EMPLOYMENT, QUALITY OF WORK AND MONEY: A REGIONAL PERSPECTIVE ON GENDER DISPARITIES IN ITALY[1]

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Abstract. This study aims to investigate the gender disparities in the Domain Work and Money, considering three sub-domains: Employment, Quality of Work and Money, analysing regional trends in Italy before and after the COVID-19 pandemic. In this study, we investigated the gender disparities in the Domain using both Istat and INPS data sources. For the Domain, a set of 13 simple indicators, both objective and subjective, more closely related to work well-being and divided by sub-domain, was selected. The analysis covered 5 years (2018–2022), spanning both the pre- and post-COVID-19 periods. The analyses were carried out with a model based on the use of multivariate analysis techniques and the construction of synthetic indices, one for each sub-domain, capable of provide a comprehensive overview, that would not emerge from individual indicators alone. The synthetic index was named Gender Equality Regional Index (GERI). The results revealed that the regions showed different behaviour over the years and different reactions to the COVID-19 pandemic, with important spatial patterns.

1. Introduction

The Gender gap, in a work and economic context, is manifested through systemic disparities between men and women in terms of labour-force participation, earnings and limited access to career advancement for women. According to the International Labour Organization (ILO), despite the progress made in recent decades, the gender gap is still persistent worldwide. In 2024, only 46.4 percent of women of working age were employed compared to 69.5 percent of men and, in more than 30 years, the gender gap in employment has narrowed by only 4 percentage points (ILO, 2025). In terms of pay, women continue to earn less than men, with the average gender pay gap in all OECD countries standing at 12 percent, with significant variations between member countries. Women, despite having similar or better qualifications than men, often work in low-paid jobs (OECD, 2022).

[1] Authors contributions: Daniela Fusco paragraphs 3.3 and 4; Cira Acampora paragraph 1; Paola Giordano paragraph 2.1, Abstract and References; Maria A. Liguori paragraphs 3, 3.1 and 3.2; Margherita M. Pagliuca paragraph 2.2.

According to the Gender Equality Index, gender inequalities are particularly marked in the labour and money sectors, areas in which Italy continues to record values below the European average (EIGE, 2024).

As many international studies point out, women show a greater propensity to orient themselves towards work positions compatible with family responsibilities, in particular childcare; on this front, there is a lot of evidence to support the so-called "motherhood penalty" (Ortiz-Ospina *et al*., 2018). Underlying these gender differences are above all cultural and social factors, which attribute to women the main role in the management of domestic and care responsibilities. Recent studies show, in fact, that women are more inclined to prefer part-time jobs or jobs with flexible hours to better adapt to family needs (Jost and Möser, 2023).

The available data therefore highlight the need for a multidimensional approach in measuring and overcoming the gender gap, which integrates objective and subjective indicators for a more complete assessment of the phenomenon. For this reason, in addition to the employment and economic aspects, the component of the quality of work was also considered, more closely linked to the satisfaction of professional needs and individual well-being.

The study focuses on the regional geographical level, with the aim of understanding how gender inequality presents itself in Italy today, to grasp territorial differences and fill the lack of specific analyses on this scale.

Despite growing attention to gender equality, subnational analyses remain limited in Italy. Amici and Stefani were among the first to adapt the Gender Equality Index to the regional level, highlighting significant territorial disparities, with southern regions notably disadvantaged compared to those in the North and Centre (Amici and Stefani, 2013).

Another relevant contribution is the Regional Gender Equality Index (R-GEI), which takes up the conceptual model of EIGE divided into six domains (work, money, knowledge, time, power, health), applying it to the Italian regions. The results confirm the territorial gaps by highlighting the analytical value of local measurements for the definition of effective policies (Di Bella *et al*., 2021).

The decision to analyse gender disparities at the regional level is based on both empirical and policy considerations. An analysis on a regional scale makes it possible to highlight the profound socio-economic differences between the different areas of the country, which directly affect gender inequalities, and to guide targeted policy interventions. This approach is in line with the perspective of EIGE, which stresses the importance of localised strategies in addressing structural inequalities.

Starting from the domains proposed by the GEI, integrated with some of the indicators of the Sustainable Development Goals (SDGs) , in order to measure the changes in gender inequalities with the arrival of the pandemic and how they differ in the Italian regions (Fusco *et al*., 2023), this work intends to identify a measurement

of the phenomenon, from 2018 to 2022, in the Work and Money Domain, specifically in its 3 sub-domains: Employment, Quality of Work and Money by filling a gap in the literature on the post-pandemic period and offering new evidence on a crucial phase for the labour market and social resilience.

