

ORIGINAL ARTICLE

In-work Poverty and Hidden Gender Bias in Spain within the Framework of the European Union: The Black Box of Household Negotiation, Economic Dependence, and the Welfare State

Pobreza laboral y sesgo de género oculto en España en el marco de la Unión Europea. La caja negra de la negociación en el hogar, la dependencia económica y el Estado del Bienestar

Ana Belén Miquel-Burgos^{*†} y Lineth Estrada-Fonseca^{*‡}

[†]Universidad Rey Juan Carlos; ORCID:[0000-0001-5658-0073]

[‡]Universidad Rey Juan Carlos; ORCID:[0009-0002-6862-922X]

*Correspondence to email: Anabelen.miquel@urjc.es;

(Received December 03, 2024; accepted March 23, 2025)

Abstract

This article investigates the hidden gender bias in in-work poverty within the European Union (EU). Using data from EUROSTAT, INE, EIGE, and various surveys, it identifies inconsistencies in poverty rates among employed women due to issues with construction and equivalence scales. The research highlights the "gender paradox," where women face significant disadvantages in the labour market, yet statistical data do not always reflect a gender bias in in-work poverty rates. To elucidate this phenomenon, the study advocates for expanding the analysis of indicators with alternative aggregation methodologies to better understand the household black box. It proposes an alternative methodology for assessing in-work poverty, considering individual incomes and family responsibilities, and suggests including in-kind benefits in poverty measurements. The findings underscore the importance of addressing gender biases in the labour market and their impact on in-work poverty.

Keywords: In-work Poverty, Gender Paradox, Household Black Box, Equivalence Scales, In-Kind Transfers.

Resumen

Este artículo investiga el sesgo de género oculto en la pobreza laboral dentro de la Unión Europea (UE). Utilizando datos de EUROSTAT, INE, EIGE y diversas encuestas, identifica inconsistencias en las tasas de pobreza entre las mujeres empleadas debido a problemas con las escalas de construcción y equivalencia. La investigación destaca la "paradoja de género", donde las mujeres enfrentan desventajas significativas en el mercado laboral, pero los datos estadísticos no siempre reflejan un sesgo de género en las tasas de pobreza laboral. Para dilucidar este fenómeno, el estudio aboga por ampliar el análisis de los indicadores con metodologías de agregación alternativas para comprender mejor la caja negra de los hogares, proponiendo una metodología alternativa para evaluar la pobreza laboral, considerando los ingresos individuales y las responsabilidades familiares, y sugiere incluir beneficios en especie en las mediciones de pobreza. Los hallazgos subrayan la importancia de abordar los sesgos de género en el mercado laboral y su impacto en la pobreza laboral.

Palabras clave: Pobreza laboral, paradoja de género, caja negra del hogar, escalas de equivalencia, transferencias en especie.

1. INTRODUCTION

Employment has traditionally been seen as a tool to mitigate poverty. However, evidence indicates that it is not always an effective solution (Bardone and Guio, 2005; Seikel and Spannagel, 2018). In-work poverty affects millions of workers whose disposable incomes are insufficient to surpass the poverty thresholds of their regions. This problem is not restricted to countries with lower socioeconomic development but is also present in advanced economies with robust welfare states and strong labour protection systems. Since 2003, the Eurostat report on income and living conditions in the EU (EU-SILC) has included an indicator of the risk of poverty among the employed. Understanding its methodology is crucial for conceptualising and quantifying this phenomenon, including its complexities and biases. In 2022, the European Union (EU 27 of 2020) reported an in-work poverty rate of 8.5%, meaning that nearly one in ten workers earned below the poverty threshold. It is crucial to address labour market conditions. However, in-work poverty has increased due to recent economic crises, leading to policies focused on reactivating employment and production but deteriorating working conditions (Nieuwenhuis and Maldonado, 2018; Martinez and Arufe, 2013), increasing precarious contracts, temporary employment, and self-employment (McBride and Smith, 2021; Weinkopf, 2009), and reducing real average wages (Lohmann and Marx, 2018; Polizzi, Struffolino and Van Winkle, 2022; and Crettaz, 2011). It is important to distinguish between the concepts of in-work poverty and others, such as decent work or poorly paid work. Indeed, it is possible that some low-wage workers do not experience in-work poverty, and vice versa. Understanding and addressing in-work poverty is a challenge, as its causes differ from those of poverty related to unemployment. Studies by Lohmann and Marx (2018) and Polizzi, Struffolino and Van Winkle (2022) highlight the need for diverse approaches to identify the core of the problem and the most vulnerable populations. The literature identifies macro and micro-level risk factors that explain higher rates of poverty among the employed. Although gender is a significant variable in studies on poverty and inequality in the labour market, statistical data do not show a gender bias. The "gender paradox" (Ponthieux, 2018) suggests that women have lower rates of in-work poverty despite facing disadvantages in other labour market indicators and living conditions. This paper aims to identify the individual and institutional characteristics associated with quality of life and the role of women in the labour market and examine whether there is concordance with published in-work poverty statistics. It also seeks to identify aggregation errors and includes a proposal for improvement that modifies some key issues to address the disadvantages of existing proposals in the literature.

2. METHODOLOGY

This article analyses various indicators related to the labour market and living conditions from the EU-SILC and the Labour Force Survey (LFS) of Eurostat, as well as several surveys from the European Institute for Gender Equality (EIGE). Although the use of aggregated data provides an overview of the phenomenon across the region and facilitates the identification of common factors between countries and by gender, Eurostat's aggregation methodology presents several drawbacks that are also addressed in this study. In 2003, the measurement of in-work poverty was incorporated into the Eurostat database, increasing academic and political interest in the EU in this phenomenon and its possible solutions. In-work poverty is complex to measure, as it encompasses both the condition of being a worker and household poverty (Lohmann and Marx, 2018). This distinguishes it from concepts such as decent work or poorly paid work (Crettaz, 2013). The integration of individual characteristics into group statistics can obscure specific labour market problems, especially for vulnerable groups such as young people and women (Collado et al., 2019; Ponthieux, 2018; Schwarz, 2021). Comprehensive literature

reviews, such as those by Crettaz (2013), Kalugina (2013), and Polizzi et al. (2022), along with volumes edited by Andreß and Lohmann (2009), Fraser et al. (2011), and Lohmann and Marx (2018), cover various analytical perspectives on in-work poverty. Specific demographic groups face higher risks. Immigrants face greater challenges (Branyiczki, 2015; Crettaz, 2018), and both older and younger individuals are often among the groups with the most significant problems. Indeed, the latter often have precarious jobs (Barrera, 2017; Horemans, Marx, and Nolan, 2016; Lohmann and Crettaz, 2018). Regarding household type, having children, especially in single-mother households, increases the risks of poverty due to higher expenses and limitations on working hours (Barrera, 2017; Horemans, Marx, and Nolan, 2016; Spannagel, 2013). EU-SILC provides cross-sectional and longitudinal data on the "in-work at-risk-of-poverty rate (IWARP)" since 2003. It defines this as "The percentage of people in the total population who reported being employed (either as employees or self-employed) who are at risk of poverty."¹ This rate is calculated for each dimension (k) as the percentage of people classified as employed who are at risk of poverty during the estimated period, over the total population in that dimension. The aggregation of individual data collected in the EU-SILC is carried out as follows:

$$IWP_{at_k} = \frac{\sum_{i=j_at_k} PB040_i}{\sum_{i_at_k} PB040_i} \times 100 \quad (1)$$

Where:

- k, represents the dimensions in which in-work poverty is measured.
- PB040, is the weighting variable (cross-sectional personal weight).
- j, is the population at risk of poverty

However, in-work poverty statistics do not show significant differences between men and women, indicating even, in many cases, a higher risk of in-work poverty among men. This discrepancy raises questions about the validity of the data and the methodology used, which may mask the vulnerability of certain groups. It is well recognized that women face significant disadvantages in the labour market (Carrasco, 1999; Bosch et al., 2007; Torns, 2011; and Torns and Recio, 2012 are some of the many works that analyse these gaps). Women are overrepresented in sectors such as care, domestic services, education, and health (UGT, 2018). Indices such as the Global Gender Gap (World Economic Forum, 2023) and the Gender Equality Index (EIGE, 2023) show persistent disparities in the labour market and STEM education (Dos Santos et al., 2022; Kahn and Ginther, 2017). The feminisation of poverty is also persistent in all international statistics, showing significant differences with male poverty rates (Ayala-Alfonso, 2015; Kaen and Lencina, 2017).

