaps in the construction sector. These disparities may indicate gender imbalances in the workforce within these sectors.

The unadjusted gender pay gap by economic activity (%), 2021

	Business economy (B to N)	Manufacturing (C)	Electricity, gas, steam and air conditioning supply (D)	Water supply; sewerage, waste management and remediation activities (E)	Construction (F)	Information and communication (J)	Financial and insurance activities (K)	Real estate activities (L)	Professional, scientific and technical activities (M)
Belgium	9.2	9.5	6.1	11.2	6.8	11.2	7.0	9.1	4.8
Bulgaria	14.5	22.2	7.7	8.0	-14.2	22.1	33.5	-7.2	15.4
Czechia(²)	12.4	23.1	17.2	3.8	7.6	28.9	37.5	9.0	21.3
Denmark	14.0	8.5	15.5	2.6	9.5	16.1	16.4	8.6	17.1
Germany	20.9	21.4	19.5	2.2	11.5	23.4	23.3	15.2	26.6
Estonia	22.3	23.4	9.8	10.1	15.7	23.3	31.0	17.6	15.4
Spain	14.7	13.8	15.1	7.8	-6.4	7.5	13.8	14.9	20.1
France	12.8	13.1	8.7	-2.8	-9.4	14.3	31.0	13.8	21.8
Croatia	12.6	23.6	0.6	-2.1	-15.7	13.4	23.5	1.7	15.0
Italy	13.1	13.1	10.7	0.7	3.2	15.6	23.7	12.7	23.9
Cyprus(³)	16.8	22.8	-0.4	-18.3	-0.9	15.9	20.1	-41.2	28.8
Latvia	19.0	21.6	2.1	17.2	5.9	31.1	30.4	18.7	24.1
Lithuania	14.8	24.0	7.4	10.6	-1.7	29.3	34.3	9.3	17.7
Luxembourg(⁴)	9.7	8.8	:	-3.3	-13.9	15.4	23.1	23.1	21.9
Hungary(³)	16.2	24.0	18.0	0.1	-4.0	24.9	34.1	5.8	19.9
Malta(³)(⁴)	14.2	23.9	:	20.9	2.2	15.8	24.1	25.6	23.0
Netherlands	19.3	16.1	10.2	-0.8	8.4	15.6	24.1	15.5	19.4
Austria	20.7	20.2	12.5	7.2	7.8	19.7	27.2	27.0	25.8
Poland	12.4	16.6	3.3	-1.2	-9.6	27.0	30.4	6.2	18.4
Portugal	15.0	22.1	2.9	-11.5	-8.4	17.1	22.3	20.1	15.8
Romania(¹)	10.4	20.8	2.1	2.5	-15.3	18.9	32.3	3.8	-0.2
Slovenia	9.2	11.7	-2.0	-19.0	-22.5	19.0	24.0	-3.3	12.8
Slovakia	18.4	25.0	10.3	-4.3	2.7	26.6	30.8	16.5	11.3
Finland	15.9	9.5	17.2	3.2	3.3	11.4	26.4	18.7	14.9
Sweden	8.6	2.1	3.9	-5.7	0.3	10.5	23.2	4.6	12.5
Iceland	13.8	13.1	4.3	-5.8	-8.9	12.7	29.7	:	:
Norway(²)	17.4	11.9	9.3	-2.1	1.8	13.7	25.8	23.1	18.9
Switzerland	19.4	16.1	11.5	3.1	8.1	21.8	31.5	21.4	26.0

(:) not available
Note: For all the countries except Czechia: data for enterprises employing 10 or more employees, NACE Rev. 2 B to S (-O); for Czechia: enterprises employing 1 or more employees, NACE Rev. 2 B to S.
Data not available for Ireland, Greece
Gender pay gap data for 2021 are provisional until benchmark figures, taken from the Structure of Earnings survey, become available in December 2024
(¹) Estimated data: RO: all sections.
(²) Definition differs (see metadata)
(³) Unreliable data: CY: sections D, E, F, L; MT: section L; IS: section E, F.
(⁴) Confidential data: LU: section D; MT: section D.
Source: Eurostat (online data code: earn_gr_gpgr2)

eurostat

Tab 6, source Eurostat

It is also important to differentiate between the public and private sectors. Data shows that, in most EU Member States, the gender pay gap is more pronounced in the private sector than in the public sector. This difference may be due to standardized wage grids in the public sector that apply equally to both genders. In the private sector, the gender wage gap ranges from 8.1% in Belgium to 22.1% in Germany, while in the public sector, it varies from -0.6% in Poland to 17.2% in Hungary.

The unadjusted gender pay gap by economic control (%), 2021

	Public	Private
Belgium	1.1	8.1
Bulgaria	11.0	13.6
Czechia(²)	12.2	19.5
Denmark	10.8	13.7
Germany	9.2	22.1
Spain	8.4	13.4
Croatia	10.7	13.9
Italy	5.5	15.5
Cyprus	-0.2	19.3
Latvia	15.6	15.5
Lithuania	9.7	14.3
Hungary	17.2	16.9
Netherlands	11.1	19.2
Poland	-0.6	13.0
Portugal	15.0	13.4
Romania(¹)	1.7	10.2
Slovenia	5.1	10.8
Slovakia	12.3	18.4
Finland	17.1	16.4
Sweden	7.8	10.1
Iceland	10.3	13.9
Norway	6.8	18.0
Switzerland	15.5	18.5

Note: For all the countries except Czechia: data for enterprises employing 10 or more employees, NACE Rev. 2 B to S (-O); for Czechia: enterprises employing 1 or more employees, NACE Rev. 2 B to S;
Data not available for EE, IE, EL, FR, LU, MT, AT
Gender pay gap data for 2021 are provisional until benchmark figures, taken from the Structure of Earnings survey, become available in December 2024

(¹) Estimated data.
(²) Definition differs (see metadata)

eurostat ⬜

Source: Eurostat (online data code: earn_gr_gpgr2ct)

Tab 7, source Eurostat

In summary, the data on the gender pay gap in the European Union indicates a complex web of factors influencing the earnings disparity between men and women. Effectively addressing this issue necessitates multifaceted strategies that consider national policies, career interruptions, employment sectors, and age-related patterns. Achieving gender pay equity is not only an issue of economic fairness but also a vital step towards gender equality and empowering women in the workforce.

2.6 Gender Wage Gap in Italian Companies

In Italy, the most recent data on the gender pay gap is from 2018[22]. At that time, Italy's Gender Wage Gap (GWG) was 5.5%, which is considerably below the EU28 average of 15.3%. This calculation excludes the Public Administration, Defense, and Compulsory Social Security sectors due to optional data reporting under European regulations. It is noteworthy that Italy's GWG had declined from 6.1% in 2014.

However, examining only the private sector reveals that Italy's GWG rises to 17.7%. This substantial increase is largely attributed to the significant presence of women in the public sector, where the gender pay gap is lower, at 4.4%.

In 2018, the average annual gross earnings per employee in Italy were 35,062 euros, but these figures varied significantly across different economic sectors. For example, the industry sector, with a stricter definition, had higher average earnings of 36,610 euros per year, whereas the construction sector had the lowest average income at 31,967 euros.

Gender disparities became evident upon examining the data. Female employees earned approximately 6,500 euros less than their male counterparts, with women averaging 31,335 euros compared to men's 37,912 euros. This wage gap can be partly attributed to differences in the number of paid hours worked, with women averaging 1,552 hours annually, while men averaged 1,840 hours.

When analyzing hourly wages, the overall average was 15.8 euros, with a notable difference between genders. Women earned an average of 15.2 euros per hour, which is one euro less than the hourly wage for men.

Within the macro sector termed "Other services", the highest hourly wages were observed. Women in this sector earned 17.8 euros per hour, while men earned 19.4 euros. This variation can be linked to the inclusion of the Education sector within this macro sector, accounting for about one-third of the employees. In education, teaching staff typically have fewer nominal service hours, resulting in higher hourly wages.

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[22] Data from: https://www.istat.it/it/files/2021/03/REPORT_STRUTTURA_RETRIBUZIONI_2018.pdf

The Gender Wage Gap (GWG), representing the percentage difference between the average hourly wages of men and women relative to men's wages, stood at 6.2% in 2018. This disparity was notably higher in specific sectors, reaching 15.9% in Market Services and 14.2% in the narrowly defined Industry sector.

RETRIBUZIONE E DIFFERENZIALE RETRIBUTIVO DI GENERE
Anno 2018, valori in euro e valori percentuali

MACROSETTORI (ATECO)	Retribuzione media annua (€)			Retribuzione oraria media (€)			GPG (%)
	Femmine	Maschi	Totale	Femmine	Maschi	Totale	
Industria in senso stretto (B-E)	31.846	38.217	36.610	13,3	15,5	15,0	14,2
Costruzioni (F)	31.331	32.059	31.967	12,9	13,9	13,7	7,2
Servizi di mercato (G-N)	31.503	37.885	35.218	12,7	15,1	14,1	15,9
Altri servizi (O-S)	31.064	38.557	34.084	17,8	19,4	18,5	8,2
Totale (B-S)	31.335	37.912	35.062	15,2	16,2	15,8	6,2

Tab 8, source: Istat 2018

A closer examination of the data shows that the gender wage gap widens with higher levels of educational attainment. Women with only primary education have the lowest average annual earnings at 24,738 euros, while men with tertiary education earn the highest, averaging 53,816 euros. Men consistently earn more than women at every educational level. Specifically, men earn 20.5% more than women with primary education, 21.7% more with secondary education, and an impressive 45.7% more with tertiary education.

Moreover, the wage premium associated with education levels differs significantly between genders, particularly for those with tertiary education. Women with secondary education earn 20.9% more than those with primary education, a figure comparable to the 22.1% increase seen in men. However, for women with tertiary education, this premium jumps to 49.3%, while for men, it soars to an impressive 80.5%.

Income levels also tend to rise with age, a trend that is more pronounced among men. Employees over 50 earn 52.5% more than those aged 14 to 29. The income gap between genders varies by sector, with women experiencing a differential ranging from 34.9% to 41.1%, while for men, the difference spans from 41.4% to 84.6% within the same sectors.

FIGURA 1. RETRIBUZIONE MEDIA ANNUA PER LIVELLO DI ISTRUZIONE, SETTORE DI ATTIVITÀ E GENERE
Anno 2018, valori in euro
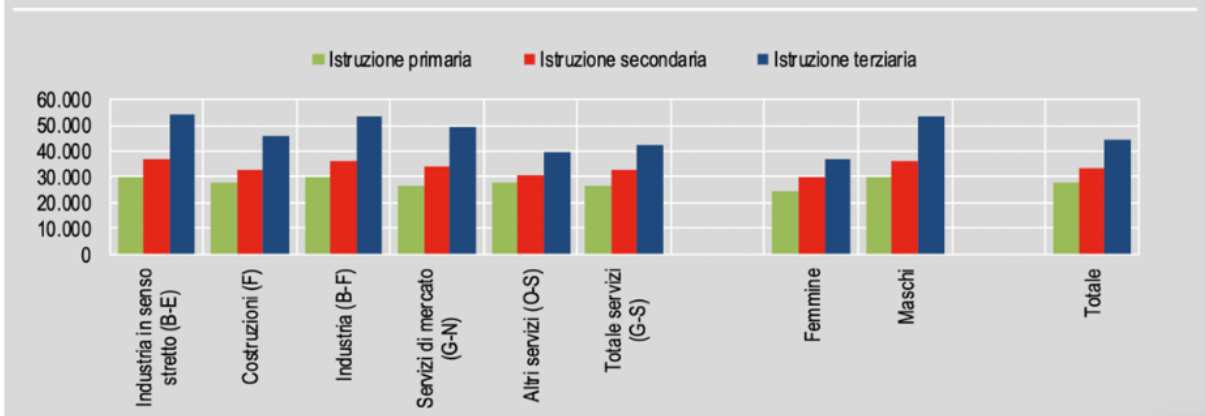
Tab 9, source: Istat 2018

In Italy, the gender wage gap is pronounced and becomes even more evident when comparing the North and South regions. In 2018, the average number of paid hours, including both regular and overtime hours, was 1,716 per year. However, regional disparities were significant: the Northwest had the highest average at 1,749 hours, followed by the Central region at 1,740 hours, the Northeast at 1,734 hours, and the South and Islands with lower averages of 1,624 and 1,605 hours, respectively.

The gender wage gap is also influenced by the prevalence of part-time employment, which shows considerable variation. In companies with at least 10 employees, the proportion of female part-time workers is more than twice that of their male counterparts, with 17.1% of women working part-time compared to 6.4% of men. This disparity in part-time employment rates further exacerbates the gender wage gap across different regions and sectors.

In the South and Islands, women's paid hours are 19.4% and 17% lower than men's, respectively. The higher proportion of female part-time workers in these regions has less impact than the national average. In the South, women's part-time employment exceeds men's by just 4.5 percentage points, and by 6.1 points in the Islands.

In the Northeast and Northwest, regions with some of the highest average paid hours in Italy, women continue to earn relatively high wages despite significant part-time work rates (20.6% in the Northeast and 18.6% in the Northwest). However, the gender wage gap remains pronounced, at 16% in the Northeast and 14.8% in the Northwest.

The Services sector shows an average of 1,604 paid hours, about 300 hours less than the industry sector's 1,916 hours. Part-time employment among women in Services is notably higher (19.2% compared to 6.9% for men), contributing to a 15.1% gender wage gap in paid hours.

Within the Industrial sector, the "Water supply; sewerage, waste management, and remediation activities" sector has the lowest average annual hours at 1,827, while "Mining and quarrying of minerals" reports the highest at 1,986 hours. Among Market Services, the "Accommodation and food service activities" sector logs 1,398 hours, nearly 500 hours fewer than the "Information and communication services" sector, which averages 1,859 hours. The Education sector, with fewer annual hours (1,263), has a predominantly female workforce, in contrast to the "Public administration and defense; compulsory social security" sector (1,845 hours), which has a strong male presence.

Annual paid hours tend to increase with age, especially among male employees. Younger workers (aged 14 to 29) work 10.1% fewer paid hours compared to their older counterparts (aged 50 and above). These differences also vary by economic sector, with female workers experiencing a gap between 6% and 16.2%, and male workers between 9.5% and 17.3%. Regional disparities are also significant: younger workers receive fewer paid hours compared to those over 50, with the percentages ranging from 4.8% (in the Northeast) to 15.5% (in the South) for women, and from 10.2% (in the Northeast) to 19.6% (in the Islands) for men.

FIGURA 2. ORE MEDIE ANNUE E OCCUPATI CON REGIME ORARIO PART-TIME PER GENERE
Anno 2018, valori assoluti in media annua e valori percentuali
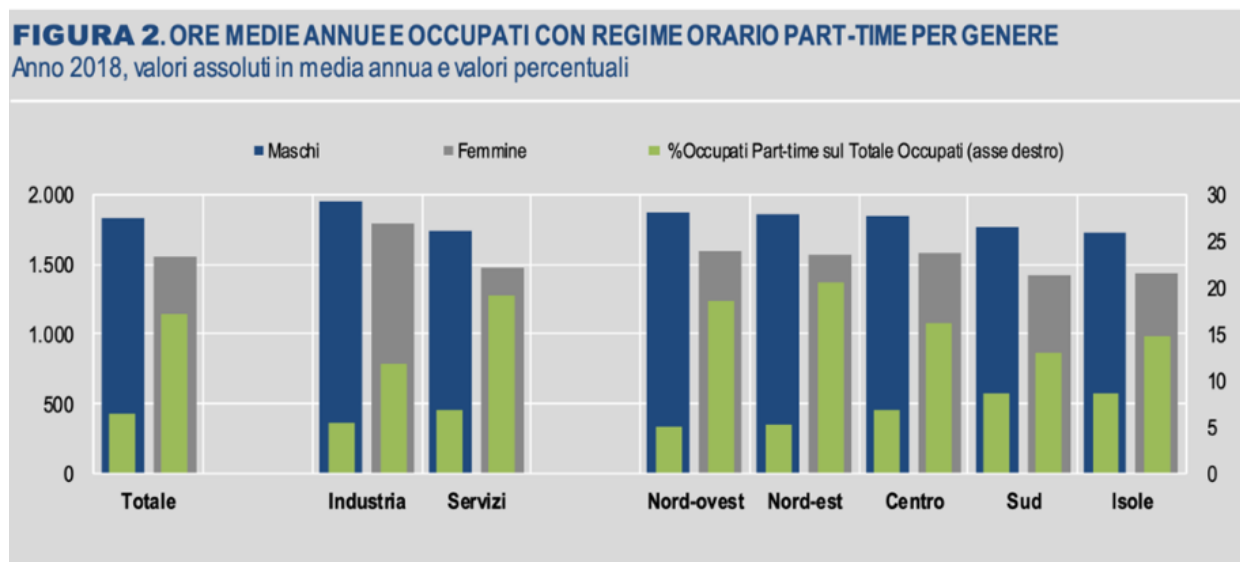
Tab 10, source: Istat 2018

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In Italy, the gender pay gap is especially pronounced among those with higher education and those in executive positions. On average, men earn 16.2 euros per hour, while women earn 15.2 euros. This disparity grows among graduates, with an 18% gap: women with higher education earn 19.6 euros per hour on average, whereas their male counterparts earn 23.9 euros. Even among individuals with only primary education, a 15% gap exists, with women earning 10.8 euros and men earning 12.7 euros per hour. For those with secondary education, the gap narrows to 10.4%, with women earning 13.8 euros and men earning 15.4 euros per hour.

The pay gap also increases in fields where women are less represented. Among executives, the disparity is significant at 27.3%, with women earning 33.6 euros per hour compared to men's 46.2 euros. In the Craftsmen and Skilled Workers category, the gap is 18.5%, with women earning 10.1 euros per hour while men earn 12.4 euros. The Armed Forces exhibit an 18.8% gap, with women earning 15.5 euros per hour and men earning 19.1 euros.

Excluding the relatively few Skilled Agricultural, Forestry, and Fishing Workers, the smallest gender pay gap is found in the Unskilled Professions category, where the gap stands at 9.3%. In this group, women earn 9.7 euros per hour, while men earn 10.7 euros.

The Intellectual and Scientific Professions group, known for its high wages second only to executives, shows a gender pay gap of 10.5%. In this sector, women earn 22.9 euros per hour compared to men's 25.6 euros. Notably, this group also has a significant presence of female workers.

FIGURA 5. RETRIBUZIONE ORARIA PER GENERE E GPG, PER PROFESSIONE E LIVELLO DI ISTRUZIONE.
Mese di ottobre 2018, valori in euro e valori percentuali
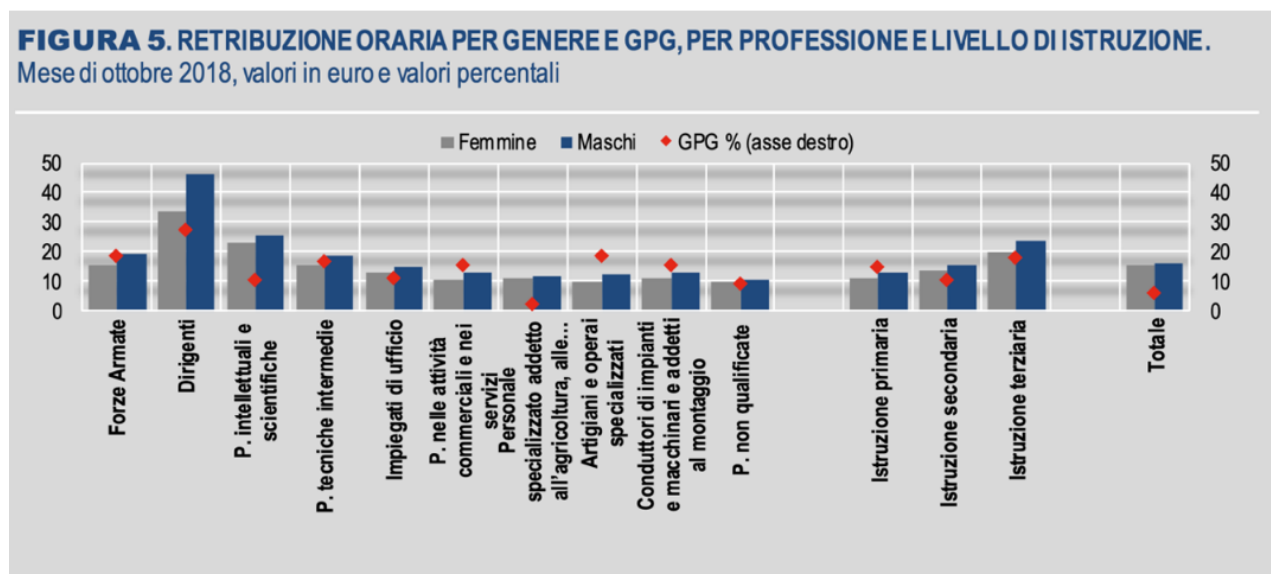
Tab 11, source: Istat 2018

Another significant contributor to the gender wage gap is the sector of employment, specifically comparing the public sector (including public institutions and majority public-controlled companies) to the private sector (comprising companies under full or predominant private control). In the private sector, the gender pay gap is 17.7%, whereas in the public sector, it narrows considerably to 2%. Women make up most of the public sector workforce (55.4%) and there is a higher concentration of highly educated women earning higher hourly wages. Female graduates in the public sector earn an average hourly wage of 22.6 euros, which is 7.5 euros more than their counterparts in the private sector. For men, the wage difference is smaller, with hourly earnings dropping from 26.1 euros in the public sector to 22.1 euros in the private sector.