2. Methodology

2.1. Data sources and selected indicators

Developing a synthetic measure is a challenging process that necessitates making a multitude of crucial decisions across conceptual, analytical, and empirical dimensions.

For each sub-domain, a study of sources was carried out in order to identify the most suitable indicators to represent the phenomenon. All the analysed data come from institutional surveys (Table 1).

Therefore, the elementary indicators were chosen based on their significance and their capacity to represent the phenomenon under analysis. Additional selection criteria covered the availability of statistical data at regional level; data timeliness to ensure an adequate time comparison; thematic appropriateness feasibility (the availability of obtaining and processing updated data in a simple way has been taken into account). The analysis covered 5 years (from 2018 to 2022).

This analysis highlights how overall indicators vary between gender and over time, providing a detailed picture of gender differences in various domains.

Table 1 - *Basic indicators, algorithms and data sources for the Work and Money Domain.*

Sub-domain	Basic indicator	Data source
Employment	Young people neither in employment nor in education and training (NEET)	Istat - Labour force survey
	Employment rate of parents in a couple (15-64 years old)	Istat - Labour force survey
	Employment rate (20-64 years old)	Istat - Labour force survey
Money	People at risk of poverty	Istat - Statistics on Income and Living Conditions (EU-SILC)
	Gross hourly wages per hour paid for job positions	Istat - Annual register of wages, hours and labour costs for individuals and enterprises (RACLI)
	Pension expenditure	INPS - Statistics of social security and social assistance
Quality of work	Cultural employment	Istat - Labour force survey
	Share of employed persons with temporary jobs for at least 5 years	Istat - Labour force survey
	Share of over-qualified employed persons	Istat - Labour force survey
	Involuntary part time	Istat - Labour force survey
	Share of employed persons who feel their work unsecure	Istat - Labour force survey
	Job satisfaction	Istat - Labour force survey

Source: authors' elaboration.

2.2. Method

In order to synthesize each sub-domain in a single composite index, we use a formative measurement model that is the indicators are considered as causing the gender gap (rather than being caused by it, such as in the reflective approach), so, the correlations between basic indicators are not very relevant. Gender equality is based on the existence of a gender role, so the aim of the indicators is to establish the relative situation of men and women and the changes that have occurred at different moments in time. Therefore, in line with previous studies (e.g., Bericat, 2012; Klasen, 2006; Cascella *et al*., 2022) we didn't use absolute levels of indicators, but we have calculated female-to male ratios (R), because they can be interpreted as a measure of the gender gap. The ratios measure the level attained by women in

relation to the status attained by men: in this way it is possible to capture the different forms of inequality rather than the single levels. A value R = 1 indicates perfect parity; a value 0 < R <1 indicates inequality favourable to men; and a value R > 1 indicates inequality favourable to women (Permanyer, 2010). Until now, some examples of indices that have used ratios are the Gender Equality Index developed by European Institute for Gender Equality (EIGE) and the Extended Regional Gender Gaps Index (eRGGI) (Cascella *et al*., 2022).

We apply the Adjusted Mazziotta–Pareto Index (AMPI) because it enables both spatial and temporal comparisons across units. Moreover, since our aim is to capture heterogeneous dimensions of gender gap without assuming full compensability, we adopt a formative measurement approach. In this perspective, indicators are considered to shape the latent construct (gender inequality), are non-interchangeable, and do not need to co-vary. The AMPI is a non-compensatory (or partially compensatory) composite index, based on the assumption of non-substitutability of indicators—i.e., a "deficit" in one dimension cannot be entirely offset by a "surplus" in another (Mazziotta and Pareto, 2016). It is based on a non-linear function which, starting from the arithmetic mean, introduces a penalty for the units with unbalanced values of the indicators.

Individual indicators are normalized by a re-scaling in the range (70;130) according to two 'goalposts', i.e. a minimum and a maximum value which represent the possible range of each variable for all time periods and for all units. Such type of normalization allows to perform absolute comparisons over time. Given the matrix $X = \{x_{ijt}\}$, where x_{ijt} is the value of the indicator j for the unit i (the Italian regions) in time t (2018, …, 2022 years), we calculate the matrix R of normalized scores r_{ijt} as follow:

$$r_{ijt} = \begin{cases} \dfrac{\left(x_{ijt} - Min_{x_j}\right)}{\left(Max_{x_j} - Min_{x_j}\right)} * 60 + 70, & if\ the\ indicator's\ polarity\ is\ positive \\ \dfrac{\left(Max_{x_j} - x_{ijt}\right)}{\left(Max_{x_j} - Min_{x_j}\right)} * 60 + 70, & if\ the\ indicator's\ polarity\ is\ negative \end{cases}$$

where $\text{Min}_{\text{x}_\text{j}}$ and $\text{Max}_{\text{x}_\text{j}}$ are the "goalposts" for the indicator j.