3. ANALYSIS OF GENDER BIAS IN QUALITY OF LIFE AND LABOUR MARKET STATISTICS: DESCRIPTIVE APPROACH

According to EU SILC data, in 2022, the in-work poverty rate in the European Union (EU 27 of 2020) was 8.5%, indicating that nearly 1 in 10 workers had incomes below the poverty threshold. In the period following the 2008-2013 crisis, the employment rate increased across the EU countries (considering the current 27 countries), but the in-work poverty rate also increased during the same period. This was a consequence of expansionist policies focused on increasing production and productivity at the expense of working conditions (Lohmann and Marx, 2018; Polizzi, Struffolino and Van Winkle, 2022).

Within the European Union, Spain is not only one of the countries with the highest unemployment rate but also one of those with the highest in-work poverty rate. In 2022, Spain ranked third among the countries with the highest risk, with nearly 12% of the active population living below the poverty threshold. Unfortunately, this position is consistent with previous years. Unraveling the reasons behind

1. EUROSTAT. Statistics explained.

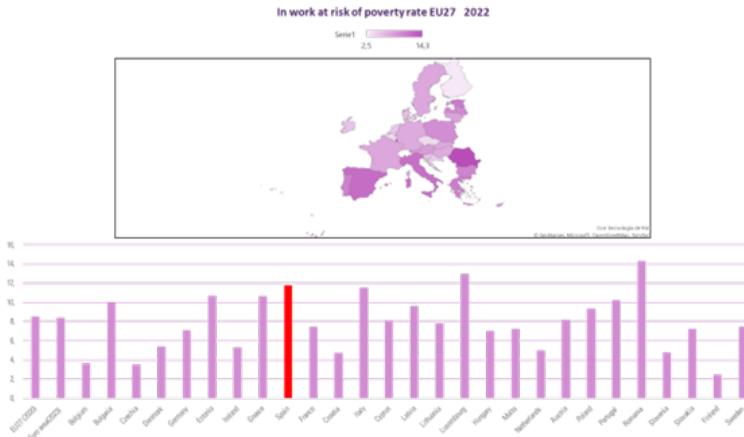
Figure 1. Evolution of the In-work Poverty Rate in the European Union



Source: Eurostat (EU-SILC 2022)

these figures is of great interest to identify possible risk factors and structural problems in the Spanish labour market.

Figure 2. In-work Poverty Rate in Spain within the Framework of the European Union.



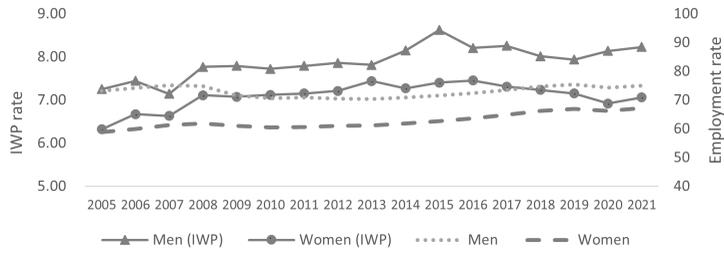
Source: Eurostat (EU-SILC 2022)

As illustrated in Graph 3, men’s employment rates are, on average, higher than women’s in the EU, and men also experience higher in-work poverty rates. This trend is evident in most EU countries (Figure 4), especially in Mediterranean and Eastern European nations such as Italy, Spain, Portugal, Greece, Malta, Romania, Croatia, Poland, and Hungary, where men are more frequently the primary earners. Conversely, in some countries, such as Slovenia, France, Germany, Luxembourg, and the Czech Republic, women’s poverty rates exceed those of men.

Despite these data, the feminisation of poverty is evident in both poorer and richer nations. In the European Union, the overall risk of poverty rate has consistently been higher for women than for men. This trend is observed in all countries in the sample, as illustrated in the following figures. However, at the same time, in most of these countries, in-work poverty rates are higher for men.

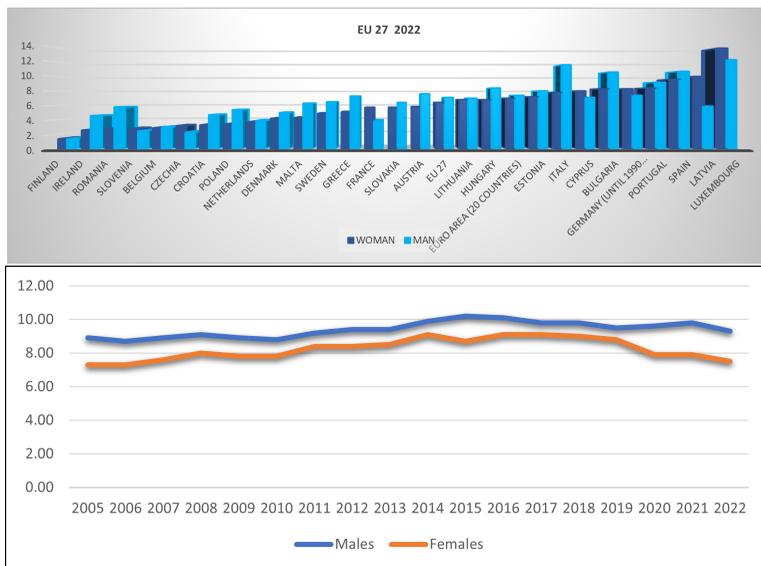
Although both EU-SILC indicators continue to have limitations, the results of gender bias show significant differences between them. This may be because, when women’s labour incomes are combined with those of their partners, the household often ceases to be considered poor in the statistics and is classified as "non-poor." However, this masks women’s economic dependence on their partners, as they often face less favourable working conditions, which has significant repercussions in case of separation and for their future. Therefore, working women face a "latent risk of poverty" that is

Figure 3. In-work Poverty Rate and Employment Rate by Gender in the European Union



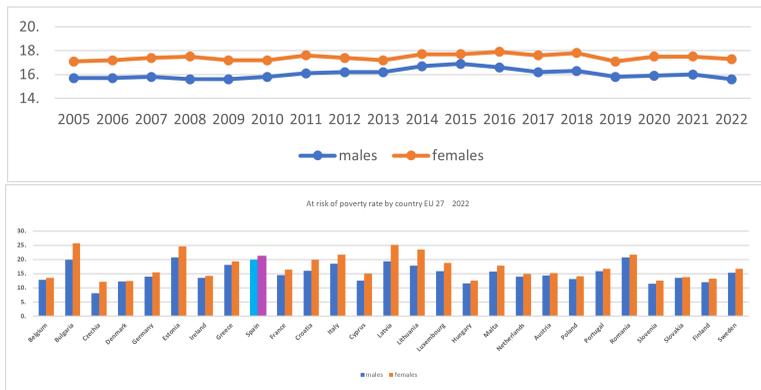
Source: Eurostat, LFS and EU-SILC 2022

Figure 4. In-work Poverty Rate by Gender in the European Union



Source: Eurostat (EU-SILC 2022)