2.6.1 Woman in Italian boards of directors

The representation of women in the board of directors is a crucial indicator of gender equality within corporate governance. Despite ongoing efforts to promote diversity and inclusion, women remain underrepresented in these key decision-making roles in Italy. According to recent data, women hold approximately 36.4% of board seats in the largest publicly listed companies in Italy, reflecting a steady increase from previous years.

Italy has made notable progress in improving gender diversity on boards, primarily due to legislative measures. The introduction of Law 120/2011, commonly known as the "Golfo-Mosca Law"[23] mandated gender quotas, requiring listed companies to ensure that at least one-third of their board members are women. This legislative intervention has significantly boosted the presence of women on boards, positioning Italy among the leading countries in Europe for gender diversity in corporate governance.

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[23] The Golfo-Mosca Law, enacted in Italy in 2011, was a landmark legislation aimed at improving gender equality in corporate governance. This law mandated that one-third of the members of the boards of directors and supervisory boards of listed companies and state-owned companies must be women. The requirement was later increased to 40% in 2020 through additional legislation. The law was named after its sponsors, Lella Golfo and Alessia Mosca, and it sought to address the significant gender disparity in Italian corporate boards. Before the law's implementation, women held only about 6% of board positions in listed companies. The introduction of the Golfo-Mosca Law led to a substantial increase in female representation, reaching over 40% by recent measures.

However, challenges remain. Despite the increase in numbers, women still face barriers such as gender bias, lack of mentorship, and limited access to professional networks, which hinder their advancement to the highest echelons of corporate leadership. In comparison to other European countries, while Italy's progress is commendable, it is essential to continue efforts to ensure sustained growth in gender parity.

The presence of women on boards is not merely a matter of fairness; it is also associated with improved organizational performance. Numerous studies have demonstrated that diverse boards are more likely to foster innovation, enhance decision-making, and achieve better financial results. In Italy, companies with greater gender diversity on their boards have shown superior performance, underlining the tangible benefits of inclusivity.

This chapter explores the current state of women's representation in the board of directors in Italy, examining the factors contributing to their underrepresentation and the measures being implemented to address this imbalance. Through a comprehensive analysis of data and trends, we aim to highlight the importance of gender diversity in boardrooms and outline strategies to accelerate progress towards achieving gender parity in Italy.

2.6.2 Impact of Gender Diversity on Corporate Performance

The impact of gender diversity on corporate performance has been a subject of significant research and analysis. Studies indicate a positive correlation between gender diversity, particularly at the leadership level, and improved financial performance of companies. This connection is evident through various metrics, including Return on Equity (ROE) and Total Return to Shareholders (TRS).

A comprehensive study by Catalyst[24], which examined 353 Fortune 500 companies, found that those with higher representation of women in top management experienced better financial performance. Specifically, companies with the highest representation of women on their top management teams had an ROE that was 35.1% higher and a TRS that was 34.0% higher compared to companies with the lowest women's representation. These findings were consistent across various industries, such as Consumer Staples and Financials, underscoring the significant financial benefits associated with gender diversity in leadership.

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[24] Catalyst, founded in 1962, is a global nonprofit focused on advancing women's workplace inclusion. The organization offers research-based insights, tools, and strategies to help companies foster more inclusive environments. Supported by leading companies and CEOs, Catalyst works collaboratively to drive systemic change.

Various countries have implemented legislative measures to increase female representation in corporate boardrooms. For instance, Germany recently joined Norway, France, Italy, Belgium, and Iceland by enacting a quota that requires both genders to make up at least 30% of supervisory boards in specified companies starting from 2016. The implementation of such quotas has provoked mixed reactions, with critics questioning the soundness of positive discrimination in corporate governance.

However, practical insights from countries like Norway, which was the first to adopt corporate quotas, reveal significant benefits. Under the Norwegian law, public companies must comply with gender representation requirements based on the size of their boards, with noncompliant firms facing potential dissolution. Interviews with Norwegian corporate directors highlighted increased societal acceptance of the quota law and its positive impact on boardroom dynamics over time. Directors reported that gender diversity enhanced boardroom work and firm governance, emphasizing the value of diverse perspectives and rigorous deliberations.

The business case for gender diversity extends beyond financial metrics. Companies that prioritize diversity are better positioned to tap into a broader talent pool, including an increasingly educated and skilled segment of the population. Women now earn more than half of all bachelor's and master's degrees and nearly half of all doctorates and law degrees. Leveraging this talent is crucial for innovation and decision-making, as diverse teams are known to make more innovative business decisions than homogenous ones.

Moreover, companies that embrace gender diversity are better equipped to understand and cater to a diverse customer base. Women, who earn a significant portion of household income, often influence purchasing decisions. Therefore, companies with diverse leadership can develop products and services that better meet the needs of their customers.

Research indicates that gender-diverse teams foster innovation. Diverse groups bring different perspectives and problem-solving approaches, leading to more creative solutions and better business outcomes. This innovation is particularly crucial in industries that rely on continuous improvement and adaptation to market changes.

In Italy, the gender wage gap and the representation of women in corporate leadership roles have been areas of concern. Despite women being more qualified and having higher educational attainment, their participation in the workforce and representation in leadership roles lag their male counterparts. However, legislative measures like the "Golfo-Mosca Law" have mandated gender quotas, requiring

listed companies to ensure that at least one-third of their board members are women. This intervention has significantly boosted the presence of women on boards in Italy.

While gender quotas and diversity initiatives have positively transformed corporate governance, several unresolved issues remain. These include concerns about whether quotas essentialize gender, the potential loss of outsider benefits as women integrates into male networks, the impact of quotas on financial performance, and the broader applicability of such regimes in different socio-political contexts. Additionally, there is a need to explore whether boardroom diversity will enhance diversity in the management suite and how best to achieve sustainable gender parity.

The impact of gender diversity on corporate performance is well-documented and significant. Companies that prioritize diversity benefit from improved financial performance, enhanced innovation, and better customer understanding. In Italy, as in other parts of the world, increasing the representation of women in leadership roles is essential for achieving these benefits. Addressing the gender wage gap and promoting gender diversity at all levels of the organization should be a strategic priority for companies aiming for long-term success and sustainability. By fostering an inclusive environment that values and leverages the talents of women, companies can enhance their competitiveness and drive economic growth.

3. Estimation of gender wage gap by regression analysis

The purpose of this chapter is to analyze the gender wage disparity by regression analysis. This statistical method is instrumental in exploring the connections between different variables. It is frequently applied to identify how various factors influence one another, thereby aiding in the prediction and comprehension of data interactions.

Linear regression is one of the most used forms of regression analysis. This method aims to identify a linear relationship between a dependent variable (the outcome) and one or more independent variables (the predictors). In our study, linear regression can be applied to examine how variables like regions, work experience, and age affect an individual's earnings.

Regression analysis can be categorized into simple and multiple regressions. Simple regression involves a single independent variable, while multiple regression includes several independent variables. Furthermore, regressions can also be non-linear, making them ideal for capturing more intricate relationships between variables. This method is particularly beneficial when the connection between variables is not strictly linear but can be represented linearly through parameter transformations. These transformations enable the identification of non-linear patterns or behaviors within the variable relationships.

The main goal of regression analysis is to uncover and measure the relationships between variables, enabling predictions, evaluating the importance of predictive factors, and enhancing the understanding of data dynamics. In the study of the gender wage gap, regression techniques can be utilized to analyze wage disparities influenced by variables such as gender, work experience, job tenure, and education.

By incorporating variables such as logarithmic salary, gender, job tenure, and work experience, we can thoroughly examine wage disparities between men and women while considering factors that influence earnings. Our analysis is based on the wage equation concept, a commonly used tool in economics and labor market studies to model and understand the determinants of a worker's compensation. This equation aims to capture the various elements that affect an individual's salary.

The wage equation can often be represented as follows:

$$\text{logWage} = f(\text{education}, \text{work experience}, \text{job tenure}, \text{industry}, \text{ gender}, \text{location}, \text{etc.})$$

The variables included in this equation can vary depending on the context of the salary analysis. Key factors such as education level, work experience, and job tenure significantly influence salary, with higher education and more extensive experience typically associated with higher pay. Additionally, the industry sector impacts wages, as certain sectors offer higher salaries and exhibit more pronounced wage disparities within specific occupations.

It is widely recognized that gender influences salary, with women often earning less than men for the same work, a phenomenon referred to as the gender wage gap. Geographic location also plays a crucial role in salary levels, as significant variations can arise from differences in living costs, labor demand, and local economic conditions.

Analyzing salary in logarithmic form allows for assessing the relationship between gender and salary, facilitating the evaluation of salary differences in percentage terms. This method enhances the understanding of wage discrepancies by illustrating how variables like experience affect wages as a percentage, highlighting the relative increase or decrease in salary.

Gender, a categorical variable, is essential in this analysis as it quantifies wage differences between men and women, highlighting the extent of wage inequality. Job tenure is another critical factor, offering insights into salary disparities related to experience and career progression. Additionally, work experience is vital for understanding how accumulated professional experience correlates with salary levels, potentially uncovering significant gender-based differences.

Job tenure and experience significantly impact workers' marginal productivity, which is the change in output resulting from an additional unit of input. In this context, it reflects how productivity evolves as a worker's tenure or experience increases. Generally, greater tenure or experience enhances skills, job familiarity, and the ability to handle specific challenges, thus improving productivity. However, this increase may not always be linear and can vary depending on factors such as job type, training, and the nature of tasks performed. In some instances, there may be diminishing returns with increased experience.

Different professions and sectors display considerable variations in working conditions, career opportunities, and salary levels. For example, fields such as technology and engineering tend to have a higher male presence, whereas sectors like healthcare and education typically employ more women. This occupational segregation can affect salary differences, as jobs traditionally dominated by men often receive higher valuation than those dominated by women. Certain professions may offer more

opportunities for career advancement and higher earnings, often linked to barriers that women face, such as the glass ceiling or lack of representation in decision-making roles.

Considering both the type of profession and the sector provides a more comprehensive analysis of gender wage disparities, allowing for the identification of specific measures to address these inequalities. Additionally, examining wage differences across various Italian regions can reveal geographic and contextual salary inequalities, further informing targeted interventions.

Employing regression models, such as multiple linear regression, enables the assessment of the impact and association between various variables and the gender wage gap. This quantitative analysis offers a detailed and scientifically grounded understanding of gender wage disparities in Italy, highlighting the most significant contributing factors. Consequently, regression analysis is a powerful tool for investigating and comprehending wage inequalities between men and women in the Italian context, providing an empirical approach to critically examine the gender wage gap.

The analysis conducted using Stata software leverages its robust capabilities for statistical data analysis, management, and graphical presentation. Stata is a powerful tool widely used across various fields, including social research, economics, healthcare, and numerous other scientific disciplines. Its design facilitates complex data analyses by providing a comprehensive range of statistical tools and techniques.

Stata excels in several areas:

- Data Analysis: It supports numerous statistical analyses, including regression analysis, which is crucial for examining relationships between variables.
- Data Management: Stata can handle large datasets efficiently, making it ideal for extensive research projects.
- Graph Creation: The software includes advanced options for data visualization, allowing researchers to create informative and visually appealing graphs.

Its flexibility and analytical power make Stata a preferred choice among researchers who need to conduct sophisticated statistical modeling and visualize their data effectively.

Our main goal was to analyze the gender wage gap over the years and its progression. We chose to consistently analyze the fourth quarter of each year to maintain continuity. We started by examining the earliest available data on the ISTAT website, which dates to 2008. However, we later discovered

that from 2021 onwards, ISTAT no longer provided access to the variable "RETRIC", which pertains to remuneration. Consequently, with 2020 being the last available year for this data, we decided to conduct an analysis at three equally spaced intervals: 2020, 2015, 2010, and 2008.

3.1 Oaxaca Decomposition

The Oaxaca decomposition, also known as the Blinder-Oaxaca decomposition, is a widely used statistical method to study differences in mean outcomes between groups, such as wage disparities between men and women. This technique divides the total difference in outcomes into two main components:

- Explained Component: This part of the difference is due to variations in characteristics between the groups, such as education, work experience, and other productivity-related factors.
- Unexplained Component: This part is attributed to differences in the coefficients (returns to characteristics), which may reflect discrimination or other unmeasured factors.

The method involves estimating separate regression models for each group. For example, for groups A (e.g., men) and B (e.g., women), we estimate:

$$Y_A = X_A \beta_A + \varepsilon_A$$

$$Y_B = X_B \beta_B + \varepsilon_B$$

Where Y is the outcome variable (e.g., wage), X is a vector of explanatory variables (e.g., education, experience), β are the estimated coefficients, and ϵ is the error term.

The difference in mean outcomes between the groups can be expressed as:

$$R = E(Y_A) - E(Y_B) = [E(X_A) - E(X_B)]\beta_B + E(X_B)(\beta_A - \beta_B)$$

Here, E denotes the expected value, and the formula is decomposed into two parts:

Explained Component: $[E(X_A) - E(X_B)]\beta_B$

That measures the part of the differential due to differences in the predictors (characteristics).

Unexplained Component: $E(X_B)(\beta_A - \beta_B)$

That measures the part of the differential due to differences in coefficients, often interpreted as a measure of discrimination.

The paper by Ben Jann (2008) introduces a Stata command called "oaxaca" that facilitates the implementation of this decomposition. This command estimates the group-specific regression models and computes the decomposition, providing detailed results for the explained and unexplained components.

The Oaxaca decomposition is commonly applied to analyze wage gaps by sex or race in labor economics, but it can also be used in any field to study differences in continuous and unbounded outcome variables.

It is important to consider omitted variable bias when applying this technique, as leaving out important variables can lead to biased results. Additionally, the unexplained component includes not only discrimination but also the effects of unobserved variables, which should be considered when interpreting the results. Overall, the Oaxaca decomposition helps to understand the underlying factors driving differences in outcomes between groups and can inform policy measures aimed at reducing disparities.

3.2 Data Analysis Procedure

We began by downloading the data from ISTAT. Next, we analyzed the proposed questionnaire to select the questions relevant to our study. Subsequently, we adjusted the Excel file containing the responses by removing the columns corresponding to irrelevant questions. The data used are nominal and not adjusted for inflation.

We imported the data from the ISTAT survey of the selected year, and the import process was confirmed to be successful. Since the objective is to analyze the gender wage gap, only data pertaining to our objective was included.

The target population consists of all family members residing in Italy, including those temporarily abroad, but excludes permanent residents of collective living arrangements (such as shelters, religious institutions, and military barracks). A two-stage sampling design with stratification at the first stage

is used. Municipalities are selected as the first-stage units, and families as the second-stage units. Each quarterly survey employs a temporal stratification by month, dividing the quarterly sample of families into three groups, each randomly assigned to a specific month within the quarter. This method ensures that each group represents the reference population for that month. While families rotate according to this scheme, the selected municipalities remain unchanged over time.

The salary variable represents the income received by respondents during their last month of employment. The job tenure variable denotes the duration, in years, that individuals have worked for the same employer, or the length of time self-employed individuals have been in the same job. Moreover, the experience variable measures the total number of years a person has been active in the labor market.

The Italian regions examined were assigned numbers from 1 to 20 as follows: Piedmont (reg_dum1), Valle D'Aosta (reg_dum2), Lombardy (reg_dum3), Trentino-Alto Adige (reg_dum4), Veneto (reg_dum5), Friuli Venezia Giulia (reg_dum6), Liguria (reg_dum7), Emilia Romagna (reg_dum8), Tuscany (reg_dum9), Umbria (reg_dum10), Marche (reg_dum11), Lazio (reg_dum12), Abruzzo (reg_dum13), Molise (reg_dum14), Campania (reg_dum15), Puglia (reg_dum16), Basilicata (reg_dum17), Calabria (reg_dum18), Sicily (reg_dum19), and Sardinia (reg_dum20). These recoded variables are dummy variables, which are a type of variable used in regression analysis to represent categorical data. Each dummy variable takes on a value of 0 or 1 to indicate the absence or presence of a specific category, allowing for the inclusion of categorical data in the analysis.

Professions, instead, were categorized as follows:

- Legislators, entrepreneurs, and top management (PROF1_dum1)
- Intellectual, scientific, and highly specialized professions (PROF1_dum2)
- Technical professions (PROF1_dum3)
- Office work executive professions (PROF1_dum4)
- Qualified professions in commercial activities and services (PROF1_dum5)
- Craftsmen, skilled workers, and agricultural workers (PROF1_dum6)
- Plant operators, machinery operators, and vehicle drivers (PROF1_dum7)
- Unqualified professions (PROF1_dum8)
- Armed forces (PROF1_dum9)

We initially addressed some problematic variables. The first variable was gender, originally coded as SG11, with values of 1 for males and 2 for females. We recoded this variable into a dummy variable, named "female", where 0 represents males and 1 represents females.

Next, we analyzed the occupational structure of our population. Using the variable COND3, we derived the unemployment rate. Specifically, response 1 corresponds to individuals who are currently employed, response 2 to those who are unemployed, and response 3 to those who are not working by choice or are not seeking employment.

Next, we created a variable to represent employee compensation. Using the command "destring" we transformed the variable RETRIC into a new numerical variable called "wage". The minimum and maximum values are censored at 250 and 3000, respectively, as determined by ISTAT.

Subsequently, we transformed the variable "wage" into its logarithmic form, "lwage". We then removed the now redundant variables, RETRIC and SG11, which had already been transformed.

We proceeded to examine the variable "anzianita", currently coded as C61, indicating the year the employee began working. There is a lack of specificity as it is not clear who is being asked to respond to the question, "In which year did you start working?". Using the command "destring", we converted this variable from a string (C61) into a numeric variable, renamed "anno_primo_lav". Observation with missing values were then handled and removed. We created a new variable, "anzianita", representing the number of years an employee has been working.

We then analyzed the variable "esperienza", currently coded as C55, which indicates the number of years of experience an employee has in the specific job. Again, we disclosed a lack of specificity as it is not clear who is being asked to respond to the question, "In which year did you start working in this place?". Using the command "destring", we converted this variable from a string (C55) into a numeric variable, renamed "anno_inizio_lav". Missing values were addressed and removed. Subsequently, we created a new variable, "esperienza", representing the number of years an employee has worked in the same place.

Finally, we removed the now unnecessary variables (C55, C61, anno_inizio_lav, and anno_primo_lav).

We generated dummy variables for "regione", indicating the origin of the interviewee, and for "professione", categorizing employees into specific groups based on their profession.

Subsequently, we created a macro to consistently exclude a specific region (region 14, Molise) from the table and a specific profession (PROF1, Legislators, entrepreneurs, and top management) so all data is interpreted in comparison to this region and this profession.

We generated an interaction variable between "female" and "anzianita", termed "anz_donna" and between "female" and "esperienza", named "esp_donna". Thereafter, we performed a regression analysis using the variables: "lwage", "female", "esperienza", "anzianita", "anz_donna", "esp_donna", "$regione" (all regions but Molise that we previously excluded), and "$prof1" (all professions but PROF_1).

All the coefficients indicate whether there is a positive or negative correlation with the wage level. Most regions demonstrate a positive correlation, meaning wages are higher than in the Molise region.

We subsequently performed an Oaxaca decomposition "by(female)", using variables "lwage", "esperienza" and "anzianita" which gave us a total difference between the two groups (male and female). This difference is decomposed into three components: endowments, coefficients, and interaction.

Then we performed another Oaxaca decomposition, adding also all regions ("$regione") and all professions ("$prof1"). Again, we could see the total difference between the groups and its decomposition in endowments, coefficients, and interaction.

At the end, we double-checked the variables "wage", "anzianita" and "esperienza" with COND3 to ensure that all respondents who provided data for these variables were currently employed. The results were always positive, indicating that none of the individuals who were unemployed (COND3=2) or not working by choice (COND3=3) were asked about the variables "wage", "anzianita" and "esperienza".

3.3 2020 Analysis

The sample size of 2020 is 97,156 individuals. There are 46,260 males (47,61%) and 50,896 females (52.39%). In Tab 12 is possible to see the occupational structure of our population. Specifically, response 1 corresponds to individuals who are currently employed, response 2 to those who are unemployed, and response 3 to those who are not working by choice or are not seeking employment.

```
tab COND3, m

   COND3 |      Freq.     Percent        Cum.
---------+--------------------------------------
       1 |     34,004       35.00       35.00
       2 |      3,318        3.42       38.41
       3 |     59,834       61.59      100.00
---------+--------------------------------------
   Total |     97,156      100.00
```

Tab 12, occupational structure of our population (2020)

(3,318/(3,318+34,004))*100 = 8.30 which means that unemployment rate is 8.3%.