Denoting with M_{r_i}, $S_{r_i}$and cv_{ri} respectively, the mean, standard deviation and coefficient of variation (S_{r_i}/M_{r_i}) of the normalized values (r_{ijt}) of the unit i, for each year the generalized form of AMPI is given by:

$$AMPI_i^{+/-} = M_{r_i} \pm S_{r_i} cv_{ri} \quad (1)$$

The AMPI decomposes the score of each unit in two components: the mean level (M_{r_i}) and the penalty ($S_{r_i}cv_i$). The penalty reflects the variability of the indicators in relation to the mean value ('horizontal variability') and it is used to adjust the score of each unit. This penalty is either added to or subtracted from the mean, depending on the direction of the elementary indicators with respect to the phenomenon under analysis. Specifically, if the composite index is "positive"—that is, increasing values correspond to favorable variations of the phenomenon—then $AMPI^-$ is applied. Conversely, if the composite index is "negative"—that is, increasing values correspond to unfavorable variations of the phenomenon—then $AMPI^+$ is applied.

In our application, the penalty is treated differently depending on whether the mean value exceeds or falls below the threshold of 100, which represents the condition of parity. Specifically, if the mean value is greater than 100, the penalty is added; conversely, if the mean is less than 100, the penalty is subtracted. This approach allows us to take into account not only the variability of the indicators but also the direction of the imbalance with respect to the parity condition. In this context, the penalty is not solely intended to capture internal disparities among the indicators; rather, it serves as a mechanism to amplify or mitigate the expression of advantage or disadvantage relative to the normative threshold of 100, which holds substantive significance in the assessment of gender equality.

Furthermore, to better analyse and represent the phenomenon, a synthetic index, named Gender Equality Regional Index (GERI) was constructed for each sub-domain of the Work and Money Domain. This index facilitates spatial and temporal comparisons across Italian regions from 2018 to 2022, aiming to identify changes influenced by the COVID-19 pandemic.

3. Results

The three selected sub-domains (Employment, Quality of Work and Money) were explained through 13 indicators.

The composite index captures the complexity but it reduces the dimensions in space with an evident loss of information. Therefore, to understand the results of the index, reading the indicators is the best choice. The values of indicators and indices for each sub-domain will be presented in the following paragraphs. The GERI was been represented with radar charts comparing data from 2018 to 2022 across all Italian regions. The chart features five coloured lines representing each year and regions are labelled around the perimeter.

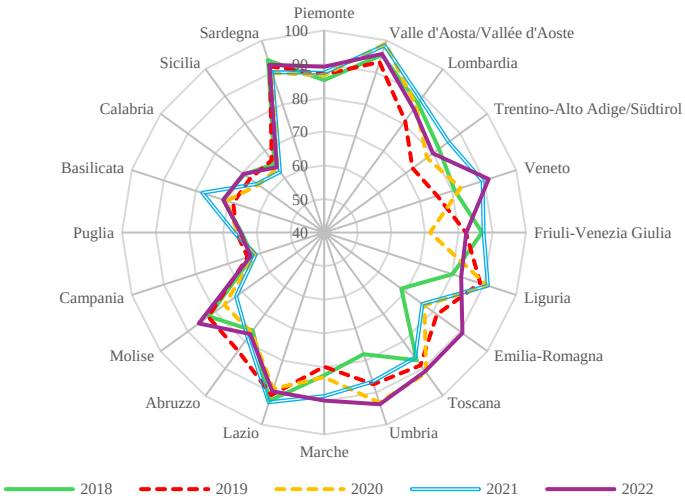
3.1. Sub-domain Employment

On average, throughout the period considered, the share of NEETs made up of women is higher than that of men (22.9 percent and 19.6 percent, respectively), with an increase for both genders during the pandemic peak. Notably, in 2020, the gap widened (3.9 points difference) and then narrowed over time. 2022 saw the lowest share of NEETs (19.4 percent for women and 17.1 percent for men) and the smallest gap (2.3 points).