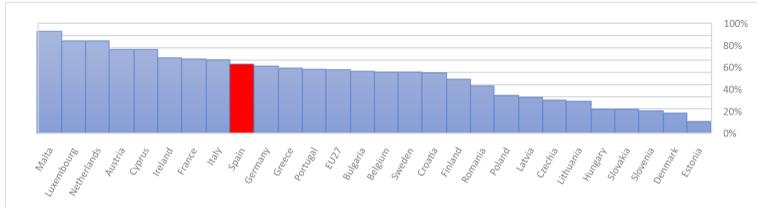
Figure 5. Overall Risk of Poverty Rate in the EU, 2022



Source: Eurostat. EU-SILC

not visible in surveys and has serious present and future consequences. In this regard, their lower contributions to social security result in reduced rights to public benefits. The pension gap, which is the percentage difference between the pensions of men and women over 65 years old, averaged 26% in 2022. Although this gap is decreasing, it remains significant and varies considerably among EU Member States. The greatest disparities are found in Malta, Luxembourg, and the Netherlands, while the smallest are observed in Estonia, Denmark, and Slovenia, as shown in the following graph.

Figure 6. Gender Pension Gap in the EU, 2022.



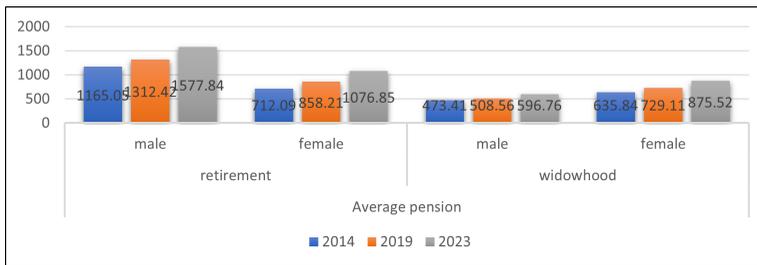
Source: Eurostat. EU-SILC

Tabla 1. Evolution of Retirement and Widowhood Pensions by Gender in Spain. Source: INE

YEAR	Number of Pensioners by Year			
	RETIREMENT		WIDOWHOOD	
	MALE	FEMALE	MALE	FEMALE
2014	3,508,615	1,907,959	62,834	1,621,360
2019	3,700,493	2,204,248	61,911	1,563,712
2023	3,798,440	2,546,850	62,973	1,460,090

Indeed, Spain is one of the countries where the gender gap among retired pensioners is the largest, and this has been persistent over the years, despite improvements resulting from some public policies implemented to reduce this gap. In the case of widowhood pensions, we see that they are obviously higher for women, as they depend on their partners’ contribution bases. However, the difference in the amount of pensions is reflected in the number of pensioners: more men receive retirement pensions, which are higher, while more women receive widowhood pensions, which are lower

Figure 7. Evolution of the Gender Pension Gap in Spain.

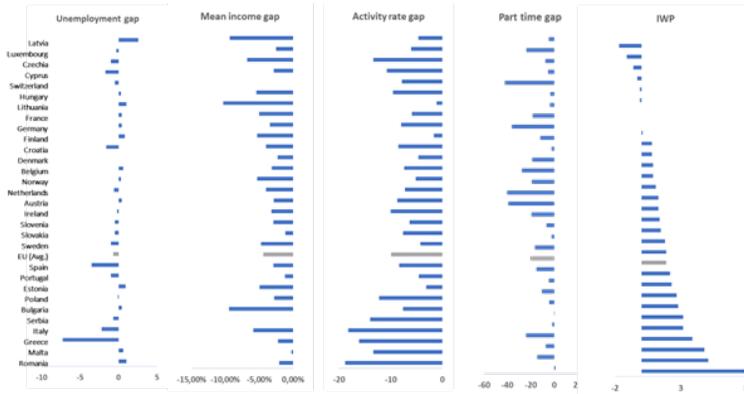


Source: STADISS (2024)

Moreover, the gender gap persists in numerous dimensions of the labour market (Petrongolo and Ronchi, 2020), ranging from career access to progression. This disparity manifests in lower average rates of income, employment, and activity, along with the glass ceiling, poorer working conditions, and fewer opportunities for women. The gender pay gap remains a fundamental labour market indicator. Although it has decreased by 3 percentage points in the last decade, in 2022 it still stood at 12.7% in the EU, highlighting the need to intensify efforts to reduce it and promote equitable working

environments. Some of this evidence is shown in the following figures. Despite the mentioned issues, in-work poverty rates are higher for men, which has driven more research into gender bias in worker poverty.

Figure 8. Gender Gaps in Labour Market Access, 2022.



Source: EU-SILC and LFS

One of the most revealing figures is the disparity between women and men in precarious, temporary, and part-time contracts. In particular, there is a significant difference in part-time employment rates between men and women. In the first graph, we define the part-time employment gap as the difference between the proportion of part-time employment in total employment for women and men aged 20 to 64. The following graph illustrates the percentage of men and women working part-time as a proportion of total employment for each gender. As observed, in all countries in the sample, the rates are substantially higher for women than for men, with the gap being particularly pronounced in countries such as the Netherlands, Germany, Austria, and Belgium. This represents another important area for future research.

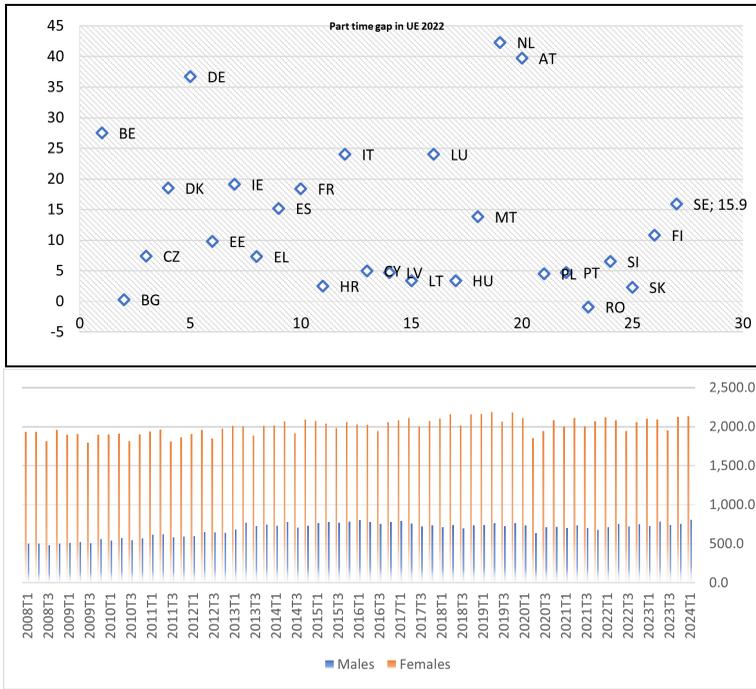
However, the reasons for working part-time differ by gender, as observed in the rate of involuntary part-time work. The Labour Force Survey (LFS) of Eurostat and most national labour statistics adhere to the guidelines of the 13th International Conference of Labour Statisticians (ICLS), which classify people as employed even if part-time work is involuntary. The 19th ICLS² refines the definition of employment by incorporating underemployment (involuntary part-time work), its impact on decent work and in-work poverty, thus reflecting precarious work and reduced income compared to full-time employment. Changes in contractual conditions are reflected in the rate of involuntary part-time employment, as the standard rate only records the creation or destruction of employment, not the dynamics of working conditions over time.