In Tab 13, we analyzed the female unemployment rate using an "if" condition.

```
. tab COND3 if female==1, m

   COND3 |      Freq.     Percent        Cum.
---------+--------------------------------------
       1 |     14,928       29.33       29.33
       2 |      1,612        3.17       32.50
       3 |     34,356       67.50      100.00
---------+--------------------------------------
   Total |     50,896      100.00
```

Tab 13, occupational structure of female population (2020)

((1,612/(14,928+1,612))*100) = 9.74 which means that female unemployment rate is almost 9.8%.

Tab 14 illustrates the composition of the variable "wage". There are 26,119 observations with an average value of 1,377.48 and a standard deviation of 531.81. The minimum and maximum values are censored at 250 and 3,000, respectively, as determined by ISTAT.

```
sum wage

    Variable │        Obs        Mean    Std. Dev.         Min         Max
──────────────┼──────────────────────────────────────────────────────────
        wage  │     26,119    1377.488    531.8128         250        3000
```

Tab 14, summary of the new variable "wage" (2020)

We proceeded to examine the variable "anzianita". Observation with missing values were then handled and removed, as shown in Tab 15. This variable comprises 19,832 observations, with a mean value of 25.83 and a standard deviation of 11.99. The minimum observed value is 0, while the maximum is 75.

```
. destring C61, gen(anno_primo_lav)
C61: all characters numeric; anno_primo_lav generated as int
(73285 missing values generated)

. replace anno_primo_lav=. if anno_primo_lav==997
(4,039 real changes made, 4,039 to missing)

. gen anzianita=2020-anno_primo_lav
(77,324 missing values generated)

. sum anzianita

    Variable │       Obs       Mean    Std. Dev.        Min        Max
──────────────┼───────────────────────────────────────────────────────
   anzianita  │    19,832    25.8396    11.99903          0         75
```

Tab 15, variable "anzianita" (2020)

We then analyzed the variable "esperienza". Missing values were addressed and removed, as shown in Tab 16. This variable includes 33,583 observations, with a mean value of 13.41 and a standard deviation of 11.75. The minimum observed value is 0, while the maximum is 72.

```
. destring C55, gen(anno_inizio_lav)
C55: all characters numeric; anno_inizio_lav generated as int
(63152 missing values generated)

. replace anno_inizio_lav=. if anno_inizio_lav==997
(421 real changes made, 421 to missing)

. gen esperienza=2020-anno_inizio_lav
(63,573 missing values generated)


.
. sum esperienza

    Variable │       Obs        Mean    Std. Dev.       Min        Max
─────────────┼─────────────────────────────────────────────────────────
   esperienza │    33,583    13.41056     11.7568         0         72


.
. * i valori non missing sono più di 33mila
. label variable esperienza "Tenure, 2020 - anno inizio lavoro"


.
. * leviamo le variabili non più utili
. drop C55 C61 anno_inizio_lav anno_primo_lav
```

Tab 16, variable "esperienza" (2020)

```
. tab REG, gen(reg_dum)

      REG │      Freq.      Percent        Cum.
──────────┼──────────────────────────────────────
       01 │      9,265         9.54        9.54
       02 │      1,602         1.65       11.19
       03 │     13,097        13.48       24.67
       04 │      5,407         5.57       30.23
       05 │      6,523         6.71       36.94
       06 │      4,298         4.42       41.37
       07 │      3,787         3.90       45.27
       08 │      6,207         6.39       51.66
       09 │      4,482         4.61       56.27
       10 │      3,175         3.27       59.54
       11 │      3,841         3.95       63.49
       12 │      7,405         7.62       71.11
       13 │      1,699         1.75       72.86
       14 │      1,536         1.58       74.44
       15 │      4,500         4.63       79.07
       16 │      2,886         2.97       82.04
       17 │      3,060         3.15       85.19
       18 │      1,690         1.74       86.93
       19 │      8,659         8.91       95.84
       20 │      4,037         4.16      100.00
──────────┼──────────────────────────────────────
    Total │     97,156       100.00
```

Tab 17, variable REG (2020)

```
. tab PROF1, gen(PROF1_dum)

     PROF1 |      Freq.     Percent        Cum.
-----------+-----------------------------------
           |     63,152       65.00       65.00
         1 |        907        0.93       65.93
         2 |      5,111        5.26       71.19
         3 |      6,023        6.20       77.39
         4 |      3,925        4.04       81.43
         5 |      6,233        6.42       87.85
         6 |      5,134        5.28       93.13
         7 |      2,712        2.79       95.93
         8 |      3,618        3.72       99.65
         9 |        341        0.35      100.00
-----------+-----------------------------------
     Total |     97,156      100.00
```

Tab 18, variable PROF1 (2020)

```
. * generiamo l'interazione tra donna e anzianità
. gen anz_donna=anzianita*female
(77,324 missing values generated)

.
. * generiamo l'interazione tra donna e esperienza
. gen esp_donna=esperienza*female
(63,573 missing values generated)
```

Tab 19, interactions between variables (2020)

```
.
. reg lwage female esperienza anzianita anz_donna esp_donna $regione $prof1, robust
note: PROF1_dum1 omitted because of collinearity

Linear regression                              Number of obs    =    15,529
                                               F(32, 15496)     =    257.13
                                               Prob > F         =    0.0000
                                               R-squared        =    0.3921
                                               Root MSE         =    .34647
```

lwage	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
female	−.2050509	.0148263	−13.83	0.000	−.234112	−.1759897
esperienza	.0058755	.0004378	13.42	0.000	.0050173	.0067337
anzianita	.0024238	.0004302	5.63	0.000	.0015806	.0032671
anz_donna	−.0047949	.0006762	−7.09	0.000	−.0061204	−.0034694
esp_donna	.0060734	.0006851	8.86	0.000	.0047304	.0074163
reg_dum1	.091314	.0330113	2.77	0.006	.026608	.1560199
reg_dum2	.1609508	.0369496	4.36	0.000	.0885253	.2333763
reg_dum3	.1529228	.0325459	4.70	0.000	.0891289	.2167166
reg_dum4	.1833926	.0332006	5.52	0.000	.1183156	.2484696
reg_dum5	.098397	.0331669	2.97	0.003	.0333859	.163408
reg_dum6	.1320172	.033571	3.93	0.000	.0662141	.1978202
reg_dum7	.0898955	.034921	2.57	0.010	.0214462	.1583447
reg_dum8	.1073982	.0332419	3.23	0.001	.0422401	.1725562
reg_dum9	.086891	.0340957	2.55	0.011	.0200594	.1537225
reg_dum10	.0475508	.0348497	1.36	0.172	−.0207587	.1158604
reg_dum11	.0443372	.0351133	1.26	0.207	−.024489	.1131633
reg_dum12	.0787295	.0333348	2.36	0.018	.0133894	.1440696
reg_dum13	.0426815	.0383559	1.11	0.266	−.0325005	.1178635
reg_dum15	.0368611	.0367219	1.00	0.315	−.0351181	.1088403
reg_dum16	−.0042326	.0391118	−0.11	0.914	−.0808963	.0724311
reg_dum17	.0325978	.0369393	0.88	0.378	−.0398076	.1050031
reg_dum18	−.005843	.0447249	−0.13	0.896	−.0935091	.081823
reg_dum19	−.0054957	.0340859	−0.16	0.872	−.0723081	.0613167
reg_dum20	.0161624	.0353806	0.46	0.648	−.0531876	.0855124
PROF1_dum1	0	(omitted)				
PROF1_dum2	.4154566	.0362516	11.46	0.000	.3443993	.4865139
PROF1_dum3	.136379	.0274842	4.96	0.000	.0825067	.1902513
PROF1_dum4	.0188886	.027071	0.70	0.485	−.0341738	.0719509
PROF1_dum5	−.116545	.0273466	−4.26	0.000	−.1701476	−.0629424
PROF1_dum6	−.3201064	.0277096	−11.55	0.000	−.3744206	−.2657923
PROF1_dum7	−.194777	.0273725	−7.12	0.000	−.2484303	−.1411238
PROF1_dum8	−.1316287	.0273178	−4.82	0.000	−.1851748	−.0780825
PROF1_dum9	−.4853759	.0283479	−17.12	0.000	−.5409411	−.4298107
_cons	7.200009	.0415614	173.24	0.000	7.118544	7.281474

Tab 20, regression conditional (2020)

The model, based on 15,529 observations, explains about 39.21% of the variability in log wages (R-squared = 0.3921). The overall model is highly significant. It is evident that females have a regression coefficient of -0.2050, indicating they earn 20.50% less than males. Conversely, the regression coefficient for males is 7.20.

```
. oaxaca lwage esperienza anzianita, by(female) noisily

Model for group 1

      Source |       SS           df       MS      Number of obs   =     8,312
-------------+----------------------------------   F(2, 8309)      =    360.49
       Model |  91.1264806          2  45.5632403   Prob > F        =    0.0000
    Residual |  1050.20628      8,309  .126393823   R-squared       =    0.0798
-------------+----------------------------------   Adj R-squared   =    0.0796
       Total |  1141.33276      8,311   .13732797   Root MSE        =    .35552


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0099063   .0004532    21.86   0.000     .0090179    .0107946
   anzianita |   .0005898   .0004002     1.47   0.141    -.0001947    .0013744
       _cons |   7.155753   .0093366   766.42   0.000     7.137451    7.174055


Model for group 2

      Source |       SS           df       MS      Number of obs   =     7,217
-------------+----------------------------------   F(2, 7214)      =    462.33
       Model |  186.303297          2  93.1516487   Prob > F        =    0.0000
    Residual |  1453.48864      7,214  .201481652   R-squared       =    0.1136
-------------+----------------------------------   Adj R-squared   =    0.1134
       Total |  1639.79194      7,216  .227243894   Root MSE        =    .44887


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0189442   .0006285    30.14   0.000     .0177122    .0201762
   anzianita |  -.0067693   .0005363   -12.62   0.000    -.0078205    -.005718
       _cons |   6.973696   .0122384   569.82   0.000     6.949705    6.997687
```

Tab 21, Oaxaca decomposition with "esperienza" and "anzianita" variables (2020)

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```
Blinder-Oaxaca decomposition                    Number of obs    =      15,529
                                                 Model            =      linear
Group 1: female = 0                              N of obs 1       =       8,312
Group 2: female = 1                              N of obs 2       =       7,217

   endowments: (X1 - X2) * b2
 coefficients: X2 * (b1 - b2)
  interaction: (X1 - X2) * (b1 - b2)
```

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
overall						
group_1	7.281587	.0040651	1791.23	0.000	7.273619	7.289554
group_2	7.012836	.005612	1249.60	0.000	7.001837	7.023836
difference	.2687505	.0069297	38.78	0.000	.2551686	.2823324
endowments	.0034623	.0026423	1.31	0.190	-.0017164	.0086411
coefficients	.263712	.0066479	39.67	0.000	.2506823	.2767417
interaction	.0015761	.001443	1.09	0.275	-.001252	.0044043
endowments						
esperienza	.0087536	.0030761	2.85	0.004	.0027245	.0147827
anzianita	-.0052912	.0013297	-3.98	0.000	-.0078974	-.0026851
coefficients						
esperienza	-.0971326	.0083938	-11.57	0.000	-.1135842	-.080681
anzianita	.1787879	.0162883	10.98	0.000	.1468635	.2107123
_cons	.1820567	.0153932	11.83	0.000	.1518867	.2122267
interaction						
esperienza	-.0041762	.0015042	-2.78	0.005	-.0071244	-.0012279
anzianita	.0057523	.0014682	3.92	0.000	.0028747	.0086298

Tab 22, Oaxaca decomposition with "esperienza" and "anzianita" variables (2020)

The Oaxaca decomposition results (Tab 21-22) reveal a total of 15,529 observations and an overall wage difference of 0.2688 (significant, $p < 0.001$) between the two groups. This difference is decomposed into three components:

- The endowments component is 0.0035 (not significant, $p = 0.190$), indicating that differences in observable characteristics between the groups do not significantly contribute to the wage difference.
- The coefficients component is 0.2637 (significant, $p < 0.001$), suggesting that the majority of the wage difference is due to different returns to these characteristics.
- The interaction component is 0.0016 (not significant, $p = 0.275$), capturing the combined effect of differences in characteristics and returns.

In detail, the endowments component shows that experience contributes positively (0.0088, significant), while tenure contributes negatively (-0.0053, significant). For the coefficients component, experience has a negative effect (-0.0971, significant), indicating higher returns for males, while tenure has a positive effect (0.1788, significant), also favoring males. The interaction

component shows a significant negative interaction for experience (-0.0042) and a significant positive interaction for tenure (0.0058).

In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure rather than the characteristics themselves. Experience positively affects wages for both groups, but the returns are significantly higher for males. Tenure has a mixed impact, with males benefiting more from tenure compared to females.

```
. oaxaca lwage esperienza anzianita $regione $prof1, by(female) noisily relax

Model for group 1

      Source        SS            df        MS        Number of obs   =     8,312
                                                       F(29, 8282)     =    128.38
       Model     353.951664        29    12.2052298    Prob > F        =    0.0000
    Residual     787.381092     8,282    .095071371    R-squared       =    0.3101
                                                       Adj R-squared   =    0.3077
       Total     1141.33276     8,311     .13732797    Root MSE        =    .30834


       lwage       Coef.     Std. Err.      t      P>|t|     [95% Conf. Interval]

  esperienza     .0065405    .0004047    16.16    0.000     .0057472     .0073337
   anzianita     .0021417    .0003528     6.07    0.000     .0014501     .0028334
    reg_dum1     .1115492    .0343144     3.25    0.001     .0442843     .1788141
    reg_dum2      .172728    .0420574     4.11    0.000      .090285      .255171
    reg_dum3     .1893871    .0338389     5.60    0.000     .1230543     .2557199
    reg_dum4     .2181565     .035195     6.20    0.000     .1491656     .2871475
    reg_dum5     .1293923    .0346921     3.73    0.000      .061387     .1973976
    reg_dum6     .1553697    .0358694     4.33    0.000     .0850567     .2256827
    reg_dum7     .1343426    .0373777     3.59    0.000     .0610729     .2076123
    reg_dum8     .1188831    .0346978     3.43    0.001     .0508666     .1868996
    reg_dum9     .0895779    .0361957     2.47    0.013     .0186253     .1605306
   reg_dum10     .0655684    .0373066     1.76    0.079    -.0075619     .1386988
   reg_dum11     .0687751    .0372853     1.84    0.065    -.0043134     .1418636
   reg_dum12     .0973644    .0349623     2.78    0.005     .0288295     .1658994
   reg_dum13     .0651015    .0422816     1.54    0.124     -.017781      .147984
   reg_dum15     .0416729    .0400008     1.04    0.298    -.0367387     .1200845
   reg_dum16     .0087601    .0417707     0.21    0.834    -.0731209     .0906412
   reg_dum17     .0664818    .0392402     1.69    0.090    -.0104388     .1434023
   reg_dum18     .0044049     .048963     0.09    0.928    -.0915749     .1003846
   reg_dum19     .0143757    .0358085     0.40    0.688    -.0558179     .0845693
   reg_dum20     .0579867     .037344     1.55    0.121    -.0152169     .1311904
  PROF1_dum1           0    (omitted)
  PROF1_dum2     .3943976    .0408443     9.66    0.000     .3143325     .4744627
  PROF1_dum3     .1374824    .0344801     3.99    0.000     .0698926     .2050721
  PROF1_dum4     .0088215    .0336049     0.26    0.793    -.0570525     .0746954
  PROF1_dum5     -.138196    .0345427    -4.00    0.000    -.2059082    -.0704837
  PROF1_dum6    -.2999514    .0345153    -8.69    0.000    -.3676101    -.2322927
  PROF1_dum7    -.1742201    .0337254    -5.17    0.000    -.2403303    -.1081098
  PROF1_dum8    -.1239507    .0338956    -3.66    0.000    -.1903947    -.0575068
  PROF1_dum9    -.3872825    .0342936   -11.29    0.000    -.4545065    -.3200586
        _cons    7.159982    .0466896   153.35    0.000     7.068459     7.251506
```

Tab 23,Oaxaca decomposition with all variables (group 1) (2020)

```
Model for group 2

      Source |       SS           df       MS       Number of obs   =     7,217
                                                     F(29, 7187)     =    139.40
       Model |  590.321767        29    20.355923   Prob > F        =    0.0000
    Residual |  1049.47017      7,187   .146023399   R-squared       =    0.3600
                                                     Adj R-squared   =    0.3574
       Total |  1639.79194      7,216   .227243894   Root MSE        =    .38213
```

lwage	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
esperienza	.0107525	.0005624	19.12	0.000	.0096501	.0118549
anzianita	−.0015481	.000473	−3.27	0.001	−.0024754	−.0006209
reg_dum1	.0626892	.0496889	1.26	0.207	−.0347156	.160094
reg_dum2	.1235041	.056186	2.20	0.028	.0133631	.2336451
reg_dum3	.1009246	.049106	2.06	0.040	.0046624	.1971867
reg_dum4	.1309962	.0505643	2.59	0.010	.0318753	.230117
reg_dum5	.0583456	.0501274	1.16	0.244	−.0399188	.15661
reg_dum6	.0991631	.0512172	1.94	0.053	−.0012377	.199564
reg_dum7	.0338979	.0527078	0.64	0.520	−.0694249	.1372208
reg_dum8	.0838012	.0499296	1.68	0.093	−.0140755	.181678
reg_dum9	.0754161	.0517062	1.46	0.145	−.0259433	.1767756
reg_dum10	.0178364	.0531216	0.34	0.737	−.0862975	.1219704
reg_dum11	.0213172	.0532307	0.40	0.689	−.0830306	.125665
reg_dum12	.0600026	.0509354	1.18	0.239	−.0398458	.159851
reg_dum13	.0139172	.0591581	0.24	0.814	−.1020501	.1298846
reg_dum15	.0324806	.0583724	0.56	0.578	−.0819465	.1469077
reg_dum16	−.0343216	.063596	−0.54	0.589	−.1589885	.0903453
reg_dum17	−.0244708	.0592925	−0.41	0.680	−.1407015	.0917599
reg_dum18	−.0230653	.0789379	−0.29	0.770	−.1778068	.1316762
reg_dum19	−.0457285	.053115	−0.86	0.389	−.1498495	.0583925
reg_dum20	−.0417457	.0527291	−0.79	0.429	−.1451103	.0616189
PROF1_dum1	0	(omitted)				
PROF1_dum2	.2867941	.2278849	1.26	0.208	−.1599274	.7335156
PROF1_dum3	−.0979833	.2214926	−0.44	0.658	−.5321739	.3362072
PROF1_dum4	−.19295	.2214813	−0.87	0.384	−.6271185	.2412185
PROF1_dum5	−.3431174	.2214316	−1.55	0.121	−.7771885	.0909536
PROF1_dum6	−.5719599	.2214375	−2.58	0.010	−1.006042	−.1378773
PROF1_dum7	−.4836077	.2229784	−2.17	0.030	−.9207109	−.0465045
PROF1_dum8	−.3433191	.2223824	−1.54	0.123	−.779254	.0926157
PROF1_dum9	−.8280362	.2216844	−3.74	0.000	−1.262603	−.3934695
_cons	7.270946	.226499	32.10	0.000	6.826941	7.71495

Tab 24, Oaxaca decomposition with all variables (Group 2) (2020)