The employment rate (20-64 years) sees large gender differences, with male values exceeding female values by almost 20 percentage points on average (73.0 percent for men and 54.0 percent for women). The range is constant over the period under consideration, while rates, with the exclusion of the pandemic years, tend to be equally upward for both sexes. If we consider parents in couples, the gap tends to be larger (almost 30 percentage points) and remains constant over time.

The GERI results underscore the marked gender employment gap between the territorial divisions: with the understanding that levels of absolute parity will be recorded only in Valle d'Aosta in 2020-2021, the gap in the southern regions is far greater than in the central and northern regions (Figure 1).

Figure 1 – *Regional synthetic Index of sub-domain Employment. Years 2018-2022.*



Source: authors' elaboration.

At the tail end is still Campania, where throughout the period under consideration index values are always below 64, with a peak during the pandemic of 61.4.

The southern regions with higher index values are Molise and Basilicata, with the latter having the highest index value (78.0) in 2021, unlike the national trend. Values more in line with the Central-North are recorded by Sardegna with a 5-year average of 91.6. Among the northern regions, the lowest values of the index are the preserve of Trentino-Alto Adige, where it goes from 82.2 in 2018 to 79.9 in 2022, with an increase in the index value in 2021 (85.8). Emilia-Romagna is the region with the best increase, rising from 68.3 in 2018 to 90.8 in 2022.

3.2. Sub-domain Quality of Work

On average, throughout the period under consideration (2018-2022), those in scientific-technological professions and with a university education, the so-called cultural employers, are represented in the majority by the female sex (22.6 percent compared to 13.6 percent), with no major changes over the five-year period.

With regard to medium-term workers (employed on fixed-term contracts for at least 5 years), there are no particular differences between the sexes and over the period under consideration (on average 18.1 percent for women and 17.6 percent for men). The same cannot be said for the over-qualified employed: in this case, in fact, women prevail over the so-called stronger sex (on average 27.7 percent and 25 percent, respectively), although the pandemic seems to have had a negative influence (in fact, it goes from 26.4 percent in 2018 to 28.1 percent in 2022).

Regarding involuntary part time, the gender gap is evident: on average, in the 5 years considered, almost one-fifth of females are in this situation, compared to 6.5 percent of males. By 2022, however, the trend seems to be evolving positively, from 19.4 percent in 2018 to 16.5 percent.

The percentage of people who fear losing their jobs tends to be low for both sexes (on average 6.6 percent of females and 5.8 percent of males), with the highest, albeit slightly significant values recorded in 2020.

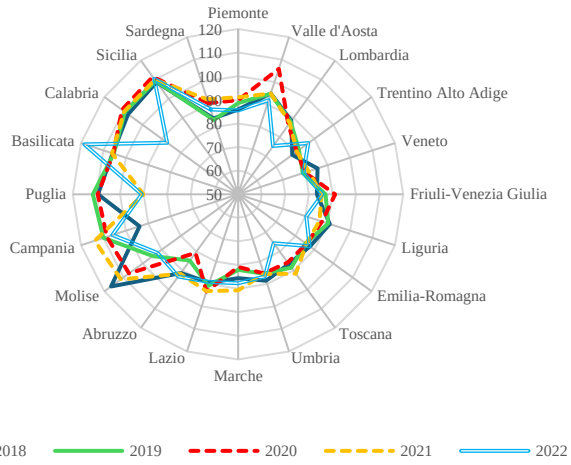
Slightly less than half of workers of both sexes consider themselves, on average, to be very satisfied with their jobs with a tendency for satisfaction to improve over the entire five-year period for the following aspects (except for 2022 for females, which record a 0.4 percent decline from 2021): earnings, career opportunities, number of hours worked, job stability, home-to-work distance, and interest in work. The period under consideration shows a steady trend of improving satisfaction with one's job.

The Figure 2 shows the results of the GERI for this sub-domain. In no region does the quality of work reach parity; generally, in the central and northern regions, disparities favour men, while in the south and Sicilia, they favour women. The years 2020 and 2021 are when the average values are closest to parity. One possible

explanation for this phenomenon could be the increase in flexible work measures, such as remote work, which were more requested by women. This phenomenon is particularly pronounced in the south (excluding Abruzzo) and in Sicilia, where high index values indicate disparities favouring women.

In 2022, the average values are even lower than those of 2018, likely because the return to in-person work had a greater impact on women's work quality than on men's. While in southern Italy this led to a move closer to parity, in central and northern Italy, the result was a further deterioration in women's situation, especially in Lombardia (75.2) and Toscana (75.8). The region that, over time (excluding 2022), remains closest to parity is Valle d'Aosta.