This indicator is peculiar because, although more women are employed part-time, 21.2% do so involuntarily, while 29% of men wish to work more hours. As can be seen in the attached graph, it is evident that men work part-time mainly due to the lack of full-time employment opportunities, while women do so primarily due to caregiving responsibilities.

Several hypotheses can be proposed to explain these disparities in the labour market, often attributed to the different commitments of women and men within the household, including daily tasks and the care of dependents, particularly children. This results in a lower quantitative dedication to work and a lesser relative emphasis on career advancement. The role of women in society and at home has a direct consequence on the reduction of working hours and professional dedication. Women choose jobs that allow for the reconciliation of work and family life, seeking flexible schedules and proximity

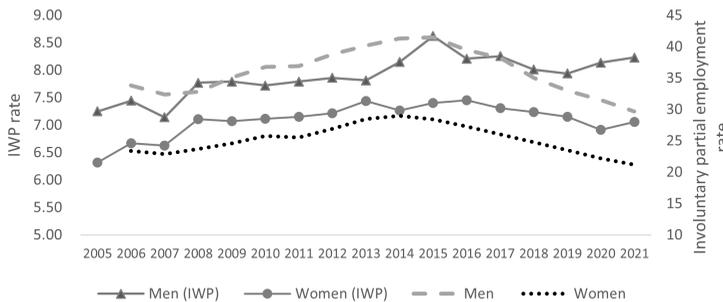
2. The ILO Resolution concerning statistics of work, employment, and labour underutilization expanded the scope by recognizing the need to collect data on various types of work, both paid and unpaid.

Figure 9. Gender Gap in Part-time Employment in Europe 2022 and Evolution in Spain.



Source: EU-SILC and INE

Figure 10. Rate of in-work poverty and rates of involuntary part-time employment by gender in the European Union.



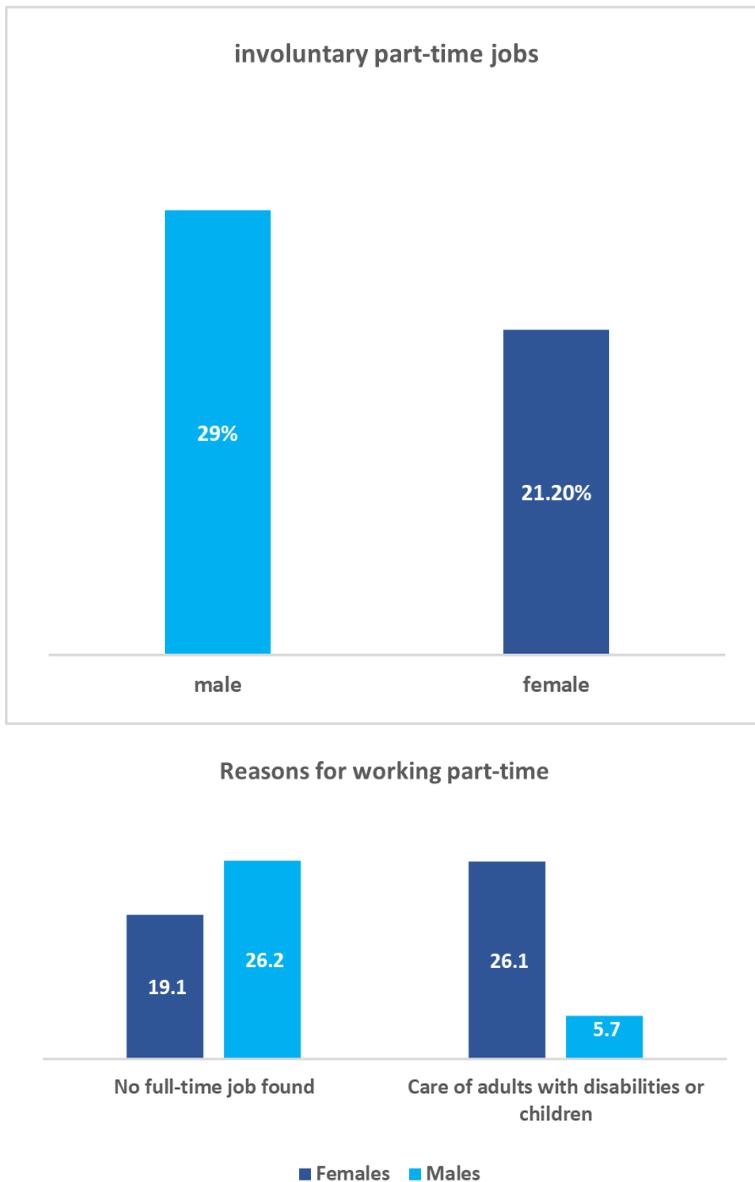
Source: Eurostat, EPA, and EU-SILC 2022.

to home, which often translates into poorer opportunities and working conditions (Lohmann 2009; Petrongolo and Ronchi 2020). Additionally, this reconciliation entails a double burden of caregiving and domestic tasks, which is invisible in labour market statistics.³ The EIGE survey on "Care-related reasons for not working or working less" provides data on the motivations behind men and women reducing their working hours or stopping work altogether. This survey is very illustrative because it allows us to understand the distribution of household and dependent care tasks and time. As shown in Figure 10, in all European countries, there is a higher proportion of women who reduced their working hours for care-related reasons compared to men.⁴ Additionally, 9,507,000 women took some

3. The 19th ICLS of the ILO emphasizes the need for proper measurement of unpaid work.

4. Considering the total number of men and women in the EU-27 (2020) for the year 2010.

Figure 11. Reasons for part-time work by gender, 2022.



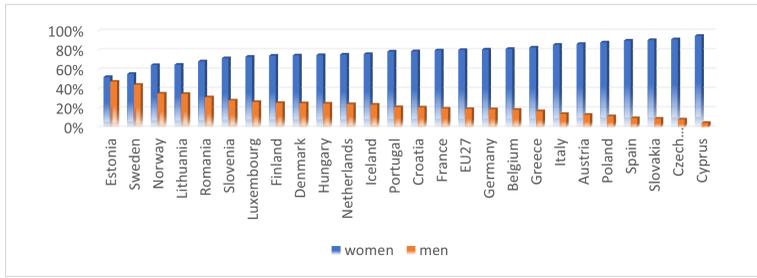
Source: Eurostat, EPA

form of leave for child care, compared to 502,000 men. According to the survey on 'the impact of caregiving responsibilities on work/professional life,' in 2022, 15.2% of women versus 12.7% of men could not dedicate enough time to their careers or studies, and 17.1% of women versus 12.2% of men had to reduce their working hours. This balance between work and family life entails a double burden of caregiving and domestic tasks for women, which is invisible in labour market statistics.⁵

Another quite interesting survey by EIGE is the Time Use Survey. However, the data has not

5. The 19th ICLS of the ILO emphasizes the need for proper measurement of unpaid work.

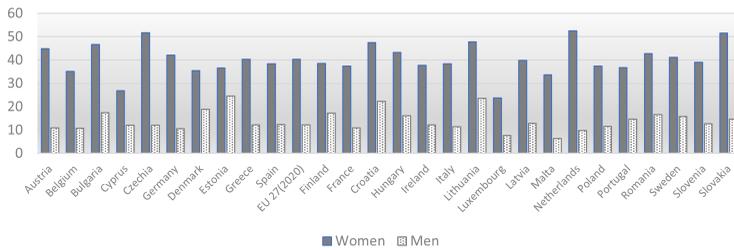
Figure 12. Reduction of working hours for the care of a child under eight years old (in thousands), 2022.