```
Blinder-Oaxaca decomposition              Number of obs    =    15,529
                                          Model            =    linear
Group 1: female = 0                       N of obs 1       =     8,312
Group 2: female = 1                       N of obs 2       =     7,217


   endowments: (X1 − X2) ∗ b2
 coefficients: X2 ∗ (b1 − b2)
  interaction: (X1 − X2) ∗ (b1 − b2)
```

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
overall						
group_1	7.281587	.0040696	1789.27	0.000	7.27361	7.289563
group_2	7.012836	.0056186	1248.15	0.000	7.001824	7.023848
difference	.2687505	.0069376	38.74	0.000	.2551531	.2823479
endowments	.011971	.0077739	1.54	0.124	−.0032657	.0272076
coefficients	.253685	.0064409	39.39	0.000	.241061	.266309
interaction	.0030946	.0071182	0.43	0.664	−.0108568	.0170459
endowments						
esperienza	.0049684	.0017575	2.83	0.005	.0015238	.008413
anzianita	−.0012101	.000469	−2.58	0.010	−.0021294	−.0002908
reg_dum1	−.0000819	.0003208	−0.26	0.798	−.0007107	.0005468
reg_dum2	−.0008394	.0004729	−1.77	0.076	−.0017662	.0000875
reg_dum3	−.0000592	.0005938	−0.10	0.921	−.001223	.0011046
reg_dum4	−.0006694	.0006031	−1.11	0.267	−.0018514	.0005126
reg_dum5	−.0001222	.0002859	−0.43	0.669	−.0006826	.0004382
reg_dum6	−.0007003	.0005167	−1.36	0.175	−.001713	.0003125
reg_dum7	−.0002001	.0003283	−0.61	0.542	−.0008435	.0004434
reg_dum8	−.0008358	.0006324	−1.32	0.186	−.0020754	.0004037
reg_dum9	−.0002803	.0003274	−0.86	0.392	−.000922	.0003614
reg_dum10	−.0000328	.0001116	−0.29	0.769	−.0002514	.0001859
reg_dum11	−.0000244	.0000886	−0.28	0.783	−.000198	.0001492
reg_dum12	.0006741	.0006234	1.08	0.280	−.0005477	.001896
reg_dum13	−8.72e−06	.0000467	−0.19	0.852	−.0001002	.0000828
reg_dum15	.0001222	.0002314	0.53	0.597	−.0003313	.0005757
reg_dum16	−.0001916	.000361	−0.53	0.596	−.0008991	.0005159
reg_dum17	−.0001941	.0004737	−0.41	0.682	−.0011225	.0007342
reg_dum18	−.0000815	.0002807	−0.29	0.771	−.0006318	.0004687
reg_dum19	−.0008017	.0009438	−0.85	0.396	−.0026516	.0010482
reg_dum20	.0002198	.0003062	0.72	0.473	−.0003803	.0008198
PROF1_dum1	0	(omitted)				
PROF1_dum2	.0036079	.0029126	1.24	0.215	−.0021008	.0093165
PROF1_dum3	.0066886	.0151291	0.44	0.658	−.0229639	.0363411
PROF1_dum4	−.005284	.006181	−0.85	0.393	−.0173985	.0068305
PROF1_dum5	.0400995	.0259534	1.55	0.122	−.0107682	.0909673
PROF1_dum6	.0878608	.0341922	2.57	0.010	.0208453	.1548763
PROF1_dum7	−.0839769	.0387893	−2.16	0.030	−.1600025	−.0079513
PROF1_dum8	−.0413052	.0268034	−1.54	0.123	−.0938388	.0112285
PROF1_dum9	.0046293	.0046134	1.00	0.316	−.0044128	.0136714

Tab 25, endowments (differences in observable characteristics between the groups) (2020)

```
coefficients
   esperienza   -.0452675    .0074621    -6.07   0.000    -.059893    -.030642
    anzianita    .0896444    .0143458     6.25   0.000     .0615271   .1177617
     reg_dum1    .0053484    .0066125     0.81   0.419    -.0076119   .0183087
     reg_dum2    .0011459    .0016361     0.70   0.484    -.0020608   .0043525
     reg_dum3    .0140471    .0094774     1.48   0.138    -.0045282   .0326224
     reg_dum4    .0064854    .0045919     1.41   0.158    -.0025146   .0154854
     reg_dum5    .0063201    .0054281     1.16   0.244    -.0043189   .0169591
     reg_dum6    .0033722    .0037548     0.90   0.369    -.0039871   .0107316
     reg_dum7    .0041336    .0026695     1.55   0.122    -.0010985   .0093657
     reg_dum8     .003393    .0058818     0.58   0.564    -.0081352   .0149211
     reg_dum9    .0007359    .0032798     0.22   0.822    -.0056924   .0071641
    reg_dum10     .001799    .0024488     0.73   0.463    -.0030007   .0065986
    reg_dum11    .0017558    .0024067     0.73   0.466    -.0029613   .0064728
    reg_dum12    .0024435      .004042    0.60   0.545    -.0054786   .0103656
    reg_dum13    .0008511    .0012115     0.70   0.482    -.0015235   .0032256
    reg_dum15    .0001656    .0012747     0.13   0.897    -.0023329    .002664
    reg_dum16    .0004955    .0008767     0.57   0.572    -.0012229   .0022138
    reg_dum17    .0014997    .0011803     1.27   0.204    -.0008136    .003813
    reg_dum18    .0001408    .0004768     0.30   0.768    -.0007937   .0010753
    reg_dum19    .0022653     .002418     0.94   0.349     -.002474   .0070045
    reg_dum20    .0040766    .0026513     1.54   0.124    -.0011199   .0092732
   PROF1_dum1           0   (omitted)
   PROF1_dum2    .0007306    .0015753     0.46   0.643     -.002357   .0038182
   PROF1_dum3    .0387929    .0369447     1.05   0.294    -.0336173   .1112032
   PROF1_dum4    .0336053    .0373207     0.90   0.368    -.0395419   .1067524
   PROF1_dum5    .0429321    .0469624     0.91   0.361    -.0491125   .1349768
   PROF1_dum6    .0685204    .0564719     1.21   0.225    -.0421626   .1792033
   PROF1_dum7    .0086596    .0063406     1.37   0.172    -.0037677   .0210868
   PROF1_dum8      .00921    .0094586     0.97   0.330    -.0093284   .0277485
   PROF1_dum9    .0573462    .0292385     1.96   0.050     .0000399   .1146526
        _cons   -.1109634    .2312612    -0.48   0.631    -.5642269   .3423002
```

Tab 26, coefficients (differences in the returns to these characteristics between the groups) (2020)

```
interaction
   esperienza   -.0019462    .0007524    -2.59   0.010    -.0034209  -.0004716
    anzianita    .0028842    .0008282     3.48   0.000      .001261   .0045074
     reg_dum1   -.0000639    .0002573    -0.25   0.804    -.0005681   .0004404
     reg_dum2   -.0003345    .0004898    -0.68   0.495    -.0012945   .0006254
     reg_dum3   -.0000519     .000521    -0.10   0.921    -.0010731   .0009693
     reg_dum4   -.0004454    .0004802    -0.93   0.354    -.0013866   .0004957
     reg_dum5   -.0001488    .0003481    -0.43   0.669     -.000831   .0005334
     reg_dum6   -.0003969    .0004886    -0.81   0.417    -.0013545   .0005607
     reg_dum7   -.0005929    .0004919    -1.21   0.228    -.0015569   .0003711
     reg_dum8   -.0003499     .000628    -0.56   0.577    -.0015808    .000881
     reg_dum9   -.0000526    .0002398    -0.22   0.826    -.0005227   .0004174
    reg_dum10   -.0000877    .0001875    -0.47   0.640    -.0004551   .0002798
    reg_dum11   -.0000543    .0001613    -0.34   0.736    -.0003704   .0002618
    reg_dum12    .0004198     .000711     0.59   0.555    -.0009737   .0018133
    reg_dum13   -.0000321    .0001139    -0.28   0.778    -.0002553   .0001912
    reg_dum15    .0000346    .0002671     0.13   0.897    -.0004888    .000558
    reg_dum16    .0002405    .0004326     0.56   0.578    -.0006073   .0010884
    reg_dum17    .0007216    .0006004     1.20   0.229    -.0004552   .0018984
    reg_dum18    .0000971    .0003304     0.29   0.769    -.0005504   .0007447
    reg_dum19    .0010538    .0011411     0.92   0.356    -.0011828   .0032904
    reg_dum20    -.000525    .0004592    -1.14   0.253     -.001425   .0003749
   PROF1_dum1           0   (omitted)
   PROF1_dum2    .0013537    .0029189     0.46   0.643    -.0043672   .0070746
   PROF1_dum3   -.0160736    .0153553    -1.05   0.295    -.0461694   .0140222
   PROF1_dum4    .0055256    .0062597     0.88   0.377    -.0067432   .0177944
   PROF1_dum5   -.0239488    .0262178    -0.91   0.361    -.0753347   .0274371
   PROF1_dum6   -.0417842     .034466    -1.21   0.225    -.1093364    .025768
   PROF1_dum7    .0537241    .0391881     1.37   0.170    -.0230831   .1305314
   PROF1_dum8    .0263925    .0270836     0.97   0.330    -.0266904   .0794754
   PROF1_dum9   -.0024641    .0026773    -0.92   0.357    -.0077115   .0027833
```

Tab 27, interaction (combined effect of differences in endowments and differences in coefficients, showing how these differences together contribute to the overall gap) (2020)

The Oaxaca decomposition results reveal a total of 15,529 observations and an overall wage difference of 0.2688 (significant, $p < 0.001$) between the two groups. This difference is decomposed into three components:

- The endowments component (Tab 25) is 0.0120 (not significant, $p = 0.124$), indicating that differences in observable characteristics between the groups do not significantly contribute to the wage difference.
- The coefficients component (Tab 26) is 0.2537 (significant, $p < 0.001$), suggesting that the majority of the wage difference is due to different returns to these characteristics.
- The interaction component (Tab 27) is 0.0031 (not significant, $p = 0.664$), capturing the combined effect of differences in characteristics and returns.

In detail, the endowments component shows that experience contributes positively (0.0050, significant), while tenure contributes negatively (-0.0012, significant). For the coefficients component, experience has a negative effect (-0.0453, significant), indicating higher returns for males, while tenure has a positive effect (0.0896, significant), also favoring males. The interaction component shows a significant negative interaction for experience (-0.0019) and a significant positive interaction for tenure (0.0029).

In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure rather than the characteristics themselves. Experience positively affects wages for both groups, but the returns are significantly higher for males. Tenure has a mixed impact, with males benefiting more from tenure compared to females.

3.4 2015 Analysis

The sample size of 2015 is 99,733 individuals. There are 47,385 males (47.51%) and 52,348 females (52.49%). In Tab 28 is possible to see the occupational structure of our population. Specifically, response 1 corresponds to individuals who are currently employed, response 2 to those who are unemployed, and response 3 to those who are not working by choice or are not seeking employment.

```
. tab COND3, m

     COND3 │      Freq.      Percent        Cum.
───────────┼───────────────────────────────────
         1 │     34,717        34.81       34.81
         2 │      4,265         4.28       39.09
         3 │     60,751        60.91      100.00
───────────┼───────────────────────────────────
     Total │     99,733       100.00
```

Tab 28, occupational structure of our population (2015)

(4,265/(4,265+34,717))*100 = 10.94 which means that unemployment rate is 10.94%.

In Tab 29, we analyzed the female unemployment rate using an "if" condition.

```
.
. tab COND3 if female==1, m

     COND3 │      Freq.      Percent        Cum.
───────────┼───────────────────────────────────
         1 │     15,046        28.74       28.74
         2 │      1,965         3.75       32.50
         3 │     35,337        67.50      100.00
───────────┼───────────────────────────────────
     Total │     52,348       100.00
```

Tab 29, occupational structure of female population (2015)

((1,965/(15,046+ 1,965))*100) = 11.55 which means that female unemployment rate is 11.55%.

Tab 30 illustrates the composition of the variable "wage". There are 26,167 observations with an average value of 1,316.27 and a standard deviation of 523.10.

```
sum wage
```

Variable	Obs	Mean	Std. Dev.	Min	Max
wage	26,167	1316.279	523.1084	250	3000

Tab 30, summary of the new variable "wage" (2015)

We proceeded to examine the variable "anzianita". Observations with missing values were then handled and removed, as shown in Tab 31. This variable comprises 20,902 observations, with a mean value of 25.27 and a standard deviation of 11.64. The minimum observed value is 0, while the maximum is 72.

```
. destring C61, gen(anno_primo_lav)
C61: all characters numeric; anno_primo_lav generated as int
(73912 missing values generated)

. replace anno_primo_lav=. if anno_primo_lav==997
(4,919 real changes made, 4,919 to missing)

. gen anzianita=2015-anno_primo_lav
(78,831 missing values generated)

. sum anzianita
```

Variable	Obs	Mean	Std. Dev.	Min	Max
anzianita	20,902	25.27284	11.64271	0	72

Tab 31, variable "anzianita" (2015)

We then analyzed the variable "esperienza". Missing values were addressed and removed, as shown in Tab 32. This variable includes 34,180 observations, with a mean value of 12.98 and a standard deviation of 11.27. The minimum observed value is 0, while the maximum is 72.

```
.
. destring C55, gen(anno_inizio_lav)
C55: all characters numeric; anno_inizio_lav generated as int
(65016 missing values generated)

. replace anno_inizio_lav=. if anno_inizio_lav==997
(537 real changes made, 537 to missing)

. gen esperienza=2015-anno_inizio_lav
(65,553 missing values generated)

.
. sum esperienza

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
   esperienza |     34,180    12.98856    11.27958          0         72

.
. * i valori non missing sono più di 33mila
. label variable esperienza "Tenure, 2020 - anno inizio lavoro"

.
. * leviamo le variabili non più utili
. drop C55 C61 anno_inizio_lav anno_primo_lav
```

Tab 32, variable "esperienza" (2015)

```
. * creiamo le dummy di regione e di professione
. tab REG, gen(reg_dum)

        REG |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |      9,616        9.64        9.64
          2 |      2,168        2.17       11.82
          3 |     14,009       14.05       25.86
          4 |      5,025        5.04       30.90
          5 |      6,899        6.92       37.82
          6 |      4,354        4.37       42.18
          7 |      3,066        3.07       45.26
          8 |      9,641        9.67       54.92
          9 |      4,998        5.01       59.94
         10 |      3,420        3.43       63.37
         11 |      3,589        3.60       66.96
         12 |      7,595        7.62       74.58
         13 |      1,251        1.25       75.83
         14 |      1,591        1.60       77.43
         15 |      3,247        3.26       80.68
         16 |      3,202        3.21       83.89
         17 |      3,131        3.14       87.03
         18 |      3,664        3.67       90.71
         19 |      5,067        5.08       95.79
         20 |      4,200        4.21      100.00
------------+-----------------------------------
      Total |     99,733      100.00
```

Tab 33, variable REG (2015)

```
. tab PROF1, gen(PROF1_dum)

     PROF1 |      Freq.     Percent        Cum.
-----------+-----------------------------------
           |     65,016       65.19       65.19
         1 |        903        0.91       66.10
         2 |      4,678        4.69       70.79
         3 |      6,179        6.20       76.98
         4 |      3,900        3.91       80.89
         5 |      6,667        6.68       87.58
         6 |      5,514        5.53       93.11
         7 |      2,956        2.96       96.07
         8 |      3,604        3.61       99.68
         9 |        316        0.32      100.00
-----------+-----------------------------------
     Total |     99,733      100.00
```

Tab 34, variable PROF1 (2015)

```
. gen anz_donna=anzianita*female
(78,831 missing values generated)

.
. * generiamo l'interazione tra donna e esperienza
. gen esp_donna=esperienza*female
(65,553 missing values generated)
```

Tab 35, interactions between variables (2015)

92

```
. reg lwage female esperienza anzianita anz_donna esp_donna $regione $prof1, robust
note: PROF1_dum1 omitted because of collinearity

Linear regression                          Number of obs   =      16,089
                                           F(32, 16056)    =      282.73
                                           Prob > F        =      0.0000
                                           R-squared       =      0.4059
                                           Root MSE        =      .33713

                         Robust
       lwage │    Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
─────────────┼────────────────────────────────────────────────────────────
      female │ -.2314441   .014381    -16.09   0.000    -.2596324   -.2032558
   esperienza │  .0062548   .0004483    13.95   0.000     .0053761    .0071335
    anzianita │  .0025536   .0004291     5.95   0.000     .0017124    .0033947
    anz_donna │ -.0035763   .0006558    -5.45   0.000    -.0048619   -.0022908
    esp_donna │  .0060882   .0006961     8.75   0.000     .0047238    .0074526
     reg_dum1 │  .0887008   .0274998     3.23   0.001      .034798    .1426035
     reg_dum2 │  .1653556    .030546     5.41   0.000      .105482    .2252293
     reg_dum3 │    .12928   .0270897     4.77   0.000     .0761812    .1823788
     reg_dum4 │  .1564882   .0285999     5.47   0.000     .1004292    .2125472
     reg_dum5 │   .092953   .0278799     3.33   0.001     .0383052    .1476007
     reg_dum6 │  .0655117   .0291997     2.24   0.025     .0082772    .1227463
     reg_dum7 │   .071647   .0308048     2.33   0.020     .0112661    .1320278
     reg_dum8 │  .1140628    .02724      4.19   0.000     .0606694    .1674563
     reg_dum9 │  .0473189   .0287867     1.64   0.100    -.0091063    .1037441
    reg_dum10 │  .0264051   .0297757     0.89   0.375    -.0319586    .0847687
    reg_dum11 │ -.0051691   .0324657    -0.16   0.874    -.0688055    .0584674
    reg_dum12 │  .0349578   .0283999     1.23   0.218    -.0207093    .0906248
    reg_dum13 │  .0807339   .0389851     2.07   0.038     .0043188    .1571491
    reg_dum15 │  .0483657   .0350469     1.38   0.168    -.0203302    .1170616
    reg_dum16 │  .0079541   .0341721     0.23   0.816    -.0590271    .0749353
    reg_dum17 │  .0305129   .0318808     0.96   0.339    -.0319769    .0930028
    reg_dum18 │ -.0676662    .035766    -1.89   0.059    -.1377715    .0024391
    reg_dum19 │    .000337   .0311939     0.01   0.991    -.0608065    .0614805
    reg_dum20 │ -.0298149   .0313595    -0.95   0.342     -.091283    .0316532
    PROF1_dum1 │         0  (omitted)
    PROF1_dum2 │  .4561674   .0314469    14.51   0.000     .3945279     .517807
    PROF1_dum3 │  .1496082   .0213573     7.00   0.000     .1077454     .191471
    PROF1_dum4 │  .0076613   .0205997     0.37   0.710    -.0327163     .048039
    PROF1_dum5 │ -.1313875   .0211146    -6.22   0.000    -.1727745   -.0900006
    PROF1_dum6 │ -.2988143   .0213061   -14.02   0.000    -.3405768   -.2570519
    PROF1_dum7 │ -.2101779   .0209746   -10.02   0.000    -.2512905   -.1690654
    PROF1_dum8 │ -.1498535   .0207991    -7.20   0.000     -.190622    -.109085
    PROF1_dum9 │ -.4821476   .0220744   -21.84   0.000    -.5254159   -.4388793
        _cons │  7.168917   .0332268   215.76   0.000     7.103788    7.234045
```

Tab 36, regression conditional (2015)

The model, based on 16,089 observations, explains about 40.59% of the variability in log wages (R-squared = 0.4059). The overall model is highly significant. It is evident that females have a regression coefficient of -0.2314, indicating they earn 23.14% less than males. Conversely, the regression coefficient for males is 7.17.

```
. oaxaca lwage esperienza anzianita, by(female) noisily

Model for group 1

      Source |       SS           df       MS      Number of obs   =      8,521
-------------+----------------------------------   F(2, 8518)      =     414.29
       Model |  103.813885         2  51.9069426   Prob > F        =     0.0000
    Residual |  1067.23585     8,518  .125291835   R-squared       =     0.0887
-------------+----------------------------------   Adj R-squared   =     0.0884
       Total |  1171.04973     8,520  .137447152   Root MSE        =     .35397


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0104561   .0004579    22.83   0.000     .0095585    .0113537
   anzianita |   .0009258   .0004107     2.25   0.024     .0001207    .0017309
       _cons |   7.094909   .0093198   761.27   0.000      7.07664    7.113178


Model for group 2

      Source |       SS           df       MS      Number of obs   =      7,568
-------------+----------------------------------   F(2, 7565)      =     583.96
       Model |  215.667789         2  107.833894   Prob > F        =     0.0000
    Residual |  1396.95234     7,565  .184659925   R-squared       =     0.1337
-------------+----------------------------------   Adj R-squared   =     0.1335
       Total |  1612.62012     7,567  .213112214   Root MSE        =     .42972


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |    .020214   .0006176    32.73   0.000     .0190034    .0214246
   anzianita |  -.0048075   .0005324    -9.03   0.000    -.0058513   -.0037638
       _cons |   6.870647   .0117449   584.99   0.000     6.847624    6.893671
```

Tab 37, Oaxaca decomposition with "esperienza" and "anzianita" variables (2015)

```
Blinder-Oaxaca decomposition                    Number of obs   =     16,089
                                                Model           =     linear
Group 1: female = 0                             N of obs 1      =      8,521
Group 2: female = 1                             N of obs 2      =      7,568


  endowments: (X1 - X2) * b2
 coefficients: X2 * (b1 - b2)
  interaction: (X1 - X2) * (b1 - b2)


       lwage |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
overall      |
     group_1 |   7.238673   .0040167  1802.15   0.000     7.230801    7.246546
     group_2 |   6.970681   .0053072  1313.44   0.000     6.960279    6.981082
  difference |   .2679928   .0066558    40.26   0.000     .2549476    .2810379
  endowments |   .0152247   .0027988     5.44   0.000     .0097392    .0207103
coefficients |   .2565219   .0063338    40.50   0.000     .2441079    .2689358
 interaction |  -.0037538   .0014628    -2.57   0.010    -.0066208   -.0008868
             |
endowments   |
  esperienza |   .0202901   .0031582     6.42   0.000     .0141002    .0264799
   anzianita |  -.0050653   .0010084    -5.02   0.000    -.0070417    -.003089
             |
coefficients |
  esperienza |  -.1030665   .0081891   -12.59   0.000    -.1191169   -.0870162
   anzianita |    .135327   .0158884     8.52   0.000     .1041864    .1664677
       _cons |   .2242614   .0149934    14.96   0.000     .1948749    .2536478
             |
interaction  |
  esperienza |  -.0097946   .0016823    -5.82   0.000    -.0130919   -.0064973
   anzianita |   .0060408   .0012249     4.93   0.000     .0036399    .0084416
```

Tab 38, Oaxaca decomposition with "esperienza" and "anzianita" variables (2015)

The Oaxaca decomposition results (Tab 37-38) show a total of 16,089 observations and an overall wage difference of 0.2680 (significant, $p < 0.001$) between the two groups. This difference is decomposed into three components:

- Endowments component is 0.0152 (significant, $p < 0.001$), indicating that part of the wage difference is due to differences in observable characteristics (experience and tenure) between the groups.
- Coefficients component is 0.2565 (significant, $p < 0.001$), suggesting that the majority of the wage difference is due to different returns to these characteristics between the groups.
- Interaction component is -0.0038 (significant, $p = 0.010$), capturing the combined effect of differences in characteristics and returns to these characteristics.

In detail, experience contributes positively to the endowments component (0.0203, significant), while tenure contributes negatively (-0.0051, significant). For the coefficients component, experience has a negative effect (-0.1031, significant), indicating higher returns for males, while tenure has a positive effect (0.1353, significant), also favoring males. The interaction component shows a significant negative interaction for experience (-0.0098) and a significant positive interaction for tenure (0.0060).

In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure, rather than the characteristics themselves. Experience positively affects wages for both groups, but the returns are significantly higher for males, and tenure has mixed impacts, with males benefiting more from tenure compared to females.