Figure 2 – *Regional synthetic Index of sub-domain Quality of Work. Years 2018-2022.*



Source: authors' elaboration.

3.3. Sub-domain Money

On average, throughout the period under consideration (2018-2022), women living in households at risk of poverty are about two percentage points higher than men. The onset of the pandemic has led to a worsening for both sexes, with the gap narrowing by 2021. However, for women the situation worsened again in 2022.

Regarding gross hourly wages, women earned an average of 12.9 euros, also during the period under consideration, compared with an average amount for men of 14.2 euros. Pay tends to increase over time, albeit slightly, with no consequences due to the pandemic. The average monthly pensions amount for females is almost half

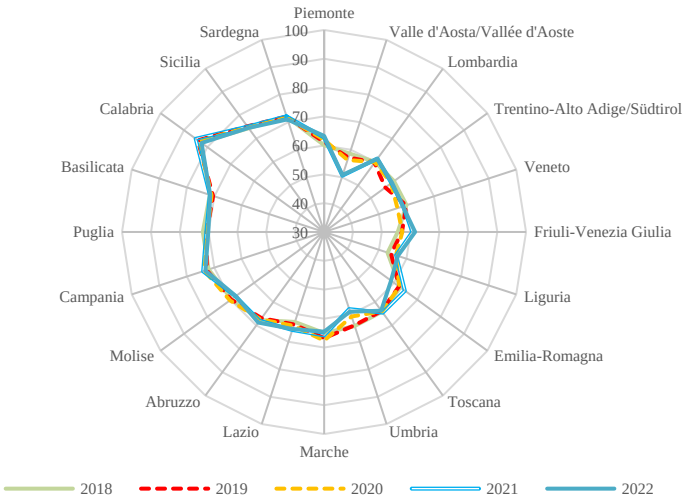
that of males (644.9 and 1,133.5 euros, respectively). For both sexes, however, the amount tends to increase over time.

Confirming the large monetary disadvantage of women, the GERI values for this subdomain are far from parity and clearly to the disadvantage of "pink quotas": in fact, they range between 50.6 (Valle d'Aosta 2021) and 85.0 (Calabria 2021). Except in the case of a few regions, the phenomenon has remained rather unchanged over time, with a slight worsening in the last year considered, and, as shown in Figure 3, the values furthest from parity were recorded in the regions of the Central-North.

The regions furthest from parity on average are those in the North. Specifically, Valle d'Aosta and Liguria have the lowest values: the index never reaches 60, and Valle d'Aosta in 2021 and 22 recorded the lowest values ever (50.6 and 50.7).

In general, in the South, the situation is slightly better. Calabria is the region with the overall highest values of the index: between 82.5 and 85.0 but no temporal trend is evident. The other regions with higher GERI values, albeit far from parity, are Sicilia and Campania.

Figure 3 – *Regional synthetic Index of sub-domain Money. Years 2018-2022.*



Source: authors' elaboration.

4. Final remarks

The gender gap, in a work and economic context, is caused by several factors, including gender discrimination, differences in work experience, and occupational segregation, with some regional variances.

In the labour market, women suffer persistent disadvantages in employment compared to men. The difficulty is more evident in the southern regions and in particular in Campania, Puglia and Sicilia. Career interruptions due to childbirth lead to a reduction in female employment over the life course (Ortiz-Ospina *et al*., 2018; EIGE, 2024). There are large gender differences in the amount of work done by women and men and in the type of job and contract performed. Among the three sub-domains considered, the one relating to the Quality of work presents taller values of GERI, particularly in south (except Abruzzo) and Sicilia. So, in these regions, the disparity is in disfavour of male.

Gender inequalities measured in the domain of Money are the visible outcomes of wide-ranging inequalities in other domains of life. Women's lower access to financial and economic resources reflects their heavier load of unpaid care within the household, so they are more likely to be at risk of poverty (Ortiz-Ospina *et al*., 2018; EIGE, 2024). Besides, women are more likely than men to work in sectors characterised by lower pay. Finally, women pensions amount is almost half that of men. The disparity is more accentuated in the regions of Central-Northern Italy, particularly in Valle d'Aosta and Liguria.

Of course, in Italy there are many important regional differences in the aspects considered in this research, so regional monitoring is necessary. The results for the three sub-domains showed that the construction of an index capable to read the distance from equality, alongside the reading of the individual indicators, could be an important informational input for monitoring the issues over time.

This would be useful for policymakers considering our nation's programmatic choices within the context of the national strategy for gender equality, since the goal must be equality for both sexes.

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