Source: EIGE

been updated since 2016, making it difficult to understand the current situation. According to the existing data, 78.5% of European women, in that year, engaged in daily household chores, compared to 33.7% of men. When asked about the hours dedicated to these tasks per week, 35.6% of women, in contrast to 18.3% of men, reported spending between 11 and 20 hours weekly, outnumbering men in all time categories. This unequal distribution persists across all educational levels (EIGE, 2023) and leads to less dedication to professional careers and, consequently, less economic contribution to the household. Figure 13 shows that the number of women whose partners contribute more economically is significantly higher than that of men. Additionally, 11.7% of men, compared to 3.9% of women, reported that their partners did not contribute financially at all. The data from this survey reveal the consistency in the predominant pattern of male provider and female caregiver.

Figure 13. Differences in household income contribution in relation to spouse/partner, 2016.

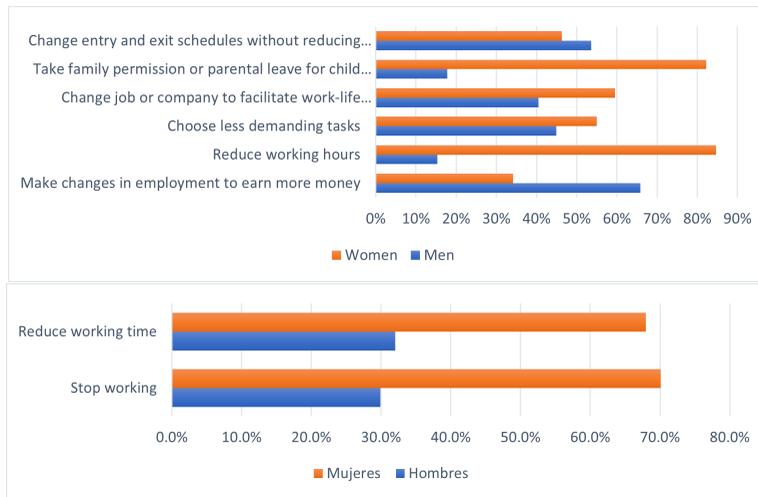


Source: EIGE.

In Spain, unfortunately, the results are quite discouraging, even worsening the average European figures. The National Institute of Statistics publishes the survey "Women and Men," which provides gender-based indicators to analyze various social and economic aspects. The latest data from 2018 show that men tend to change their schedules or jobs to earn more money when caring for children under 15 years old. Conversely, women often take leaves of absence, reduce their working hours, or change jobs to care for their children, thus sacrificing their careers. Additionally, women are more inclined to stop working or reduce their hours to care for dependent family members. When couples have children, men usually continue working, while women often stop working for this reason.

As we have observed, the extensive statistical and literary evidence of women's disadvantage in the labour market and living conditions contrasts with the results of in-work poverty. Patriarchal social roles and different approaches to parenting lead women to a situation of economic dependence on their partners, which is not reflected in this indicator, turning them into "latent and hidden working poor." These paradoxical results seem to arise from the methodology of assessing in-work poverty, specifically from the aggregation of data and pooling of incomes within households, which can also affect other

Figure 14. Most significant effects on the current employment of respondents in caring for children under 15 years old, by gender and cessation of employment due to reduced hours. INE (Women and Men Survey)



specific groups, hiding issues of youth autonomy in some European countries, such as Spain, and the dependence of the elderly. Pre-established roles and negotiation within the household lead women to give up professional careers, resulting in economic dependence, long working hours, fewer promotion opportunities, lower social contributions (therefore, fewer rights in retirement pension plans), less participation in leisure activities, and an imbalance between working hours and income (European Parliament 2021; García 2019).

4. RESULTS

4.1 EVALUATION OF THE METHODOLOGY OF THE IWP INDICATOR IN THE EU-SILC AND SUGGESTIONS FOR ITS OPTIMIZATION

In-work poverty is constructed in the EU-SILC considering two levels of aggregation: individual employment status and household poverty. Employment is defined as working for more than half of the reference year, and poverty is defined as household income below 60% of the median equivalent disposable income for the region. This two-level construction complicates analysis (Eurostat, 2010) and, together with the use of equivalence scales, may obscure the actual risk of in-work poverty for certain groups. The "gender paradox" reflects the inconsistency between women's labour market challenges and their living conditions (Casas & Ghailani, 2011; Ponthieux, 2018; Schwarz, 2021, 2023). This paradox is attributed to measurement methodologies that mask labour market inequalities (Ponthieux, 2018; Schwarz, 2023). Critiques of the in-work poverty methodology argue that pooling household income and using equivalence scales mask individual income disparities, preventing deeper analysis of individual work and poverty (Ponthieux, 2018). Furthermore, it often overestimates women's incomes, hiding their economic dependency on their partners (Meulders, Henau, & O'Dorchai, 2010). Alternative methodologies exist, aimed at addressing the issues arising from equivalence scales used in European statistics, such as those proposed by Meulders & O'Dorchai (2010), Peña-Casas & Ghailani (2011), or Knittler & Heuberger (2018). However, these alternatives also have disadvantages, which will be discussed later, and they fail to adequately assess the gender bias in in-work poverty statistics. Currently, other research focuses on measurement errors and the regulation of discrimination against women and gender-related issues, along with their undesirable effects (Sánchez-Bayón, 2023a-b & 2024a-b). Nevertheless, this research is original in that it focuses on the realm of in-work poverty and