```
. oaxaca lwage esperienza anzianita $regione $prof1, by(female) noisily relax

Model for group 1

      Source |       SS           df       MS            Number of obs   =       8,521
-------------+----------------------------------           F(29, 8491)     =      132.22
       Model |  364.302484         29   12.5621546           Prob > F        =      0.0000
    Residual |   806.74725      8,491   .095012042           R-squared       =      0.3111
-------------+----------------------------------           Adj R-squared   =      0.3087
       Total |  1171.04973      8,520   .137447152           Root MSE        =      .30824

       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |     .006981   .0004119    16.95   0.000     .0061737    .0077884
   anzianita |    .0023318   .0003636     6.41   0.000     .0016191    .0030446
    reg_dum1 |    .1001416   .0355459     2.82   0.005      .030463    .1698203
    reg_dum2 |    .1692781   .0403284     4.20   0.000     .0902245    .2483317
    reg_dum3 |    .1621434   .0350108     4.63   0.000     .0935138    .2307731
    reg_dum4 |    .1721205   .0366436     4.70   0.000       .10029    .2439509
    reg_dum5 |     .126926   .0361396     3.51   0.000     .0560836    .1977683
    reg_dum6 |    .0997284   .0379931     2.62   0.009     .0252527    .1742041
    reg_dum7 |    .0934391   .0394276     2.37   0.018     .0161514    .1707267
    reg_dum8 |    .1234299   .0354284     3.48   0.000     .0539816    .1928783
    reg_dum9 |    .0602294   .0369352     1.63   0.103    -.0121725    .1326313
   reg_dum10 |    .0587483   .0382149     1.54   0.124    -.0161621    .1336588
   reg_dum11 |    .0179465   .0386143     0.46   0.642    -.0577468    .0936399
   reg_dum12 |    .0398545   .0362757     1.10   0.272    -.0312546    .1109637
   reg_dum13 |    .1184497   .0508092     2.33   0.020     .0188514    .2180481
   reg_dum15 |    .0496564   .0454853     1.09   0.275    -.0395059    .1388187
   reg_dum16 |    .0074893    .041712     0.18   0.858    -.0742764    .0892549
   reg_dum17 |    .0591715   .0405417     1.46   0.144    -.0203001    .1386431
   reg_dum18 |   -.0712285   .0427921    -1.66   0.096    -.1551115    .0126545
   reg_dum19 |    .0027514   .0388872     0.07   0.944     -.073477    .0789799
   reg_dum20 |    .0115552   .0383017     0.30   0.763    -.0635254    .0866357
  PROF1_dum1 |           0  (omitted)
  PROF1_dum2 |    .4099262   .0408714    10.03   0.000     .3298083     .490044
  PROF1_dum3 |    .1529361   .0345226     4.43   0.000     .0852634    .2206088
  PROF1_dum4 |   -.0102081   .0335745    -0.30   0.761    -.0760223    .0556061
  PROF1_dum5 |   -.1750041   .0345358    -5.07   0.000    -.2427028   -.1073055
  PROF1_dum6 |   -.2783357   .0343707    -8.10   0.000    -.3457107   -.2109608
  PROF1_dum7 |    -.206683   .0336559    -6.14   0.000    -.2726567   -.1407092
  PROF1_dum8 |   -.1498449   .0337988    -4.43   0.000    -.2160987   -.0835912
  PROF1_dum9 |   -.3915601   .0342759   -11.42   0.000    -.4587492   -.3243711
       _cons |    7.141022   .0472388   151.17   0.000     7.048422    7.233621
```

Tab 39, Oaxaca decomposition with all variables (Group 1) (2015)

96

```
Model for group 2

      Source |       SS           df       MS     Number of obs   =     7,568
-------------+----------------------------------   F(29, 7538)     =    161.65
       Model |  618.334318         29   21.321873   Prob > F        =    0.0000
    Residual |  994.285806      7,538  .131903132   R-squared       =    0.3834
-------------+----------------------------------   Adj R-squared   =    0.3811
       Total |  1612.62012      7,567  .213112214   Root MSE        =    .36318


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0112385    .000553    20.32   0.000     .0101544    .0123225
    anzianita |  -.0004457   .0004604    -0.97   0.333    -.0013482    .0004569
     reg_dum1 |   .0817112   .0468173     1.75   0.081    -.0100638    .1734862
     reg_dum2 |   .1556088   .0511891     3.04   0.002     .0552638    .2559538
     reg_dum3 |   .0989312   .0461412     2.14   0.032     .0084815    .1893809
     reg_dum4 |   .1456383    .047921     3.04   0.002     .0516998    .2395768
     reg_dum5 |   .0567491   .0475987     1.19   0.233    -.0365575    .1500558
     reg_dum6 |   .0384365   .0496106     0.77   0.439    -.0588141    .1356871
     reg_dum7 |   .0562975   .0513548     1.10   0.273    -.0443723    .1569673
     reg_dum8 |   .1079249    .046495     2.32   0.020     .0167817    .1990681
     reg_dum9 |   .0395608   .0481994     0.82   0.412    -.0549234     .134045
    reg_dum10 |  -.0005109   .0494913    -0.01   0.992    -.0975276    .0965057
    reg_dum11 |  -.0244134    .050707    -0.48   0.630    -.1238133    .0749865
    reg_dum12 |   .0388737   .0478655     0.81   0.417     -.054956    .1327034
    reg_dum13 |   .0328236    .064769     0.51   0.612    -.0941418     .159789
    reg_dum15 |   .0461038   .0612177     0.75   0.451    -.0738999    .1661074
    reg_dum16 |   .0145645   .0565891     0.26   0.797    -.0963659    .1254949
    reg_dum17 |  -.0087054   .0570693    -0.15   0.879    -.1205771    .1031663
    reg_dum18 |  -.0465036   .0581843    -0.80   0.424     -.160561    .0675538
    reg_dum19 |   .0011964   .0528677     0.02   0.982    -.1024389    .1048318
    reg_dum20 |  -.0721002   .0499738    -1.44   0.149    -.1700628    .0258625
   PROF1_dum1 |          0  (omitted)
   PROF1_dum2 |   .3567681   .3669509     0.97   0.331     -.362558    1.076094
   PROF1_dum3 |  -.0969119   .3636991    -0.27   0.790    -.8098636    .6160397
   PROF1_dum4 |  -.2112361    .363681    -0.58   0.561    -.9241522    .5016801
   PROF1_dum5 |  -.3569619   .3636514    -0.98   0.326     -1.06982    .3558962
   PROF1_dum6 |  -.5585214   .3636381    -1.54   0.125    -1.271353    .1543106
   PROF1_dum7 |  -.4413749   .3643499    -1.21   0.226    -1.155602    .2728525
   PROF1_dum8 |  -.3729647   .3641867    -1.02   0.306    -1.086872    .3409428
   PROF1_dum9 |  -.8170393   .3637186    -2.25   0.025    -1.530029   -.1040495
        _cons |   7.202573   .3663702    19.66   0.000     6.484386    7.920761
```

Tab 40, Oaxaca decomposition with all variables (Group 2) (2015)

```
Blinder-Oaxaca decomposition                   Number of obs    =      16,089
                                               Model            =      linear
Group 1: female = 0                            N of obs 1       =       8,521
Group 2: female = 1                            N of obs 2       =       7,568


    endowments: (X1 - X2) * b2
 coefficients: X2 * (b1 - b2)
  interaction: (X1 - X2) * (b1 - b2)
```

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
overall						
group_1	7.238673	.004021	1800.22	0.000	7.230792	7.246554
group_2	6.970681	.0053129	1312.04	0.000	6.960268	6.981094
difference	.2679928	.0066629	40.22	0.000	.2549336	.2810519
endowments	.0305982	.0079019	3.87	0.000	.0151108	.0460856
coefficients	.2517441	.006193	40.65	0.000	.239606	.2638822
interaction	-.0143495	.0073202	-1.96	0.050	-.0286968	-2.26e-06

endowments						
esperienza	.0112808	.001809	6.24	0.000	.0077353	.0148263
anzianita	-.0004696	.0004913	-0.96	0.339	-.0014325	.0004934
reg_dum1	-.0000302	.0004045	-0.07	0.941	-.000823	.0007626
reg_dum2	-.0008644	.0004901	-1.76	0.078	-.001825	.0000962
reg_dum3	-.0003892	.0006275	-0.62	0.535	-.0016191	.0008407
reg_dum4	-.000651	.0006028	-1.08	0.280	-.0018324	.0005304
reg_dum5	.0001488	.0002689	0.55	0.580	-.0003782	.0006758
reg_dum6	-.0000447	.0001326	-0.34	0.736	-.0003046	.0002152
reg_dum7	-.0000236	.0001501	-0.16	0.875	-.0003179	.0002706
reg_dum8	-.0014163	.0008359	-1.69	0.090	-.0030546	.000222
reg_dum9	-.000176	.0002593	-0.68	0.497	-.0006842	.0003321
reg_dum10	2.21e-06	.0002144	0.01	0.992	-.0004181	.0004225
reg_dum11	-.0000405	.0001089	-0.37	0.710	-.0002539	.0001729
reg_dum12	.0001883	.0002799	0.67	0.501	-.0003604	.000737
reg_dum13	-6.48e-06	.0000478	-0.14	0.892	-.0001002	.0000873
reg_dum15	.000099	.0001522	0.65	0.515	-.0001992	.0003973
reg_dum16	.0000646	.0002526	0.26	0.798	-.0004305	.0005596
reg_dum17	-.000077	.0005053	-0.15	0.879	-.0010675	.0009134
reg_dum18	-.0001782	.0002399	-0.74	0.458	-.0006485	.000292
reg_dum19	.0000111	.0004907	0.02	0.982	-.0009507	.0009729
reg_dum20	.0000498	.0002187	0.23	0.820	-.0003787	.0004784
PROF1_dum1	0	(omitted)				
PROF1_dum2	.0042006	.0043656	0.96	0.336	-.0043559	.012757
PROF1_dum3	.0062064	.0232975	0.27	0.790	-.0394557	.0518686
PROF1_dum4	-.0061188	.0106127	-0.58	0.564	-.0269193	.0146818
PROF1_dum5	.0419056	.0427376	0.98	0.327	-.0418585	.1256697
PROF1_dum6	.0863513	.0563197	1.53	0.125	-.0240332	.1967358
PROF1_dum7	-.0759186	.0627058	-1.21	0.226	-.1988197	.0469826
PROF1_dum8	-.049311	.048182	-1.02	0.306	-.1437461	.045124
PROF1_dum9	.0158054	.0082526	1.92	0.055	-.0003694	.0319802

Tab 41, endowments (differences in observable characteristics between the groups) (2015)

```
coefficients
  esperienza │  −.0449687   .0072976    −6.16    0.000    −.0592717   −.0306656
   anzianita │   .0655581   .0138522     4.73    0.000     .0384084    .0927079
    reg_dum1 │   .0020335     .006486     0.31    0.754    −.0106788    .0147458
    reg_dum2 │   .0004064   .0019376     0.21    0.834    −.0033913    .0042041
    reg_dum3 │   .0115098      .01055     1.09    0.275    −.0091678    .0321875
    reg_dum4 │   .0017531   .0039943     0.44    0.661    −.0060755    .0095817
    reg_dum5 │   .0052762   .0044984     1.17    0.241    −.0035404    .0140929
    reg_dum6 │   .0025025   .0025552     0.98    0.327    −.0025055    .0075106
    reg_dum7 │   .0010748   .0018749     0.57    0.566       −.0026    .0047496
    reg_dum8 │   .0020959   .0079018     0.27    0.791    −.0133914    .0175832
    reg_dum9 │   .0012344   .0036272     0.34    0.734    −.0058747    .0083436
   reg_dum10 │   .0024822   .0026227     0.95    0.344    −.0026581    .0076225
   reg_dum11 │   .0013713   .0020651     0.66    0.507    −.0026763    .0054189
   reg_dum12 │   .0000666    .004079     0.02    0.987    −.0079281    .0080614
   reg_dum13 │   .0006902   .0006693     1.03    0.302    −.0006217     .002002
   reg_dum15 │   .0000361     .000776     0.05    0.963    −.0014847     .001557
   reg_dum16 │  −.0001056   .0010497    −0.10    0.920    −.0021631    .0019518
   reg_dum17 │   .0009686   .0010033     0.97    0.334    −.0009977     .002935
   reg_dum18 │  −.0003202   .0009358    −0.34    0.732    −.0021543     .001514
   reg_dum19 │   .0000358   .0015089     0.02    0.981    −.0029217    .0029932
   reg_dum20 │   .0031503   .0023782     1.32    0.185    −.0015108    .0078115
  PROF1_dum1 │          0  (omitted)
  PROF1_dum2 │   .0003723   .0025862     0.14    0.886    −.0046966    .0054412
  PROF1_dum3 │    .038461   .0562482     0.68    0.494    −.0717834    .1487054
  PROF1_dum4 │    .033788   .0613921     0.55    0.582    −.0865383    .1541143
  PROF1_dum5 │   .0376754   .0756398     0.50    0.618    −.1105757    .1859266
  PROF1_dum6 │   .0712682     .092918     0.77    0.443    −.1108478    .2533841
  PROF1_dum7 │   .0074737   .0116616     0.64    0.522    −.0153826      .03033
  PROF1_dum8 │    .008992   .0147489     0.61    0.542    −.0199153    .0378993
  PROF1_dum9 │   .0584134   .0501839     1.16    0.244    −.0399452     .156772
       _cons │  −.0615515   .3694031    −0.17    0.868    −.7855682    .6624653
```

Tab 42, coefficients (differences in the returns to these characteristics between the groups) (2015)

```
interaction
  esperienza │  −.0042735     .000951    −4.49    0.000    −.0061374   −.0024095
   anzianita │   .0029264   .0007851     3.73    0.000     .0013876    .0044652
    reg_dum1 │  −6.81e−06   .0000937    −0.07    0.942    −.0001905    .0001768
    reg_dum2 │  −.0000759   .0003637    −0.21    0.835    −.0007887    .0006369
    reg_dum3 │  −.0002487   .0004464    −0.56    0.577    −.0011235    .0006261
    reg_dum4 │  −.0001184   .0002885    −0.41    0.682    −.0006837     .000447
    reg_dum5 │   .0001841   .0003336     0.55    0.581    −.0004698    .0008379
    reg_dum6 │  −.0000713   .0002038    −0.35    0.726    −.0004707    .0003281
    reg_dum7 │  −.0000156   .0001017    −0.15    0.878     −.000215    .0001838
    reg_dum8 │  −.0002035   .0007715    −0.26    0.792    −.0017155    .0013086
    reg_dum9 │   −.000092   .0002807    −0.33    0.743    −.0006422    .0004582
   reg_dum10 │  −.0002567     .000327    −0.79    0.432    −.0008976    .0003841
   reg_dum11 │   .0000703   .0001598     0.44    0.660     −.000243    .0003836
   reg_dum12 │   4.75e−06   .0002909     0.02    0.987    −.0005655     .000575
   reg_dum13 │  −.0000169   .0001213    −0.14    0.889    −.0002547    .0002209
   reg_dum15 │   7.63e−06   .0001639     0.05    0.963    −.0003137    .0003289
   reg_dum16 │  −.0000314     .000312    −0.10    0.920    −.0006428    .0005801
   reg_dum17 │   .0006006     .000636     0.94    0.345    −.0006459    .0018472
   reg_dum18 │  −.0000948   .0002808    −0.34    0.736    −.0006451    .0004556
   reg_dum19 │   .0000144   .0006092     0.02    0.981    −.0011795    .0012084
   reg_dum20 │  −.0000578   .0002543    −0.23    0.820    −.0005562    .0004405
  PROF1_dum1 │          0  (omitted)
  PROF1_dum2 │   .0006259   .0043482     0.14    0.886    −.0078964    .0091482
  PROF1_dum3 │  −.0160008   .0234325    −0.68    0.495    −.0619276     .029926
  PROF1_dum4 │   .0058231   .0106499     0.55    0.585    −.0150503    .0266965
  PROF1_dum5 │   −.021361   .0428951    −0.50    0.618    −.1054338    .0627118
  PROF1_dum6 │  −.0433186   .0564963    −0.77    0.443    −.1540493     .067412
  PROF1_dum7 │   .0403681   .0629468     0.64    0.521    −.0830054    .1637416
  PROF1_dum8 │   .0294995   .0483686     0.61    0.542    −.0653013    .1243003
  PROF1_dum9 │  −.0082308   .0074155    −1.11    0.267    −.0227648    .0063033
```

Tab 43, interaction (combined effect of differences in endowments and differences in coefficients, showing how these differences together contribute to the overall gap) (2015)

The Oaxaca decomposition results reveal a total of 16,089 observations and an overall wage difference of 0.2680 (significant, $p < 0.001$) between the two groups. This difference is decomposed into three components:

- Endowments component (Tab 41) is 0.0306 (significant, $p < 0.001$), indicating that part of the wage difference is due to differences in observable characteristics between the groups.
- Coefficients component (Tab 42) is 0.2517 (significant, $p < 0.001$), suggesting that the majority of the wage difference is due to different returns to these characteristics.
- Interaction component (Tab 43) is -0.0143 (significant, $p = 0.050$), capturing the combined effect of differences in characteristics and returns.

In detail, the endowments component shows that experience contributes positively (0.0113, significant), while tenure is not significant (-0.0005, $p = 0.339$). Most region and profession dummies are not significant, with a few exceptions. The coefficients component reveals that experience has a negative effect (-0.0450, significant), indicating higher returns for males, and tenure has a positive effect (0.0656, significant), also favoring males. Region and profession dummies show mixed significance. The interaction component indicates a significant negative interaction for experience (-0.0043) and a significant positive interaction for tenure (0.0029), with most region and profession dummies not being significant.

In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure rather than the characteristics themselves. Experience positively affects wages for both groups, but the returns are significantly higher for males. Tenure has a mixed impact, with males benefiting more from tenure compared to females. Regional and occupational factors also play significant roles, but their impact varies across different regions and professions.

3.5 2010 Analysis

The sample size of 2010 is 164,994 individuals. There are 78,609 (47,64%) and 86,385 females (52.36%). In Tab 44 is possible to see the occupational structure of our population. Specifically, response 1 corresponds to individuals who are currently employed, response 2 to those who are unemployed, and response 3 to those who are not working by choice or are not seeking employment.

```
. tab COND3, m

     COND3        Freq.      Percent        Cum.

         1       57,396        34.79       34.79
         2        5,198         3.15       37.94
         3      102,400        62.06      100.00

     Total      164,994       100.00
```

Tab 44, occupational structure of our population (2010)

(5,198/(5,198+57,396))*100 = 8.30 which means that unemployment rate is 8.3%.

In Tab 45, we analyzed the female unemployment rate using an "if" condition.

```
. tab COND3 if female==1, m

     COND3        Freq.      Percent        Cum.

         1       23,870        27.63       27.63
         2        2,512         2.91       30.54
         3       60,003        69.46      100.00

     Total       86,385       100.00
```

Tab 45, occupational structure of female population (2010)

((2,512/(23,870+2,512))*100) = 9.52 which means that female unemployment rate is 9.52%.

Tab 46 illustrates the composition of the variable "wage". There are 42,656 observations with an average value of 1,249.86 and a standard deviation of 516.46.