gender biases, clarifies the existing shortcomings in its treatment, and proposes the development of an innovative indicator on the subject. The definition of poverty and employment presents significant complexity due to the subjectivity of its boundaries, leading to a lack of consensus in the literature (Crettaz, 2013). To identify those in this situation, it is crucial to define what is meant by "employed" (employed or active) and how poverty is assessed (at the individual or household level, with income or expenditure indicators, monetary or asset-based, net or gross, and the differentiating threshold). Moreover, if the household is the unit of analysis, decisions must be made regarding how income and expenditure are distributed. These decisions imply subjectivity and may result in an inadequate assessment of the problem, which affects a significant portion of the population and has important gender, social, and economic implications. Statistical offices conduct periodic surveys to determine "worker" status. While the OECD and most institutions adhere to the ILO guidelines based on the "19th ICLS" standards from 2013, surveys on working poverty use different definitions. For example, in the United States, being part of the labour force⁶ for a minimum of 27 weeks per year is required to be classified as employed. In the EU-SILC survey by Eurostat, "employed" refers to a person who has worked for more than half of the reference year, excluding many seasonal workers and underestimating the number of workers at risk of poverty. Regarding poverty status, it is necessary to highlight the existence of multiple definitions of absolute and relative poverty, subjective and objective indicators, variables on which it is defined (income or expenditure), and thresholds to delineate or classify those considered as "poor." Consequently, depending on all the factors mentioned above, the population considered at risk of poverty will vary significantly. Thus, while the U.S. Census Bureau annually determines the official federal poverty threshold based on household size and age, considering pre-tax income, Eurostat's guidelines set the threshold at 60% of the national median equivalised disposable income (after taxes and social transfers) of households. This latest definition of the threshold incorporates two crucial issues for measuring in-work poverty. First, disposable income and primary income⁷. Disposable income better reflects households' spending capacity and the impact of social policies. Ideally, an indicator that also considers in-kind transfers, such as subsidized education and healthcare, would be used, with Adjusted Disposable Income being a more appropriate measure. Authors such as Stiglitz, Sen, and Fitoussi (2009), the OECD (2011), Causa, De Serres, and Ruiz (2014), Miquel (2015 and 2017), Ribarski et al. (2016), Botev et al. (2022), as well as institutions like the OECD (2011, 2015, 2017, and 2020), or the European Commission in various reports, have considered this indicator to overcome many of the limitations of GDP and other national accounts indicators. It is regarded as the most suitable for measuring income capacity. In fact, it has been used as a reference or basis for constructing other multidimensional indicators, such as the Better Life Index (OECD). The equivalence scale for comparing households with different family compositions is also subjective. Eurostat uses the modified OECD scale, which weights the first adult in the household at 100%, the second adult and members over the age of 14 at 50%, and children under the age of 14 at 30%. This scale underestimates the needs of large families and poses challenges for international comparisons, as the cost of raising children varies between countries (Crettaz, 2013). In the literature, several articles criticize the pooling of income and the use of economies of scale to assess poverty. This critique is particularly prominent in feminist studies, which argue that ignoring inequality within households leads to a biased assessment of poverty, especially for women (Phips & Barton, 1998; Meulders & O'Dorchai, 2010, among others). These studies illustrate why the assumption that women receive a full share of household income is flawed and complicates the evaluation of female poverty.

5. DISCUSSION

Given that the primary issue lies in the measurement and the use of two different levels to evaluate in-work poverty, the only way to determine whether there is a gender bias in this phenomenon is to reorganize the microdata. This would prevent the distribution of income within households and

6. In this case, participation in the labour force is sufficient to be classified as a worker.

7. In the United States, it is calculated on the basis of pre-tax and pre-transfer income.

economies of scale from obscuring the situation, through a different aggregation of data. A priori, we can evaluate the different theoretical contributions that have attempted to address these problems. Some authors have opted for the "individualization of poverty risk and assessment of household members' economic dependency," initially proposed by Meulders and O'Dorchai (2010). In this approach, financial resources are individualized and summed to obtain a total net disposable income for each individual, regardless of their family configuration. Thus, all household economic resources, such as rental income, received transfers, interests, and dividends from joint investments, are distributed, and all joint payments, such as fees and contributions, are deducted equally. This method allows for estimating the resources each individual would have if the household were dissolved. The idea is to introduce the concept of "financial dependency" instead of the "individual poverty risk rate", enabling the evaluation of poverty and economic dependency for each individual, male or female.

Using this approach, Peña-Casas and Ghailani (2011) apply it to the evaluation of in-work poverty, observing that some individuals benefit from the protective effect of the household through the pooling of household income (potential precariousness). Through this indicator, it is demonstrated that in-work poverty is two to three times higher for women. Similarly, Ponthieux (2018) evaluates "earned income poverty," identifying those who would not escape poverty if they lived alone and relied solely on their own income, framing it as an "adult worker model" that moves away from the "breadwinner and homemaker model."

Figure 15. Framework for the individualization of in-work poverty risk. Own elaboration.



However, although this approach provides information on the latent risk of in-work poverty, it does not account for the existence of dependents. As a result, two individuals with the same income but different responsibilities (e.g., with or without children) would be assessed using the same poverty threshold. A second approach is the one used by Knittler and Heuberger (2018), who introduced the concept of individual poverty risk within the family context. This methodology, also applied by Schwartz (2023), evaluates poverty using individual incomes while maintaining the existence of economies of scale but excluding the pooling of household income. To this end, it considers the existing poverty threshold and divides it by the total of working adults to identify dependency relationships and economic risk situations. Under this approach, individual in-work poverty risk is shown to be significantly higher for women. However, with this method, the number of men who might surpass the poverty threshold with their own income but fall below it due to having dependents is greater than that of women. Additionally, the poverty line decreases considerably when more than one person is employed within the same household.

$$\text{Individual risk of working poverty in the family context} = \frac{\text{Poverty risk threshold} \times \text{sum of equivalent weights}}{\text{Number of working adults}} \quad (2)$$

Considering the advantages and disadvantages of the approaches explained, we propose the application of another aggregation methodology. The suggested perspective is to consider a mixed approach that takes individual incomes into account when there are no dependents, maintaining the individual in-work poverty risk threshold for each household worker, but utilizing equivalence scales when

dependents are present through an income individualization system. In the case of dependents, the individual risk threshold would be multiplied by the sum of equivalent weights and divided by the number of workers when there are dependents. Furthermore, it is considered that the modified OECD scale (weighting of 0.3 per child) is not consistent with the current situation of families and the actual needs of dependent minors. Thus, it is proposed that each dependent under 16 years old (or under 25 years old if not working) should have the same weighting as additional adults. This proposal offers certain advantages over previous systems. On the one hand, it enables the assessment of groups at risk of poverty while avoiding the problems of pooled income. On the other hand, it avoids the issue of reducing the poverty threshold when there are two workers in a household.

Additionally, another fundamental aspect is the consideration of monetary income as the sole source of wealth. Among regional differences, a notable factor is the establishment of the welfare state. Lohmann (2009) analyzed the impact of the welfare state through social transfers in reducing in-work poverty before transfers, concluding that significant differences exist between countries depending on the definition and structure of the welfare state. Therefore, it is considered highly relevant to include the provision of in-kind goods, that is, services provided to households for their individual benefit free of charge, without compensation or subsidy, equivalent to receiving income for the monetary value of the services consumed. In this sense, Adjusted Disposable Income, as mentioned earlier, encompasses the potential use of such public goods, allowing for a better understanding of the effect of allocative and redistributive measures by the public sector and the purchasing power of households. In this regard, J. Stiglitz et al. (2009)⁸ recommended taking in-kind merit goods into consideration when measuring inequality or poverty, as they unquestionably contribute to improving well-being, particularly for those who cannot afford these services on their own. The debate on distributive action in public policies, such as monetary transfers or in-kind provision, was initiated by authors like Tobin (1970), Friedman (1962), and Buchanan (1968). While Friedman advocated for monetary transfers, arguing that they increase individual utility by allowing people to spend according to their needs under the premise of economic rationality, Tobin and Buchanan supported the provision of in-kind goods and services. They considered aspects such as unequal competition among individuals, the need to ensure minimum consumption of preferred goods, and positive externalities. This approach aims to enhance equality of opportunity, reduce inequities, and decrease fraud in transfer demand. In practice, both mechanisms are used complementarily in the consolidation of the welfare state, reflecting their joint importance in social protection networks. Well-being indicators must consider this reality when quantifying the flows between a country's agents, as it is a significant factor in evaluating the poverty of citizens in a region.

6. CONCLUSIONS

The documentation of statistics on in-work poverty has revealed that employment no longer guarantees an adequate standard of living. Eradicating poverty and ensuring decent work are fundamental goals of the public sector and the Sustainable Development Goals (SDGs). The challenges faced by employed individuals to avoid poverty must be addressed differently from those faced by populations outside the labour force. This analysis allows for the identification of populations at risk and determining factors, facilitating a more precise targeting of efforts to eradicate poverty in the region. Additionally, gender equality, another SDG, is included in this analysis, highlighting the importance of addressing gender biases in the labour market and their impact on in-work poverty. It has been observed that women often reduce their working hours to manage domestic and family responsibilities. However, their loss of income seems to be compensated by economies of scale within households. This document presents data from EIGE and INE surveys on these issues, highlighting the role of women and intra-household decision-making processes. In the absence of expense distribution, as seen with single mothers, women's vulnerability becomes more pronounced. Protecting single mothers is crucial for balancing work and

8. This report was prepared by Stiglitz, Fitoussi, and Sen and commissioned by Nicholas Sarkozy in 2009, with the aim of identifying alternative indicators to GDP for measuring the well-being of nations.

family life, and it is also vital due to its connection with child poverty, which must be eradicated. These efforts are relevant for both women with low work intensity and those working full-time. In both scenarios, it is essential to have an income that allows mothers and their children to live decently during the upbringing period. It is necessary to emphasize the need to improve working conditions, especially in positions occupied by people with lower educational levels. Mitigating precarious employment and promoting decent work are crucial to alleviating in-work poverty. To achieve this, it is necessary to increase permanent full-time positions and promote sustainable and stable growth models. These models should prioritize value creation, training, and research and development over price-based productivity or low-cost competitiveness, thus reducing economic and social uncertainty. The incidence of in-work poverty is a multifaceted phenomenon, in which the specific idiosyncrasies of each country influence labour market outcomes for men and women differently. These findings on the "mixed" gender effect highlight the importance of thoroughly examining intra-family economies, the concept of shared income, women's economic dependence, and its relationship with in-work poverty. This study proposes an alternative methodology for assessing in-work poverty, which considers individual incomes and family responsibilities. The proposed perspective is a mixed approach that takes into account individual incomes when there are no dependents, maintaining the individual poverty risk threshold for each household worker, but using equivalence scales when there are dependents. Thus, in the case of dependents, the individual risk threshold would be multiplied by the sum of the equivalent weights and divided by the number of workers when there are dependents. Additionally, it is suggested that each dependent under 16 years old (or 25 years old if not working) should have the same weight as additional adults, to adapt it to the needs of these dependents in the current context. Furthermore, it is considered essential to include the provision of in-kind goods in the measurement of poverty, which would allow for a better understanding of the effect of public sector allocative and redistributive measures and the purchasing power of households. The Adjusted Disposable Income, which includes in-kind transfers, is a more suitable indicator for this purpose, as noted by authors such as Stiglitz, Sen, and Fitoussi (2009, 2018) and various institutions such as the OECD and the European Commission. This proposal presents advantages over previous systems, allowing for the assessment of the situation of groups at risk of poverty and avoiding the problems of shared incomes and the reduction of the poverty threshold when there are two people working in a household, thus avoiding the concealment of biases in determining in-work poverty. Finally, it is necessary to point out that data aggregation is an important limitation in this study, so in subsequent research, it is proposed to apply the included proposals using microdata from the EU-SILC survey itself.

Author Contributions

Ana Belén Miquel Burgos: [conceptualization](#), [research](#), [formal analysis](#), [writing](#), [methodology](#), [supervision](#), [validation](#), [review](#) edition

Lineth Estrada Fonseca, [conceptualization](#), [formal analysis](#), [redaction](#), [draft writing](#),

Funding

Self-financing

Conflict of interest

Authors declare that they have no conflict of interest

References

- Andreß, H.-J., & Lohmann, H. (2009) *Los trabajadores pobres en Europa: empleo, pobreza y globalización*.
- Ayala Alfonso, D. (2015) *Feminización de la pobreza: Incorporación de la perspectiva de género para entender la multidimensionalidad de la pobreza*. *Población y Desarrollo*, 41, 17-28.
- Bardone, L., & Guio, A.-C. (2005) *Estadísticas en foco: población y condiciones sociales. Pobreza de los ocupados. 2005.5. Comisión Europea - Documento de Trabajo*. <https://aei.pitt.edu/85542/>
- Barrera, M. I. (2017) *La problemática de los working poor en los Estados Unidos*. En *Trabajadores pobres y pobreza en el trabajo: Concepto y evolución de la pobreza en la ocupación: el impacto de las últimas reformas legales* (pp. 69-90). <https://dialnet.unirioja.es/servlet/articulo?codigo=6057816>
- Bosch, G., Rubery, J., & Lehndorff, S. (2007) *Los Modelos de Empleo Europeos, Agitados Por Vientos de Cambio*. *Revista Internacional Del Trabajo*, 126, 285-314. <https://doi.org/10.1111/j.1564-9148.2007.00015.x>
- Botev, J., Égert, B., & Turner, D. (2022) *The Effect of Structural Reforms: Do They Differ between GDP and Adjusted Household Disposable Income?* *International Journal of Economics and Finance*, 14(12), Article 12. <https://doi.org/10.5539/ijef.v14n12p55>
- Branyiczki, R. (2015) *In-work poverty among immigrants in the EU*. *Szociologiai Szemle*, 25(4).
- Buchanan, J. M. (1968) *Social insurance in a growing economy: A proposal for radical reform*. *National Tax Journal*, 21(4), 386-395. <https://doi.org/10.1086/NTJ41791620>
- Casas, R. P., & Ghailani, D. (2011) *Hacia la individualización de género en los riesgos de pobreza de los ocupados*. En *Working Poverty in Europe: A Comparative Approach*, editado por N. Fraser & R. Gutiérrez Palacios. Palgrave Mcmillan. <https://dialnet.unirioja.es/servlet/libro?codigo=514202>
- Carrasco, C. (1999) *Introducción: Hacia una economía feminista. Mujeres y economía: nuevas perspectivas para viejos y nuevos problemas, 1999*, ISBN 84-7426-451-0, págs. 11-89. <https://dialnet.unirioja.es/servlet/articulo?codigo=7748399>
- Causa, O., A. de Serres and N. Ruiz (2015) *Can Pro-growth Policies Lift all Boats?: An Analysis Based on Household Disposable Income*. *OECD Economics Department Working Papers*, No. 1180, OECD Publishing, Paris. <https://doi.org/10.1787/5jxrh8dh5wg7-en>.
- Collado, D., Cantillon, B., Van den Bosch, K., Goedemé, T., & Vandelanoot, D. (2019) *El fin de la charla barata sobre la reducción de la pobreza: el costo de cerrar la brecha de la pobreza mientras se mantienen los incentivos laborales*. En *Ingresos decentes para todos: mejora de las políticas en Europa* (pp. 223-244). <https://doi.org/10.1093/oso/9780190849696.003.0011>
- Crettaz, E. (2011) *Lucha contra la pobreza laboral en las economías postindustriales: causas, compensaciones y soluciones políticas*. *Lucha contra la pobreza de los trabajadores en las economías posindustriales: causas, compensaciones y soluciones políticas*.
- Crettaz, E. (2013) *Una revisión del estado del arte de la pobreza laboral en las economías avanzadas: modelos teóricos, problemas de medición y grupos de riesgo*. *Revista de Política Social Europea*, 23(4), 347-362. <https://doi.org/10.1177/0958928713507470>
- Crettaz, E. (2018) *Pobreza laboral entre los migrantes*. En *Manual sobre la pobreza de los ocupados* (pp. 89-106). Editorial Edward Elgar. <https://www.elgaronline.com/display/edcoll/9781784715625/9781784715625.00011.xml>