```
. sum wage

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
        wage |     42,656    1249.868    516.4658        250       3000
```

Tab 46, summary of the new variable "wage" (2010)

We proceeded to examine the variable "anzianita". Observations with missing values were then handled and removed, as shown in Tab 47. This variable comprises 33,192 observations, with a mean value of 23.50 and a standard deviation of 11.44. The minimum observed value is 0, while the maximum is 75.

```
.
. destring C61, gen(anno_primo_lav)
C61: all characters numeric; anno_primo_lav generated as int
(124427 missing values generated)

. replace anno_primo_lav=. if anno_primo_lav==997
(7,375 real changes made, 7,375 to missing)

. gen anzianita=2010-anno_primo_lav
(131,802 missing values generated)

. sum anzianita

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
   anzianita |     33,192    23.50072    11.44455          0         75
```

Tab 47, variable "anzianita" (2010)

We then analyzed the variable "esperienza". Missing values were addressed and removed, as shown in Tab 48. This variable includes 56,141 observations, with a mean value of 12.15 and a standard deviation of 10.86. The minimum observed value is 0, while the maximum is 75.

```
. destring C55, gen(anno_inizio_lav)
C55: all characters numeric; anno_inizio_lav generated as int
(107598 missing values generated)

. replace anno_inizio_lav=. if anno_inizio_lav==997
(1,255 real changes made, 1,255 to missing)

. gen esperienza=2010-anno_inizio_lav
(108,853 missing values generated)

.
. sum esperienza

    Variable │        Obs        Mean    Std. Dev.        Min        Max
─────────────┼─────────────────────────────────────────────────────────
   esperienza │     56,141    12.15287     10.8687          0         75

.
. * i valori non missing sono più di 6mila
. label variable esperienza "Tenure, 2010 – anno inizio lavoro"

.
. * leviamo le variabili non più utili
. drop C55 C61 anno_inizio_lav anno_primo_lav
```

Tab 48, variable "esperienza" (2010)

In this case the software automatically grouped into one unique variable, region 1 (Piemonte) and region 2 (Valle d'Aosta), as we can see in Tab 49.

```
. tab REG, gen(reg_dum)

   REGSTA |      Freq.     Percent        Cum.
----------+-----------------------------------
        1 |     16,716       10.13       10.13
        3 |     20,956       12.70       22.83
        4 |     10,035        6.08       28.91
        5 |      8,536        5.17       34.09
        6 |      4,127        2.50       36.59
        7 |      4,140        2.51       39.10
        8 |     10,128        6.14       45.24
        9 |      9,788        5.93       51.17
       10 |      3,134        1.90       53.07
       11 |      4,412        2.67       55.74
       12 |      9,353        5.67       61.41
       13 |      3,580        2.17       63.58
       14 |      3,941        2.39       65.97
       15 |     10,656        6.46       72.43
       16 |     10,106        6.13       78.55
       17 |      4,850        2.94       81.49
       18 |      9,627        5.83       87.33
       19 |     15,506        9.40       96.73
       20 |      5,403        3.27      100.00
----------+-----------------------------------
    Total |    164,994      100.00
```

Tab 49, variable REG (2010)

```
. tab PROF1, gen(PROF1_dum)

    PROF1 |      Freq.     Percent        Cum.
----------+-----------------------------------
          |    107,598       65.21       65.21
        1 |      2,286        1.39       66.60
        2 |      5,714        3.46       70.06
        3 |     10,785        6.54       76.60
        4 |      6,552        3.97       80.57
        5 |      9,643        5.84       86.41
        6 |     10,645        6.45       92.87
        7 |      4,676        2.83       95.70
        8 |      6,480        3.93       99.63
        9 |        615        0.37      100.00
----------+-----------------------------------
    Total |    164,994      100.00
```

Tab 50, variable PROF1 (2010)

```
. gen anz_donna=anzianita*female
(131,802 missing values generated)


.

. * generiamo l'interazione tra donna e esperienza
. gen esp_donna=esperienza*female
(108,853 missing values generated)
```

Tab 51, interactions between variables (2010)

```
. reg lwage female esperienza anzianita anz_donna esp_donna $regione $prof1, robust
note: PROF1_dum1 omitted because of collinearity

Linear regression                              Number of obs   =      25,293
                                               F(31, 25261)    =      452.77
                                               Prob > F        =      0.0000
                                               R-squared       =      0.3897
                                               Root MSE        =      .35134
```

lwage	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
female	−.2636291	.0112142	−23.51	0.000	−.2856095	−.2416487
esperienza	.0069021	.0003903	17.68	0.000	.0061371	.0076671
anzianita	.0023678	.0003539	6.69	0.000	.0016742	.0030614
anz_donna	−.0030568	.0005512	−5.55	0.000	−.0041372	−.0019765
esp_donna	.0062396	.000614	10.16	0.000	.0050362	.0074431
reg_dum1	.0438366	.0182803	2.40	0.016	.0080062	.0796671
reg_dum2	.0810957	.0178964	4.53	0.000	.0460177	.1161738
reg_dum3	.084514	.0187216	4.51	0.000	.0478186	.1212094
reg_dum4	.0519725	.0188708	2.75	0.006	.0149846	.0889604
reg_dum5	.0586074	.0217337	2.70	0.007	.0160081	.1012067
reg_dum6	.0428099	.0213319	2.01	0.045	.0009982	.0846216
reg_dum7	.075357	.0187105	4.03	0.000	.0386833	.1120308
reg_dum8	.0338595	.0189804	1.78	0.074	−.0033432	.0710622
reg_dum9	.0052409	.0218732	0.24	0.811	−.0376318	.0481136
reg_dum10	.0127795	.0206374	0.62	0.536	−.027671	.0532299
reg_dum11	.0026992	.0202758	0.13	0.894	−.0370425	.0424409
reg_dum12	.0010408	.0239496	0.04	0.965	−.0459018	.0479833
reg_dum14	−.0237234	.021724	−1.09	0.275	−.0663037	.0188569
reg_dum15	−.058233	.0206805	−2.82	0.005	−.098768	−.017698
reg_dum16	−.0058934	.0226284	−0.26	0.795	−.0502464	.0384596
reg_dum17	−.0981799	.0215563	−4.55	0.000	−.1404316	−.0559283
reg_dum18	−.0492353	.0204317	−2.41	0.016	−.0892827	−.0091879
reg_dum19	−.0766383	.0234426	−3.27	0.001	−.1225871	−.0306894
PROF1_dum1	0	(omitted)				
PROF1_dum2	.4160093	.0252298	16.49	0.000	.3665573	.4654612
PROF1_dum3	.1935889	.0208406	9.29	0.000	.1527401	.2344377
PROF1_dum4	.0017362	.0196576	0.09	0.930	−.0367938	.0402662
PROF1_dum5	−.1242488	.0199721	−6.22	0.000	−.1633953	−.0851022
PROF1_dum6	−.277	.0201266	−13.76	0.000	−.3164493	−.2375507
PROF1_dum7	−.2540964	.0197693	−12.85	0.000	−.2928453	−.2153474
PROF1_dum8	−.1785324	.019805	−9.01	0.000	−.2173514	−.1397135
PROF1_dum9	−.4646097	.0205154	−22.65	0.000	−.5048211	−.4243983
_cons	7.172373	.0265133	270.52	0.000	7.120405	7.224341

Tab 52, regression conditional (2010)

The model, based on 25,293 observations, explains about 38.97% of the variability in log wages (R-squared = 0.3897). The overall model is highly significant. It is evident that females have a regression coefficient of -0.2636, indicating they earn 26.36% less than males. Conversely, the regression coefficient for males is 7.17.

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```
. oaxaca lwage esperienza anzianita, by(female) noisily

Model for group 1

      Source |       SS           df       MS      Number of obs   =      13,935
-------------+----------------------------------   F(2, 13932)     =      637.37
       Model |  174.515264          2  87.2576322   Prob > F        =      0.0000
    Residual |  1907.31805      13,932  .136901956   R-squared       =      0.0838
-------------+----------------------------------   Adj R-squared   =      0.0837
       Total |  2081.83331      13,934  .149406725   Root MSE        =         .37


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0120624   .0003998    30.17   0.000     .0112788     .012846
   anzianita |  -.0000685   .0003423    -0.20   0.841    -.0007395    .0006024
       _cons |   7.046598   .0073601   957.41   0.000     7.032172    7.061025


Model for group 2

      Source |       SS           df       MS      Number of obs   =      11,358
-------------+----------------------------------   F(2, 11355)     =      846.37
       Model |  327.919533          2  163.959767   Prob > F        =      0.0000
    Residual |  2199.70293      11,355  .193721086   R-squared       =      0.1297
-------------+----------------------------------   Adj R-squared   =      0.1296
       Total |  2527.62246      11,357  .222560752   Root MSE        =      .44014


       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0219652   .0005567    39.46   0.000      .020874    .0230563
   anzianita |  -.0049774   .0004588   -10.85   0.000    -.0058768    -.004078
       _cons |   6.795564   .0093563   726.31   0.000     6.777224    6.813904
```

Tab 53, Oaxaca decomposition with "esperienza" and "anzianita" variables (2010)

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```
Blinder–Oaxaca decomposition                    Number of obs    =      25,293
                                                 Model            =      linear
Group 1: female = 0                              N of obs 1       =      13,935
Group 2: female = 1                              N of obs 2       =      11,358

   endowments: (X1 − X2) * b2
 coefficients: X2 * (b1 − b2)
  interaction: (X1 − X2) * (b1 − b2)


       lwage |     Coef.    Std. Err.      z     P>|z|      [95% Conf. Interval]
-------------+----------------------------------------------------------------
overall      |
     group_1 |   7.171422   .0032746   2190.01   0.000     7.165004    7.17784
     group_2 |   6.888665    .004427   1556.07   0.000     6.879989   6.897342
  difference |   .2827569   .0055065     51.35   0.000     .2719644   .2935494
  endowments |   .0220897   .0023288      9.49   0.000     .0175254   .0266541
coefficients |   .2663923   .0052567     50.68   0.000     .2560894   .2766953
 interaction |  −.0057252   .0013085     −4.38   0.000    −.0082899  −.0031605
-------------+----------------------------------------------------------------
endowments   |
   esperienza|   .0299975   .0026101     11.49   0.000     .0248818   .0351133
    anzianita|  −.0079078    .000993     −7.96   0.000     −.009854  −.0059616
-------------+----------------------------------------------------------------
coefficients |
   esperienza|  −.0902513   .0062986    −14.33   0.000    −.1025963  −.0779063
    anzianita|   .1056093   .0123251      8.57   0.000     .0814524   .1297661
       _cons |   .2510343   .0119043     21.09   0.000     .2277024   .2743663
-------------+----------------------------------------------------------------
interaction  |
   esperienza|  −.0135241    .001464     −9.24   0.000    −.0163935  −.0106547
    anzianita|   .0077989   .0011266      6.92   0.000     .0055907   .0100071
-------------+----------------------------------------------------------------
```

Tab 54, Oaxaca decomposition with "esperienza" and "anzianita" variables (2010)

The Oaxaca decomposition results (tab 53-54) show a total of 25,293 observations and an overall wage difference of 0.2828 (significant, $p < 0.001$) between the two groups. This difference is broken down into three components:

- The endowments component is 0.0221 (significant, $p < 0.001$), indicating that part of the wage difference is due to differences in observable characteristics (experience and tenure) between the groups.

- The coefficients component is 0.2664 (significant, $p < 0.001$), suggesting that most of the wage difference is due to different returns to these characteristics between the groups.

- The interaction component is -0.0057 (significant, $p < 0.001$), capturing the combined effect of differences in characteristics and differences in returns to these characteristics.

In detail, the experience contributes positively to the endowments component (0.0300, significant), while tenure contributes negatively (-0.0079, significant). For the coefficients component, experience has a negative effect (-0.0903, significant), indicating higher returns for males, while tenure has a positive effect (0.1056, significant), suggesting higher returns for males as well. The interaction component shows negative interaction for experience (-0.0135, significant) and positive interaction for tenure (0.0078, significant).

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In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure, rather than the characteristics themselves. While experience positively affects wages for both groups, the returns are significantly higher for males, and tenure has a mixed impact, negatively affecting females more than males.

```
. oaxaca lwage esperienza anzianita $regione $prof1, by(female) noisily relax

Model for group 1

      Source |       SS           df       MS      Number of obs   =    13,935
-------------+----------------------------------   F(28, 13906)    =     211.91
       Model | 622.622983         28  22.2365351   Prob > F        =     0.0000
    Residual | 1459.21033      13,906  .104933865   R-squared       =     0.2991
-------------+----------------------------------   Adj R-squared   =     0.2977
       Total | 2081.83331      13,934  .149406725   Root MSE        =     .32393
```

lwage	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
esperienza	.0076162	.0003647	20.88	0.000	.0069013	.008331
anzianita	.0020501	.0003051	6.72	0.000	.0014521	.0026482
reg_dum1	.0493865	.0213513	2.31	0.021	.007535	.091238
reg_dum2	.0934306	.0209036	4.47	0.000	.0524568	.1344044
reg_dum3	.094039	.0218785	4.30	0.000	.0511542	.1369239
reg_dum4	.0665688	.0224677	2.96	0.003	.0225292	.1106084
reg_dum5	.0589493	.0261526	2.25	0.024	.0076866	.110212
reg_dum6	.0369648	.0258927	1.43	0.153	−.0137883	.0877179
reg_dum7	.0751049	.0221697	3.39	0.001	.0316492	.1185605
reg_dum8	.0281165	.0225711	1.25	0.213	−.0161259	.0723589
reg_dum9	−.0103424	.0267942	−0.39	0.700	−.0628625	.0421778
reg_dum10	−.0142076	.0247693	−0.57	0.566	−.0627587	.0343435
reg_dum11	.0060174	.0228947	0.26	0.793	−.0388592	.050894
reg_dum12	.0040069	.0294488	0.14	0.892	−.0537167	.0617305
reg_dum14	−.0330564	.0248957	−1.33	0.184	−.0818554	.0157425
reg_dum15	−.061093	.0237973	−2.57	0.010	−.1077388	−.0144471
reg_dum16	−.020752	.026263	−0.79	0.429	−.0722309	.030727
reg_dum17	−.078791	.0250171	−3.15	0.002	−.1278279	−.0297541
reg_dum18	−.0635054	.0230843	−2.75	0.006	−.1087538	−.0182571
reg_dum19	−.0709934	.0254736	−2.79	0.005	−.1209251	−.0210618
PROF1_dum1	0	(omitted)				
PROF1_dum2	.3928866	.0308763	12.72	0.000	.3323648	.4534083
PROF1_dum3	.1739294	.0280483	6.20	0.000	.1189509	.2289079
PROF1_dum4	−.0225162	.0270052	−0.83	0.404	−.0754501	.0304176
PROF1_dum5	−.1467345	.0275405	−5.33	0.000	−.2007177	−.0927513
PROF1_dum6	−.2613653	.0275031	−9.50	0.000	−.3152751	−.2074554
PROF1_dum7	−.2405953	.0268564	−8.96	0.000	−.2932375	−.1879531
PROF1_dum8	−.1802201	.0270957	−6.65	0.000	−.2333313	−.1271089
PROF1_dum9	−.4056891	.0277262	−14.63	0.000	−.4600362	−.351342
_cons	7.167506	.0334908	214.01	0.000	7.10186	7.233153

Tab 55, Oaxaca decomposition with all variables (Group 1) (2010)

```
Model for group 2

      Source |       SS           df       MS      Number of obs   =     11,358
-------------+----------------------------------   F(28, 11329)    =     219.51
       Model |  889.001482         28  31.7500529   Prob > F        =     0.0000
    Residual |  1638.62098      11,329  .144639507   R-squared       =     0.3517
-------------+----------------------------------   Adj R-squared   =     0.3501
       Total |  2527.62246      11,357  .222560752   Root MSE        =     .38032
```

lwage	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
esperienza	.0119048	.0005124	23.23	0.000	.0109004	.0129092
anzianita	.0000112	.0004095	0.03	0.978	−.0007915	.000814
reg_dum1	.0352673	.0328467	1.07	0.283	−.029118	.0996526
reg_dum2	.06434	.0324719	1.98	0.048	.0006894	.1279906
reg_dum3	.0702598	.0332384	2.11	0.035	.0051067	.1354129
reg_dum4	.033237	.0341517	0.97	0.330	−.0337062	.1001802
reg_dum5	.0601833	.037619	1.60	0.110	−.0135565	.1339231
reg_dum6	.049787	.0373245	1.33	0.182	−.0233755	.1229495
reg_dum7	.0743567	.0334466	2.22	0.026	.0087955	.1399178
reg_dum8	.0395883	.0338971	1.17	0.243	−.0268558	.1060324
reg_dum9	.020151	.0376735	0.53	0.593	−.0536956	.0939975
reg_dum10	.0474436	.0364485	1.30	0.193	−.0240018	.118889
reg_dum11	−.0033935	.0349909	−0.10	0.923	−.0719817	.0651947
reg_dum12	−.0038227	.0421152	−0.09	0.928	−.0863758	.0787304
reg_dum14	−.0172513	.0385961	−0.45	0.655	−.0929065	.0584038
reg_dum15	−.0633507	.037416	−1.69	0.090	−.1366924	.0099911
reg_dum16	.0195044	.0416903	0.47	0.640	−.0622159	.1012247
reg_dum17	−.1345236	.0384787	−3.50	0.000	−.2099484	−.0590987
reg_dum18	−.0361908	.0359202	−1.01	0.314	−.1066006	.034219
reg_dum19	−.0896372	.0380902	−2.35	0.019	−.1643005	−.0149739
PROF1_dum1	0	(omitted)				
PROF1_dum2	.601766	.1938169	3.10	0.002	.2218512	.9816808
PROF1_dum3	.3102707	.1907355	1.63	0.104	−.0636038	.6841453
PROF1_dum4	.1218312	.1905027	0.64	0.522	−.2515871	.4952494
PROF1_dum5	−.0113925	.1905286	−0.06	0.952	−.3848616	.3620765
PROF1_dum6	−.1917841	.1905222	−1.01	0.314	−.5652406	.1816725
PROF1_dum7	−.2211252	.1910592	−1.16	0.247	−.5956343	.1533839
PROF1_dum8	−.062645	.1911476	−0.33	0.743	−.4373275	.3120375
PROF1_dum9	−.4116164	.1905753	−2.16	0.031	−.785177	−.0380559
_cons	6.814508	.1929539	35.32	0.000	6.436284	7.192731

Tab 56, Oaxaca decomposition with all variables (Group 2) (2010)