- Davila Dos Santos, E., Albahari, A., Díaz, S., & De Freitas, E. C. (2022) 'Science and Technology as Feminine': Raising awareness about and reducing the gender gap in STEM careers. *Journal of Gender Studies*, 31(4), 505-518. <https://doi.org/10.1080/09589236.2021.1922272>
- EIGE. (2023) *Encuesta de panel en línea sobre las brechas de género en las actividades sociales, individuales y de cuidados no remuneradas - Informe técnico*. Instituto Europeo de la Igualdad de Género. <https://eige.europa.eu/publications-resources/publications/online-panel-survey-gender-gaps-unpaid-care-individual-and-social-activities-technical-report?languagecontententity=en>
- EIGE. (2023) *Índice de Igualdad de Género 2023: Hacia una transición ecológica en el transporte y la energía*. <https://eige.europa.eu/publications-resources/publications/gender-equality-index-2023-towards-green-transition-transport-and-energy?languagecontententity=en>
- EIGE. (2023) *Encuesta de panel en línea sobre la igualdad de género y las consecuencias socioeconómicas de la pandemia de COVID-19: Informe técnico*. <https://eige.europa.eu/publications-resources/publications/online-panel-survey-gender-equality-and-socioeconomic-consequences-covid-19-pandemic-technical-report?languagecontententity=en>
- Friedman, M. (1962) *Capitalismo y libertad*. Editorial 30.
- Eurostat. (2010) *Pobreza de los ocupados en la UE*. LU: Oficina de Publicaciones. <https://data.europa.eu/doi/10.2785/54568>
- García, C. (2019) *El trabajo de cuidados y doméstico en la senda del desarrollo sostenible*. En *Agenda 2030: Claves para la transformación sostenible* (pp. 61-82). Los Libros de la Catarata. <https://dialnet.unirioja.es/servlet/articulo?codigo=6982960>
- Horemans, J., Marx, I., & Nolan, B. (2016) *Aguantando, pero solo solo: empleo a tiempo parcial y pobreza laboral a lo largo de la crisis*. *IZA Revista de Estudios Laborales Europeos*, 5(1), 5. <https://doi.org/10.1186/s40174-016-0053-6>
- Kaen, C., & Lencina, I. (2017) *Feminización de la pobreza: Intervenciones posibles*. *Margen: revista de trabajo social y ciencias sociales*, 87, 4.
- Kahn, S., & Ginther, D. K. (2017) *Mujeres y tallo*. Documento académico de la SSRN. Rochester, Nueva York. <https://papers.ssrn.com/abstract=2988746>
- Kalugina, E. (2013) *Los trabajadores pobres*. En *Increasing Income Equality: Economic Analyses* (pp. 76-103). Londres: Palgrave Macmillan, Reino Unido. https://doi.org/10.1057/9781137283306_4
- Knittler, K., & Heuberger, R. (2018) *Armut und Erwerbsarbeit—ein neuer Indikator*. *Statistische Nachrichten* 3, p. 2018.
- Lohmann, H. (2009) *Estados de bienestar, instituciones del mercado laboral y los trabajadores pobres: un análisis comparativo de 20 países europeos*. *Revista Europea de Sociología*, 25(4), 489-504. <https://doi.org/10.1093/esr/jcn064>
- Lohmann, H. (2018) *El concepto y la medición de la pobreza de los ocupados*. En *Manual sobre la pobreza de los ocupados* (pp. 7-25). Editorial Edward Elgar. <https://www.elgaronline.com/display/edcoll/9781784715625/9781784715625.00009.xml>
- Lohmann, H., & Crettaz, E. (2018) *Explicación de las diferencias entre países en la pobreza de los ocupados*. En *Manual sobre la pobreza de los ocupados* (pp. 50-69). Editorial Edward Elgar. <https://www.elgaronline.com/display/edcoll/9781784715625/9781784715625.00009.xml>

- Lohmann, H., & Marx, I. (2018) *Introducción*. En *Manual sobre la pobreza de los ocupados* (pp. 1–4). Editorial Edward Elgar. <https://www.elgaronline.com/edcollchap/edcoll/9781784715625/9781784715625.00005.xml>
- Martínez Girón, J., & Arufe Varela, A. (2013) *Crisis económica y modificaciones sustanciales de las condiciones de trabajo en el Derecho español del trabajo, individual y colectivo*. Paper presented at the international conference at the University of Lisbon, Lisbon, Portugal.
- McBride, J., & Smith, A. (2021) *Siento que estoy en la pobreza. No hago mucho fuera del trabajo, aparte de sobrevivir: Pobreza laboral y empleo múltiple en el Reino Unido*. *Democracia Económica e Industrial*, 43(3). <https://doi.org/10.1177/0143831x2111016054>
- Meulders, D., de Henau, J., & O’Dorchai, S. (2010) *Maybe Baby: Comparing Partnered Women’s Employment and Child Policies in the EU-15*. *Economía Feminista*, 16(1), 43–77.
- Miquel Burgos, A. B. (2015) *El impacto del crecimiento sobre el bienestar económico sostenible de las naciones*. En *El impacto del crecimiento sobre el bienestar económico sostenible de las naciones*. <https://producciocientifica.uv.es/documentos/5f63fc8e29995274fc8e8e6d>
- Miquel, A.B (2017) *Crece o no crece ¿Es la única cuestión? El bienestar económico en el siglo XXI*. Madrid. Editorial Pirámide Anaya.
- Nieuwenhuis, R., & Maldonado, L. (2018) *El triple vínculo de las familias monoparentales: recursos, empleo y políticas para mejorar el bienestar*. <https://doi.org/10.2307/j.ctt2204rvq.7>
- OECD (2011) *How’s Life?: Measuring Well-being*. OECD Publishing, Paris. <https://doi.org/10.1787/9789264121164-en>.
- OECD (2015) *How’s Life? 2015: Measuring Well-being*. OECD Publishing, Paris. https://doi.org/10.1787/how_life-2015-en.
- OCDE (2018) *For Good Measure. Advancing Research on Well-Being Metrics Beyond GDP*.
- OCDE (2020) *Designing and implementing gender budgeting – a path to action*. <https://doi.org/10.1787/689198fa-en>
- Parlamento Europeo (2021) *Igualdad de género: valor económico de los cuidados desde la perspectiva de los fondos de la UE aplicables*.
- Petrongolo, B., & Ronchi, M. (2020) *Brechas de género y la estructura de los mercados laborales locales*. *Labour Economics*, 64, 101819. <https://doi.org/10.1016/j.labeco.2020.101819>
- Phipps, S. A., & Burton, P. S. (1995) *Sharing within Families: Implications for the Measurement of Poverty among Individuals in Canada*. *Canadian Journal of Economics*, 28(1), 177–204.
- Polizzi, A., Struffolino, E., & Van Winkle, Z. (2022) *Procesos demográficos familiares y pobreza de ocupados: una revisión sistemática*. *Avances en la Investigación del Curso de la Vida*, 52, 100462. <https://doi.org/10.1016/j.alcr.2022.100462>
- Ponthieux, S. (2018) *Género y pobreza de ocupados*. En *Manual sobre la pobreza de los ocupados* (pp. 70–88). Editorial Edward Elgar. <https://www.elgaronline.com/display/edcoll/9781784715625/9781784715625.00010.xml>
- Ribarsky, J., Kang, C., & Bolton, E. (2016) *The drivers of differences between growth in GDP and household adjusted disposable income in OECD countries*. *OECD Statistics Working Papers*, No. 2016/06, OECD Publishing, Paris. <https://doi.org/10.1787/5jlz6qj247r8-en>.