```
Blinder-Oaxaca decomposition                    Number of obs   =     25,293
                                                Model           =     linear
Group 1: female = 0                             N of obs 1      =     13,935
Group 2: female = 1                             N of obs 2      =     11,358

    endowments: (X1 - X2) * b2
  coefficients: X2 * (b1 - b2)
   interaction: (X1 - X2) * (b1 - b2)
```

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
overall						
group_1	7.171422	.0032767	2188.61	0.000	7.165	7.177844
group_2	6.888665	.0044302	1554.94	0.000	6.879982	6.897348
difference	.2827569	.0055103	51.31	0.000	.271957	.2935569
endowments	.0046139	.0058664	0.79	0.432	−.0068842	.0161119
coefficients	.2719125	.0050518	53.82	0.000	.2620111	.2818138
interaction	.0062306	.0052832	1.18	0.238	−.0041243	.0165855

endowments						
esperienza	.0162582	.0015235	10.67	0.000	.0132722	.0192443
anzianita	.0000179	.0006507	0.03	0.978	−.0012574	.0012932
reg_dum1	−.0003419	.0003504	−0.98	0.329	−.0010287	.000345
reg_dum2	.0000197	.0003035	0.07	0.948	−.000575	.0006145
reg_dum3	−.0009732	.0005287	−1.84	0.066	−.0020094	.0000631
reg_dum4	−.0000303	.0001098	−0.28	0.783	−.0002456	.000185
reg_dum5	−.0002044	.0001786	−1.14	0.253	−.0005545	.0001457
reg_dum6	−.0001757	.000169	−1.04	0.298	−.000507	.0001555
reg_dum7	−.0010964	.0005578	−1.97	0.049	−.0021896	−3.12e−06
reg_dum8	−.0004011	.0003664	−1.09	0.274	−.0011192	.000317
reg_dum9	−.0001163	.0002212	−0.53	0.599	−.0005498	.0003173
reg_dum10	−.0001197	.000144	−0.83	0.406	−.000402	.0001626
reg_dum11	−.000018	.0001858	−0.10	0.923	−.0003822	.0003462
reg_dum12	6.29e−07	9.20e−06	0.07	0.945	−.0000174	.0000187
reg_dum14	−.0001431	.0003221	−0.44	0.657	−.0007745	.0004883
reg_dum15	−.0008499	.0005238	−1.62	0.105	−.0018766	.0001768
reg_dum16	.0001661	.0003567	0.47	0.642	−.0005331	.0008653
reg_dum17	−.0009384	.0003906	−2.40	0.016	−.0017038	−.0001729
reg_dum18	−.0004792	.0004853	−0.99	0.323	−.0014303	.000472
reg_dum19	−.0002209	.0002096	−1.05	0.292	−.0006317	.0001898
PROF1_dum1	0	(omitted)				
PROF1_dum2	.0111864	.0037418	2.99	0.003	.0038527	.0185202
PROF1_dum3	−.0068134	.004325	−1.58	0.115	−.0152903	.0016635
PROF1_dum4	−.0083508	.0130724	−0.64	0.523	−.0339723	.0172706
PROF1_dum5	.0011245	.0188064	0.06	0.952	−.0357353	.0379843
PROF1_dum6	.0160333	.0159516	1.01	0.315	−.0152313	.047298
PROF1_dum7	−.0437078	.0377764	−1.16	0.247	−.1177481	.0303325
PROF1_dum8	−.0078278	.0238858	−0.33	0.743	−.0546431	.0389876
PROF1_dum9	.0326151	.0152104	2.14	0.032	.0028034	.0624269

Tab 57, endowments (differences in observable characteristics between the groups) (2010)

coefficients						
esperienza	−.0390857	.0057424	−6.81	0.000	−.0503406	−.0278307
anzianita	.0438651	.010989	3.99	0.000	.022327	.0654032
reg_dum1	.0017975	.0049878	0.36	0.719	−.0079783	.0115734
reg_dum2	.004851	.0064406	0.75	0.451	−.0077724	.0174744
reg_dum3	.0023993	.0040156	0.60	0.550	−.0054711	.0102697
reg_dum4	.0022597	.0027725	0.82	0.415	−.0031743	.0076937
reg_dum5	−.0000361	.0013392	−0.03	0.979	−.0026609	.0025888
reg_dum6	−.000394	.001396	−0.28	0.778	−.0031301	.0023421
reg_dum7	.0000678	.0036354	0.02	0.985	−.0070574	.007193
reg_dum8	−.0008555	.0030371	−0.28	0.778	−.006808	.005097
reg_dum9	−.0008806	.0013359	−0.66	0.510	−.0034989	.0017377
reg_dum10	−.0022526	.0016138	−1.40	0.163	−.0054157	.0009104
reg_dum11	.0004897	.0021759	0.23	0.822	−.003775	.0047544
reg_dum12	.0001255	.0008235	0.15	0.879	−.0014886	.0017395
reg_dum14	−.0003952	.0011487	−0.34	0.731	−.0026465	.0018561
reg_dum15	.0000684	.001343	0.05	0.959	−.0025639	.0027006
reg_dum16	−.000677	.00083	−0.82	0.415	−.0023038	.0009498
reg_dum17	.001423	.0011748	1.21	0.226	−.0008795	.0037255
reg_dum18	−.0011183	.0017488	−0.64	0.523	−.0045459	.0023094
reg_dum19	.0005039	.0012389	0.41	0.684	−.0019243	.0029321
PROF1_dum1	0	(omitted)				
PROF1_dum2	−.002023	.0019104	−1.06	0.290	−.0057673	.0017214
PROF1_dum3	−.0125922	.0178092	−0.71	0.480	−.0474976	.0223132
PROF1_dum4	−.0337294	.0449631	−0.75	0.453	−.1218553	.0543966
PROF1_dum5	−.0264416	.0376136	−0.70	0.482	−.1001629	.0472797
PROF1_dum6	−.0133918	.0370496	−0.36	0.718	−.0860076	.059224
PROF1_dum7	−.0009942	.0098525	−0.10	0.920	−.0203048	.0183163
PROF1_dum8	−.0051448	.0084508	−0.61	0.543	−.0217081	.0114185
PROF1_dum9	.0010745	.0349116	0.03	0.975	−.0673509	.0694999
_cons	.352999	.1958388	1.80	0.071	−.0308381	.736836

Tab 58, coefficients (differences in the returns to these characteristics between the groups) (2010)

```
interaction
  esperienza      -.005857    .0009876    -5.93    0.000    -.0077926    -.0039213
   anzianita      .0032393    .0008571     3.78    0.000     .0015594     .0049192
    reg_dum1     -.0001369    .0003843    -0.36    0.722      -.00089     .0006163
    reg_dum2      8.92e-06    .0001376     0.06    0.948    -.0002609     .0002787
    reg_dum3     -.0003294    .0005581    -0.59    0.555    -.0014233     .0007646
    reg_dum4     -.0000304     .000112    -0.27    0.786    -.0002499     .0001892
    reg_dum5      4.19e-06    .0001556     0.03    0.979    -.0003008     .0003092
    reg_dum6      .0000453    .0001626     0.28    0.781    -.0002735      .000364
    reg_dum7      -.000011    .0005917    -0.02    0.985    -.0011707     .0011486
    reg_dum8      .0001162    .0004142     0.28    0.779    -.0006957     .0009281
    reg_dum9       .000176    .0002738     0.64    0.520    -.0003607     .0007127
   reg_dum10      .0001555     .000182     0.85    0.393    -.0002011     .0005122
   reg_dum11      .0000499    .0002234     0.22    0.823     -.000388     .0004878
   reg_dum12     -1.29e-06     .000015    -0.09    0.932    -.0000307     .0000281
   reg_dum14     -.0001311    .0003823    -0.34    0.732    -.0008805     .0006183
   reg_dum15      .0000303    .0005949     0.05    0.959    -.0011357     .0011963
   reg_dum16     -.0003428    .0004258    -0.81    0.421    -.0011773     .0004917
   reg_dum17      .0003888     .000341     1.14    0.254    -.0002797     .0010572
   reg_dum18     -.0003616      .00057    -0.63    0.526    -.0014788     .0007556
   reg_dum19       .000046    .0001195     0.38    0.701    -.0001882     .0002801
  PROF1_dum1             0    (omitted)
  PROF1_dum2     -.0038829    .0036652    -1.06    0.289    -.0110665     .0033007
  PROF1_dum3       .002994    .0042599     0.70    0.482    -.0053553     .0113433
  PROF1_dum4      .0098942    .0132086     0.75    0.454    -.0159943     .0357826
  PROF1_dum5       .013359    .0190114     0.70    0.482    -.0239027     .0506207
  PROF1_dum6       .005817     .016096     0.36    0.718    -.0257306     .0373647
  PROF1_dum7     -.0038485    .0381363    -0.10    0.920    -.0785942     .0708973
  PROF1_dum8     -.0146915    .0241274    -0.61    0.543    -.0619803     .0325973
  PROF1_dum9     -.0004697    .0152596    -0.03    0.975    -.0303778     .0294385
```

Tab 59, interaction (combined effect of differences in endowments and differences in coefficients, showing how these differences together contribute to the overall gap) (2010)

The Oaxaca decomposition results reveal a total of 25,293 observations with an overall wage difference of 0.2828 (significant, $p < 0.001$) between the two groups. This difference is decomposed into three components:

- Endowments (Tab 57): this component is 0.0046 (not significant, $p = 0.432$), indicating that differences in observable characteristics (experience, tenure, region, and profession) between the groups do not significantly contribute to the wage difference.

- Coefficients (Tab 58): this component is 0.2719 (significant, $p < 0.001$), suggesting that most of the wage difference is due to different returns to these characteristics between the groups.

- Interaction (Tab 58): this component is 0.0062 (not significant, $p = 0.238$), capturing the combined effect of differences in characteristics and returns to these characteristics, which does not significantly contribute to the wage difference.

In detail, experience contributes positively to the endowments component (0.0163, significant), while tenure and most region and profession variables do not have a significant impact. In the coefficients component, experience has a negative effect (-0.0391, significant), indicating higher returns for males, while tenure has a positive effect (0.0439, significant), also favoring males. The interaction

component shows a significant negative interaction for experience (-0.0059) and a significant positive interaction for tenure (0.0032).

In summary, the analysis reveals a significant wage disparity between males and females, primarily driven by different returns to experience and tenure, rather than the characteristics themselves. Experience positively affects wages for both groups, but the returns are significantly higher for males, and tenure has mixed impacts, with both groups benefiting differently based on the interaction terms. Regional and occupational factors also play significant roles in wage determination.

3.6 2008 Analysis

The sample size of 2008 is 174,883 individuals. There are 83,584 males (47,69%) and 91,299 females (52.21%). In Tab 60 is possible to see the occupational structure of our population. Specifically, response 1 corresponds to individuals who are currently employed, response 2 to those who are unemployed, and response 3 to those who are not working by choice or are not seeking employment.

```
. tab COND3, m

     COND3 |      Freq.      Percent        Cum.
-----------+-----------------------------------
         1 |     62,563        35.77       35.77
         2 |      4,940         2.82       38.60
         3 |    107,380        61.40      100.00
-----------+-----------------------------------
     Total |    174,883       100.00
```

Tab 60, occupational structure of our population (2008)

(4,940/(4,940+62,563))*100 = 7.31 which means that unemployment rate is 7.3%.

In Tab 61, we analyzed the female unemployment rate using an "if" condition.

```
. tab COND3 if female==1, m

     COND3 |      Freq.      Percent        Cum.
-----------+-----------------------------------
         1 |     25,354        27.77       27.77
         2 |      2,595         2.84       30.61
         3 |     63,350        69.39      100.00
-----------+-----------------------------------
     Total |     91,299       100.00
```

Tab 61, occupational structure of female population (2008)

((2,595/(23,354+25,95))*100) = 10.00 which means that female unemployment rate is 10.0%.

Tab 62 illustrates the composition of the variable "wage". There are 45,717 observations with an average value of 1,198.64 and a standard deviation of 485.55.

```
.
. sum wage

    Variable          Obs         Mean    Std. Dev.          Min          Max

        wage       45,717     1198.644    485.5531          250         3000
```

Tab 62, summary of the new variable "wage" (2008)

We proceeded to examine the variable "anzianita". Observation with missing values were then handled and removed, as shown in Tab 63. This variable comprises 33,483 observations, with a mean value of 23.53 and a standard deviation of 11.49. The minimum observed value is 0, while the maximum is 75.

```
.
. destring C61, gen(anno_primo_lav)
C61: all characters numeric; anno_primo_lav generated as int
(131761 missing values generated)

. replace anno_primo_lav=. if anno_primo_lav==997
(9,639 real changes made, 9,639 to missing)

. gen anzianita=2008-anno_primo_lav
(141,400 missing values generated)

. sum anzianita

    Variable          Obs         Mean    Std. Dev.          Min          Max

    anzianita       33,483     23.53275    11.49151            0           75
```

Tab 63, variable "anzianita" (2008)

We then analyzed the variable "esperienza". Missing values were addressed and removed, as shown in Tab 64. This variable includes 60,810 observations, with a mean value of 12.25 and a standard deviation of 10.69. The minimum observed value is 0, while the maximum is 68.

114

```
.
. destring C55, gen(anno_inizio_lav)
C55: all characters numeric; anno_inizio_lav generated as int
(112320 missing values generated)

. replace anno_inizio_lav=. if anno_inizio_lav==997
(1,753 real changes made, 1,753 to missing)

. gen esperienza=2008-anno_inizio_lav
(114,073 missing values generated)

.
. sum esperienza

    Variable |        Obs        Mean    Std. Dev.        Min        Max
-------------+--------------------------------------------------------
   esperienza |     60,810    12.25476    10.69789          0         68

.
. * i valori non missing sono più di 60mila
. label variable esperienza "Tenure, 2008 – anno inizio lavoro"


.
. * leviamo le variabili non più utili
. drop C55 C61 anno_inizio_lav anno_primo_lav
```

Tab 64, variable "esperienza" (2008)

In this case, as in 2010, the software automatically grouped into one unique variable, region 1 (Piemonte) and region 2 (Valle d'Aosta), as we can see in Tab 65.

```
. * creiamo le dummy di regione e di professione
. tab REG, gen(reg_dum)

     REGSTA |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |     17,070        9.76        9.76
          3 |     21,574       12.34       22.10
          4 |     10,623        6.07       28.17
          5 |      8,947        5.12       33.29
          6 |      3,998        2.29       35.57
          7 |      4,266        2.44       38.01
          8 |     10,891        6.23       44.24
          9 |     10,102        5.78       50.02
         10 |      3,366        1.92       51.94
         11 |      4,050        2.32       54.26
         12 |      9,457        5.41       59.67
         13 |      4,032        2.31       61.97
         14 |      4,382        2.51       64.48
         15 |     12,726        7.28       71.75
         16 |     10,702        6.12       77.87
         17 |      5,279        3.02       80.89
         18 |     10,823        6.19       87.08
         19 |     16,609        9.50       96.58
         20 |      5,986        3.42      100.00
------------+-----------------------------------
      Total |    174,883      100.00
```

Tab 65, variable REG (2008)

```
. tab PROF1, gen(PROF1_dum)

      PROF1 |      Freq.      Percent        Cum.
------------+-----------------------------------
            |    112,320        64.23        64.23
          1 |      3,128         1.79        66.01
          2 |      6,521         3.73        69.74
          3 |     13,192         7.54        77.29
          4 |      6,501         3.72        81.00
          5 |      9,892         5.66        86.66
          6 |     11,887         6.80        93.46
          7 |      5,289         3.02        96.48
          8 |      5,542         3.17        99.65
          9 |        611         0.35       100.00
------------+-----------------------------------
      Total |    174,883       100.00
```

Tab 66, variable PROF1 (2008)

```
. gen anz_donna=anzianita*female
(141,400 missing values generated)


.
. * generiamo l'interazione tra donna e esperienza
. gen esp_donna=esperienza*female
(114,073 missing values generated)
```

Tab 67, interactions between variables (2008)

```
. reg lwage female esperienza anzianita anz_donna esp_donna $regione $prof1, robust
note: PROF1_dum1 omitted because of collinearity

Linear regression                               Number of obs   =     25,119
                                                F(31, 25087)    =     420.08
                                                Prob > F        =     0.0000
                                                R-squared       =     0.3850
                                                Root MSE        =     .34016

                         Robust
      lwage |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]

     female |   -.27771   .0110586   -25.11   0.000   -.2993855   -.2560346
 esperienza |  .0067709   .0003889    17.41   0.000    .0060086    .0075332
  anzianita |  .0022329   .0003701     6.03   0.000    .0015074    .0029584
  anz_donna |  -.0036594  .0005743    -6.37   0.000   -.0047851   -.0025336
  esp_donna |  .0079671   .0006197    12.86   0.000    .0067525    .0091816
   reg_dum1 |  .0497895   .0163392     3.05   0.002    .0177636    .0818153
   reg_dum2 |  .0916524   .0159113     5.76   0.000    .0604653    .1228395
   reg_dum3 |  .0872576   .0166897     5.23   0.000    .0545448    .1199704
   reg_dum4 |  .0581887   .0168127     3.46   0.001    .0252349    .0911425
   reg_dum5 |  .0445052   .0211457     2.10   0.035    .0030584    .0859519
   reg_dum6 |  .0394298   .0201688     1.95   0.051   -.0001023    .0789618
   reg_dum7 |  .0707932   .0167148     4.24   0.000    .0380311    .1035552
   reg_dum8 |  .0345318    .017168     2.01   0.044    .0008814    .0681821
   reg_dum9 |  .0479069   .0188958     2.54   0.011     .01087     .0849438
  reg_dum10 |   .020638   .0194706     1.06   0.289   -.0175256    .0588016
  reg_dum11 |  .0303894   .0174534     1.74   0.082   -.0038203    .0645991
  reg_dum12 |  -.0038684  .0207849    -0.19   0.852   -.0446079    .0368712
  reg_dum14 |  .0049162   .0189165     0.26   0.795   -.0321611    .0419936
  reg_dum15 |  -.0469311  .0190709    -2.46   0.014   -.0843113    -.009551
  reg_dum16 |  -.0491574  .0197341    -2.49   0.013   -.0878374   -.0104773
  reg_dum17 |  -.0544124  .0194555    -2.80   0.005   -.0925462   -.0162785
  reg_dum18 |  -.019874   .0179516    -1.11   0.268   -.0550601    .0153122
  reg_dum19 |  -.0523104  .0201308    -2.60   0.009   -.0917678   -.0128529
 PROF1_dum1 |         0  (omitted)
 PROF1_dum2 |  .3839694   .0259835    14.78   0.000    .3330402    .4348986
 PROF1_dum3 |  .1471512   .0210557     6.99   0.000    .1058808    .1884217
 PROF1_dum4 |  -.0407851  .0201105    -2.03   0.043   -.0802029   -.0013672
 PROF1_dum5 |  -.1759952  .0203855    -8.63   0.000   -.2159519   -.1360385
 PROF1_dum6 |  -.3155456  .0207002   -15.24   0.000   -.3561191   -.2749721
 PROF1_dum7 |  -.3016356  .0203213   -14.84   0.000   -.3414665   -.2618046
 PROF1_dum8 |  -.2098346  .0203793   -10.30   0.000   -.2497792     -.16989
 PROF1_dum9 |  -.4639719  .0211343   -21.95   0.000   -.5053963   -.4225475
      _cons |  7.159507   .0250222   286.13   0.000    7.110462    7.208552
```

Tab 68, regression conditional (2008)

The model, based on 25,119 observations, explains about 38.50% of the variability in log wages (R-squared = 0.3850). The overall model is highly significant. It is evident that females have a regression coefficient of -0.2777, indicating they earn 27.77% less than males. Conversely, the regression coefficient for males is 7.15.

```
. oaxaca lwage esperienza anzianita, by(female) noisily

Model for group 1

      Source |       SS           df       MS      Number of obs   =     13,970
-------------+----------------------------------   F(2, 13967)     =     650.38
       Model |  165.66223         2   82.8311151   Prob > F        =     0.0000
    Residual |  1778.80389    13,967  .127357621   R-squared       =     0.0852
-------------+----------------------------------   Adj R-squared   =     0.0851
       Total |  1944.46612    13,969  .139198663   Root MSE        =     .35687

-------------------------------------------------------------------------------
       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+-----------------------------------------------------------------
   esperienza |   .0118365   .0003865    30.62   0.000     .0110789    .0125941
    anzianita |  -.0002059   .0003298    -0.62   0.533    -.0008523    .0004406
        _cons |   7.014656    .007115   985.89   0.000     7.000709    7.028602
-------------------------------------------------------------------------------

Model for group 2

      Source |       SS           df       MS      Number of obs   =     11,149
-------------+----------------------------------   F(2, 11146)     =     814.62
       Model |  293.801616        2   146.900808   Prob > F        =     0.0000
    Residual |  2009.96261    11,146  .180330397   R-squared       =     0.1275
-------------+----------------------------------   Adj R-squared   =     0.1274
       Total |  2303.76423    11,148  .206652693   Root MSE        =     .42465

-------------------------------------------------------------------------------
       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+-----------------------------------------------------------------
   esperienza |   .0212808   .0005526    38.51   0.000     .0201976     .022364
    anzianita |   -.004902   .0004533   -10.81   0.000    -.0057906   -.0040134
        _cons |   6.766604   .0090261   749.67   0.000     6.748911    6.784297
-------------------------------------------------------------------------------
```

Tab 69, Oaxaca decomposition with "esperienza" and "anzianita" variables (2008)

```
Blinder-Oaxaca decomposition              Number of obs    =      25,119
                                          Model            =      linear
Group 1: female = 0                       N of obs 1       =      13,970
Group 2: female = 1                       N of obs 2       =      11,149


   endowments: (X1 - X2) * b2
  coefficients: X2 * (b1 - b2)
   interaction: (X1 - X2) * (b1 - b2)


-------------------------------------------------------------------------------
       lwage |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+-----------------------------------------------------------------
overall      |
     group_1 |   7.136131   .0031568  2260.55   0.000     7.129944    7.142318
     group_2 |   6.860295   .0043056  1593.33   0.000     6.851856    6.868733
  difference |   .2758362   .0053389    51.67   0.000     .2653722    .2863003
  endowments |   .0192966   .0022818     8.46   0.000     .0148244    .0237688
coefficients |    .260023   .0051046    50.94   0.000      .250018    .2700279
 interaction |  -.0034834   .0013462    -2.59   0.010    -.0061219   -.0008448
-------------+-----------------------------------------------------------------
endowments   |
   esperienza |   .0291765   .0025369    11.50   0.000     .0242043    .0341488
    anzianita |  -.0098799   .0011315    -8.73   0.000    -.0120975   -.0076623
-------------+-----------------------------------------------------------------
coefficients |
   esperienza |  -.0877965   .0063168   -13.90   0.000    -.1001772   -.0754159
    anzianita |   .0997676   .0119189     8.37   0.000      .076407    .1231283
        _cons |   .2480518   .0114932    21.58   0.000     .2255255    .2705782
-------------+-----------------------------------------------------------------
interaction  |
   esperienza |  -.0129484   .0014175    -9.13   0.000    -.0157266   -.0101701
    anzianita |    .009465   .0012982     7.29   0.000     .0069205    .0120095
-------------------------------------------------------------------------------
```

Tab 70, Oaxaca decomposition with "esperienza" and "anzianita" variables (2008)

The Oaxaca decomposition results (Tab 69-70) show a total of 25,119 observations with an overall wage difference of 0.2758 (significant, $p < 0.001$). This total difference is broken down into three components:

- The endowments component is 0.0193 (significant, $p < 0.001$), indicating that part of the wage difference is due to differences in observable characteristics (such as experience and tenure) between the two groups. Specifically, the contributions are 0.0292 for experience (significant, $p < 0.001$) and -0.0099 for tenure (significant, $p < 0.001$).
- The coefficients component is 0.2600 (significant, $p < 0.001$), suggesting that a significant portion of the wage difference is due to the different returns to these characteristics between the groups. Within this component, the contributions are -0.0878 for experience (significant, $p < 0.001$), 0.0998 for tenure (significant, $p < 0.001$), and 0.2481 for the constant (significant, $p < 0.001$).
- The interaction component is -0.0035 (significant, $p = 0.010$), capturing the combined effect of differences in characteristics and differences in returns to these characteristics. The specific contributions are -0.0129 for experience (significant, $p < 0.001$) and 0.0095 for tenure (significant, $p < 0.001$).

In summary, the overall wage gap of 0.2758 between the two groups is primarily driven by differences in the returns to characteristics rather than the characteristics themselves. This means that even if men and women had the same characteristics, men would still tend to earn more due to higher returns on these characteristics.

```
. oaxaca lwage esperienza anzianita $regione $prof1, by(female) noisily relax

Model for group 1

      Source │      SS           df       MS            Number of obs   =    13,970
─────────────┼────────────────────────────────          F(28, 13941)    =    208.96
       Model │  574.823973         28  20.5294276        Prob > F        =    0.0000
    Residual │   1369.64215     13,941  .098245617        R-squared       =    0.2956
─────────────┼────────────────────────────────          Adj R-squared   =    0.2942
       Total │  1944.46612     13,969  .139198663        Root MSE        =    .31344


       lwage │      Coef.   Std. Err.       t    P>|t|     [95% Conf. Interval]
─────────────┼────────────────────────────────────────────────────────────────
   esperienza │    .0077049   .0003523    21.87   0.000     .0070144    .0083954
    anzianita │    .0017854   .0002959     6.03   0.000     .0012054    .0023653
     reg_dum1 │    .0471782   .0206492     2.28   0.022     .0067029    .0876534
     reg_dum2 │     .115061   .0202242     5.69   0.000     .0754189    .1547031
     reg_dum3 │    .1144032   .0211116     5.42   0.000     .0730217    .1557848
     reg_dum4 │    .0832259   .0216359     3.85   0.000     .0408167    .1256351
     reg_dum5 │    .0421134   .0254459     1.66   0.098     -.007764    .0919908
     reg_dum6 │    .0615262   .0249822     2.46   0.014     .0125576    .1104948
     reg_dum7 │    .0585694   .0211576     2.77   0.006     .0170977    .1000411
     reg_dum8 │    .0347376   .0218235     1.59   0.111    -.0080394    .0775145
     reg_dum9 │    .0456551   .0257408     1.77   0.076    -.0048003    .0961105
    reg_dum10 │    .0030452   .0248905     0.12   0.903    -.0457434    .0518339
    reg_dum11 │    .0425943   .0219755     1.94   0.053    -.0004806    .0856692
    reg_dum12 │      -.0045    .026193    -0.17   0.864    -.0558418    .0468418
    reg_dum14 │   -.0021536   .0230395    -0.09   0.926    -.0473141    .0430068
    reg_dum15 │   -.0386884   .0228114    -1.70   0.090    -.0834017    .0060249
    reg_dum16 │   -.0194782   .0241536    -0.81   0.420    -.0668225    .0278662
    reg_dum17 │   -.0663635   .0235507    -2.82   0.005     -.112526    -.020201
    reg_dum18 │   -.0252025   .0221069    -1.14   0.254     -.068535    .0181301
    reg_dum19 │   -.0408026   .0236138    -1.73   0.084    -.0870887    .0054836
   PROF1_dum1 │           0  (omitted)
   PROF1_dum2 │    .3623766   .0308718    11.74   0.000     .3018637    .4228895
   PROF1_dum3 │    .1113667    .028263     3.94   0.000     .0559676    .1667659
   PROF1_dum4 │   -.0515283   .0274103    -1.88   0.060    -.1052562    .0021996
   PROF1_dum5 │   -.2110801   .0280304    -7.53   0.000    -.2660234   -.1561367
   PROF1_dum6 │   -.2672219   .0280827    -9.52   0.000    -.3222677   -.2121761
   PROF1_dum7 │    -.274161    .027399   -10.01   0.000    -.3278666   -.2204553
   PROF1_dum8 │   -.1983806     .02763    -7.18   0.000    -.2525392   -.1442221
   PROF1_dum9 │   -.3915694   .0281948   -13.89   0.000     -.446835   -.3363037
        _cons │    7.141247   .0330056   216.36   0.000     7.076551    7.205942
```

Tab 71, Oaxaca decomposition with all variables (Group 1) (2008)

120

```
Model for group 2

      Source |       SS           df       MS      Number of obs   =    11,149
-------------+----------------------------------   F(28, 11120)    =     214.43
       Model |  807.755496        28  28.8484106   Prob > F        =    0.0000
    Residual |  1496.00873     11,120  .134533159   R-squared       =    0.3506
-------------+----------------------------------   Adj R-squared   =    0.3490
       Total |  2303.76423     11,148  .206652693   Root MSE        =    .36679
```

```
-------------+----------------------------------------------------------------
       lwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  esperienza |   .0132266   .0005014    26.38   0.000     .0122438    .0142094
   anzianita |  -.0005068   .0004039    -1.25   0.210    -.0012986     .000285
    reg_dum1 |   .0465179   .0288053     1.61   0.106    -.0099456    .1029815
    reg_dum2 |    .057199   .0283962     2.01   0.044     .0015373    .1128606
    reg_dum3 |   .0488043   .0292169     1.67   0.095     -.008466    .1060746
    reg_dum4 |   .0248603   .0298534     0.83   0.405    -.0336578    .0833783
    reg_dum5 |   .0389182   .0338768     1.15   0.251    -.0274863    .1053226
    reg_dum6 |   .0053027   .0337416     0.16   0.875    -.0608369    .0714422
    reg_dum7 |   .0770411   .0293513     2.62   0.009     .0195074    .1345748
    reg_dum8 |   .0322424    .030067     1.07   0.284    -.0266943    .0911791
    reg_dum9 |    .041484   .0338015     1.23   0.220    -.0247728    .1077409
   reg_dum10 |   .0353007   .0333157     1.06   0.289     -.030004    .1006054
   reg_dum11 |   .0075451   .0307604     0.25   0.806    -.0527508    .0678409
   reg_dum12 |  -.0028233   .0377346    -0.07   0.940    -.0767899    .0711432
   reg_dum14 |   .0027793   .0339137     0.08   0.935    -.0636975    .0692561
   reg_dum15 |  -.0737175   .0333728    -2.21   0.027     -.139134   -.0083009
   reg_dum16 |  -.1134169     .03701    -3.06   0.002    -.1859631   -.0408707
   reg_dum17 |  -.0592357   .0344189    -1.72   0.085    -.1267027    .0082314
   reg_dum18 |  -.0334862    .032232    -1.04   0.299    -.0966667    .0296942
   reg_dum19 |  -.0867622   .0336465    -2.58   0.010    -.1527154    -.020809
  PROF1_dum1 |          0  (omitted)
  PROF1_dum2 |   .4104825   .1340256     3.06   0.002     .1477687    .6731964
  PROF1_dum3 |   .1139648   .1302544     0.87   0.382     -.141357    .3692866
  PROF1_dum4 |  -.0993419   .1299862    -0.76   0.445    -.3541378     .155454
  PROF1_dum5 |  -.2228616   .1300812    -1.71   0.087    -.4778437    .0321205
  PROF1_dum6 |  -.4202852     .13007    -3.23   0.001    -.6752454    -.165325
  PROF1_dum7 |  -.4557482    .130582    -3.49   0.000    -.7117121   -.1997844
  PROF1_dum8 |   -.294714   .1307822    -2.25   0.024    -.5510704   -.0383577
  PROF1_dum9 |  -.6079832   .1302724    -4.67   0.000    -.8633403   -.3526262
       _cons |   6.973514   .1320165    52.82   0.000     6.714738     7.23229
-------------+----------------------------------------------------------------
```

Tab 72, Oaxaca decomposition with all variables (Group 2) (2008)

```
Blinder-Oaxaca decomposition                    Number of obs    =     25,119
                                                 Model            =     linear
Group 1: female = 0                              N of obs 1       =     13,970
Group 2: female = 1                              N of obs 2       =     11,149


    endowments: (X1 - X2) * b2
 coefficients: X2 * (b1 - b2)
  interaction: (X1 - X2) * (b1 - b2)
```

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
overall						
group_1	7.136131	.0031588	2259.11	0.000	7.12994	7.142322
group_2	6.860295	.0043088	1592.16	0.000	6.851849	6.86874
difference	.2758362	.0053427	51.63	0.000	.2653648	.2863077
endowments	-.0152554	.0050967	-2.99	0.003	-.0252448	-.005266
coefficients	.2775024	.004886	56.80	0.000	.267926	.2870787
interaction	.0135893	.00437	3.11	0.002	.0050242	.0221544

lwage	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
endowments						
esperienza	.018134	.0016544	10.96	0.000	.0148915	.0213766
anzianita	-.0010214	.0008171	-1.25	0.211	-.0026228	.00058
reg_dum1	-.0006381	.0004382	-1.46	0.145	-.001497	.0002208
reg_dum2	-.000545	.0003769	-1.45	0.148	-.0012836	.0001937
reg_dum3	-.000705	.0004584	-1.54	0.124	-.0016035	.0001934
reg_dum4	-.0002341	.0002927	-0.80	0.424	-.0008077	.0003395
reg_dum5	-.0001657	.000165	-1.00	0.315	-.000489	.0001577
reg_dum6	-.0000137	.0000876	-0.16	0.876	-.0001854	.0001581
reg_dum7	-.0007727	.0004041	-1.91	0.056	-.0015646	.0000193
reg_dum8	-.000261	.0002638	-0.99	0.322	-.000778	.0002559
reg_dum9	-.000242	.0002146	-1.13	0.260	-.0006627	.0001787
reg_dum10	-.0001619	.0001708	-0.95	0.343	-.0004967	.0001729
reg_dum11	.0000179	.0000762	0.23	0.814	-.0001315	.0001673
reg_dum12	-.0000121	.0001619	-0.07	0.940	-.0003294	.0003052
reg_dum14	.0000362	.0004419	0.08	0.935	-.00083	.0009024
reg_dum15	-.0009746	.0004754	-2.05	0.040	-.0019064	-.0000428
reg_dum16	-.0014765	.0005309	-2.78	0.005	-.002517	-.0004359
reg_dum17	-.000611	.0003783	-1.62	0.106	-.0013525	.0001304
reg_dum18	-.0005727	.0005585	-1.03	0.305	-.0016674	.0005219
reg_dum19	-.0005434	.0002878	-1.89	0.059	-.0011075	.0000207
PROF1_dum1	0	(omitted)				
PROF1_dum2	.0077242	.002622	2.95	0.003	.0025852	.0128631
PROF1_dum3	-.0027781	.0032032	-0.87	0.386	-.0090563	.0035001
PROF1_dum4	.0078904	.010338	0.76	0.445	-.0123718	.0281525
PROF1_dum5	.0187941	.011014	1.71	0.088	-.0027929	.0403811
PROF1_dum6	.0443856	.0138695	3.20	0.001	.0172018	.0715693
PROF1_dum7	-.0795142	.0228662	-3.48	0.001	-.1243311	-.0346972
PROF1_dum8	-.0324262	.0144313	-2.25	0.025	-.060711	-.0041414
PROF1_dum9	.0114316	.0034248	3.34	0.001	.0047191	.018144

Tab 73, endowments (differences in observable characteristics between the groups) (2008)

coefficients						
esperienza	−.0513312	.0057146	−8.98	0.000	−.0625316	−.0401309
anzianita	.0486956	.0106397	4.58	0.000	.0278421	.069549
reg_dum1	.0000809	.0043424	0.02	0.985	−.0084301	.0085919
reg_dum2	.0091705	.0055289	1.66	0.097	−.0016659	.020007
reg_dum3	.0064369	.0035419	1.82	0.069	−.000505	.0133789
reg_dum4	.0044184	.0027949	1.58	0.114	−.0010595	.0098963
reg_dum5	.0000923	.0012237	0.08	0.940	−.0023061	.0024907
reg_dum6	.0016541	.0012384	1.34	0.182	−.0007732	.0040813
reg_dum7	−.0017032	.0033366	−0.51	0.610	−.0082428	.0048364
reg_dum8	.0001734	.0025826	0.07	0.946	−.0048883	.0052352
reg_dum9	.000122	.0012423	0.10	0.922	−.002313	.0025569
reg_dum10	−.00103	.001329	−0.77	0.438	−.0036347	.0015748
reg_dum11	.0019491	.0021037	0.93	0.354	−.002174	.0060722
reg_dum12	−.0000292	.0007993	−0.04	0.971	−.0015958	.0015374
reg_dum14	−.0001416	.0011768	−0.12	0.904	−.0024481	.0021649
reg_dum15	.0010965	.0012667	0.87	0.387	−.0013862	.0035793
reg_dum16	.0017694	.0008412	2.10	0.035	.0001207	.0034181
reg_dum17	−.0001892	.0011073	−0.17	0.864	−.0023595	.001981
reg_dum18	.0003232	.001525	0.21	0.832	−.0026658	.0033122
reg_dum19	.0013769	.0012337	1.12	0.264	−.0010411	.0037948
PROF1_dum1	0	(omitted)				
PROF1_dum2	−.0005307	.0015181	−0.35	0.727	−.0035061	.0024447
PROF1_dum3	−.0002731	.0140112	−0.02	0.984	−.0277345	.0271883
PROF1_dum4	.0128744	.0357706	0.36	0.719	−.0572347	.0829834
PROF1_dum5	.0021304	.0240617	0.09	0.929	−.0450296	.0492903
PROF1_dum6	.0310547	.027004	1.15	0.250	−.0218722	.0839816
PROF1_dum7	.0116291	.0085552	1.36	0.174	−.0051386	.0283969
PROF1_dum8	.0048128	.006681	0.72	0.471	−.0082818	.0179073
PROF1_dum9	.0251373	.0154959	1.62	0.105	−.0052341	.0555088
_cons	.1677327	.1360799	1.23	0.218	−.098979	.4344444

Tab 74, coefficients (differences in the returns to these characteristics between the groups) (2008)

interaction						
esperienza	−.0075704	.001049	−7.22	0.000	−.0096265	−.0055143
anzianita	.0046198	.0010563	4.37	0.000	.0025494	.0066901
reg_dum1	−9.06e−06	.0004862	−0.02	0.985	−.000962	.0009439
reg_dum2	−.0005513	.0004252	−1.30	0.195	−.0013846	.000282
reg_dum3	−.0009476	.0005735	−1.65	0.098	−.0020717	.0001765
reg_dum4	−.0005496	.0003963	−1.39	0.165	−.0013263	.000227
reg_dum5	−.0000136	.0001805	−0.08	0.940	−.0003674	.0003402
reg_dum6	−.0001449	.0001603	−0.90	0.366	−.0004591	.0001694
reg_dum7	.0001853	.0003689	0.50	0.616	−.0005378	.0009083
reg_dum8	−.0000202	.0003009	−0.07	0.946	−.0006099	.0005695
reg_dum9	−.0000243	.000248	−0.10	0.922	−.0005103	.0004617
reg_dum10	.0001479	.0002031	0.73	0.466	−.0002501	.000546
reg_dum11	.0000831	.0001365	0.61	0.543	−.0001844	.0003506
reg_dum12	−7.19e−06	.000197	−0.04	0.971	−.0003933	.000379
reg_dum14	−.0000643	.0005344	−0.12	0.904	−.0011116	.000983
reg_dum15	.0004631	.000541	0.86	0.392	−.0005973	.0015235
reg_dum16	.0012229	.0006042	2.02	0.043	.0000386	.0024072
reg_dum17	−.0000735	.0004305	−0.17	0.864	−.0009173	.0007702
reg_dum18	.0001417	.0006688	0.21	0.832	−.0011692	.0014526
reg_dum19	.0002878	.0002776	1.04	0.300	−.0002562	.0008319
PROF1_dum1	0	(omitted)				
PROF1_dum2	−.0009052	.0025894	−0.35	0.727	−.0059804	.0041699
PROF1_dum3	.0000633	.0032491	0.02	0.984	−.0063048	.0064315
PROF1_dum4	−.0037977	.0105545	−0.36	0.719	−.0244841	.0168888
PROF1_dum5	−.0009935	.0112218	−0.09	0.929	−.0229878	.0210007
PROF1_dum6	−.0161648	.0140703	−1.15	0.251	−.043742	.0114125
PROF1_dum7	.0316814	.0232917	1.36	0.174	−.0139694	.0773323
PROF1_dum8	.0105992	.0147115	0.72	0.471	−.0182347	.0394331
PROF1_dum9	−.0040691	.002647	−1.54	0.124	−.0092572	.001119

Tab 75, interaction (combined effect of differences in endowments and differences in coefficients, showing how these differences together contribute to the overall gap) (2008)

The Oaxaca decomposition results show a total of 25,119 observations with an overall wage difference of 0.2758 (significant, p < 0.001). This total difference is again broken down into three components:

- The endowments component (Tab 73) is -0.0153 (significant, p = 0.003), indicating that part of the wage difference is due to differences in observable characteristics (such as experience, tenure, region, and profession) between the two groups. Although this component is negative, it suggests that if women had the same characteristics as men, they would slightly earn more.

- The coefficients component (Tab 74) is 0.2775 (significant, p < 0.001), suggesting that a significant portion of the wage difference is due to the different returns to these characteristics between the groups. This means that most of the wage gap is attributable to how characteristics like experience and tenure are valued differently between men and women.

- The interaction component (Tab 75) is 0.0136 (significant, p = 0.002), capturing the combined effect of differences in characteristics and differences in returns to these characteristics. Although it is a smaller part, it is still significant.

In detail, the experience contributes positively (0.0181, significant) to the endowments component, indicating that the difference in experience between the groups favors women. In the coefficients component, experience has a negative effect (-0.0513, significant), indicating that the returns to experience are higher for men. Tenure has a positive effect (0.0487, significant), suggesting that men benefit more from tenure compared to women. The interaction between experience and differences in coefficients is negative (-0.0076, significant), indicating that the combination of different experiences and returns contributes to the wage difference. The interaction between tenure and differences in coefficients is positive (0.0046, significant).

In summary, the Oaxaca decomposition shows that the total difference in log wages between men and women is 0.2758. This difference is primarily driven by the different returns that characteristics produce in the two groups (coefficients component). While women have characteristics (endowments) that could lead to slightly higher wages compared to men, the different returns on these characteristics heavily favor men. These results suggest that most of the wage disparity between men and women is due to how characteristics like experience and tenure are valued differently in each group, rather than the characteristics themselves.

Conclusions

The objective of the thesis was to understand how the gender wage gap behaves over the years, whether it decreases, and if characteristics such as experience, tenure, region, and profession influence it.

Our analysis consistently revealed a significant wage disparity between males and females across all four years studied. This disparity was evident in the regression coefficients, with females consistently showing negative coefficients, indicating lower earnings compared to males.

Through conditional regression analysis, we observed that experience positively influenced wages for both males and females; however, the returns on experience were significantly higher for males. This suggests that while both genders benefit from increased experience, males gain a greater wage increase from their experience over time. The impact of job tenure on wages varied, showing that in some years, tenure positively influenced male wages more than female wages. The analysis also highlighted that wage disparities varied across different regions. Certain regions exhibited higher wage disparities. Occupational categories also showed varying impacts on wage disparities. Some professions demonstrated significant wage gaps, while others were more equitable.

The Oaxaca decomposition provided a detailed breakdown of the wage gap. Differences in characteristics such as experience and tenure (endowments) between males and females did not significantly contribute to the wage gap, implying that observable characteristics were relatively similar across genders. Most of the wage gap was attributed to differences in coefficients, indicating that males and females receive different returns for the same characteristics. This was a major driver of the wage disparity, suggesting that discrimination is the most significant factor.

The findings suggest that while observable characteristics between genders are similar, the different returns on these characteristics significantly contribute to the wage gap. Addressing these disparities requires targeted policy interventions and organizational practices that ensure equal pay for equal work, alongside efforts to support female career progression and reduce biases in wage determination.

From 2008 to 2020, it was observed that the gender wage gap has decreased (both conditional and unconditional). This positive trend can be attributed to the policies being implemented to address wage inequality. Future research should continue to explore these factors in more detail and develop strategies to promote wage equity across all sectors and regions.

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