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Assessing Gender Gaps in Malta

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ABSTRACT: The Maltese authorities have made significant progress towards gender equality over the last two decades. Supportive government policies and a steady inflow of foreign labor have played a key role in increasing women's participation in the labor market. In addition, the attainment of higher education levels and skills have significantly improved. Meanwhile, women's representation in senior public and private sector positions still lags behind that of men. An empirical study using microdata from the labor force surveys indicates that while the overall gender income gap has decreased over the last decade, gender income gaps remain pervasive in Malta.

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SELECTED ISSUES PAPERS

Assessing Gender Gaps in Malta

Malta

Prepared by Thomas Gade, Agnese Carella, Diego Gomes and Jiajia Gu

ASSESSING GENDER GAPS IN MALTA¹

The authorities of Malta have made significant progress towards gender equality over the last two decades. Supportive government policies and a steady inflow of foreign labor have played a key role in increasing women's participation in the labor market. In addition, the attainment of higher education levels and skills have significantly improved.² However, women's representation in senior public and private sector positions still lags behind that of men. An empirical study using microdata from the labor force surveys indicates that while the overall gender income gap has decreased over the last decade, gender income gaps remain pervasive in Malta, after controlling for other characteristics impacting incomes.

A. Malta's Progress Towards Greater Gender Equality—Participation, Education, and Representation

Labor Force Participation

- 1. Female labor force participation in Malta has significantly increased over the past two decades, driven by targeted government policies, inflows of foreign labor, and societal shifts towards gender equality.** The participation rate of women has risen from 36 percent in the early 2000s—a European laggard—to 73 percent today, above the EU27 average (see Figure 1). This increase is particularly notable for women in the 25-49 age bracket, rising from 38 percent in 2004 to 86 percent in 2023. While participation among women in the 50-64 age bracket has significantly increased, the rate remains low at 54 percent. Although a higher share of women work part-time compared to men, the increased participation largely reflects an increase in full-time employment. Importantly, the overall improvement also reflects the steady inflow of foreign labor over the last decade, where foreign women by 2023 represented approximately one-third of employed women.
- 2. Targeted government policies have played a key role in strengthening women's participation in the labor market.** In 2014, the authorities started implementing a set of policies aimed at increasing female participation (see Box 1). These policies include free childcare, tax incentives to alleviate the costs of having children and reentering the labor market, as well as employment schemes for inactive persons. The policy measures successfully targeted women who were willing to work but not actively seeking work, as they often attribute this to family and care reasons, more so than for men (see Figure 1). Micallef (2018) estimates that the reforms account for

¹ Prepared by Thomas Gade (EUR), Agnese Carella (EUR), Diego Gomes (SPR), and Jiajia Gu (SPR). The authors thank participants of a workshop held at the Central Bank of Malta for useful discussions and comments.

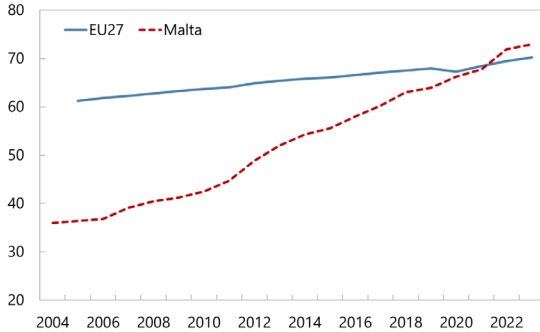
² Malta's achievements in this area align with the IMF's emphasis on the macro-criticality of gender equality. The 2022 [IMF Strategy Toward Mainstreaming Gender](#) and the 2024 [Interim Guidance Note on Mainstreaming Gender at the IMF](#) collectively mark significant advancements in integrating gender considerations into the Fund's economic analysis, policy advice, and operational methodologies. The frameworks underscore the many benefits of gender equality, including bolstering economic resilience and fostering inclusive growth.

half of the increase in the female participation rate between 2008 and 2015, contributing to an estimated increase in potential GDP growth by around 0.3 percentage points during this period.

Figure 1. Labor Force and Employment Indicators

Female Participation Rate, 15-64 Years

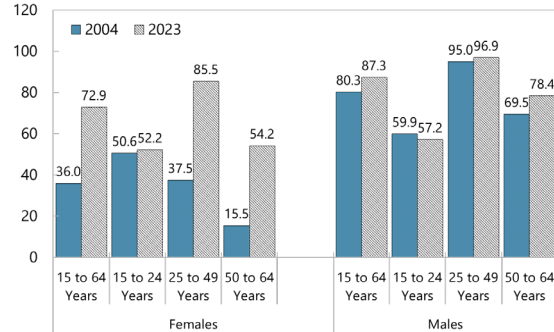
(Percent)



Sources: Eurostat, IMF staff calculations.

Labor Force Participation Rates

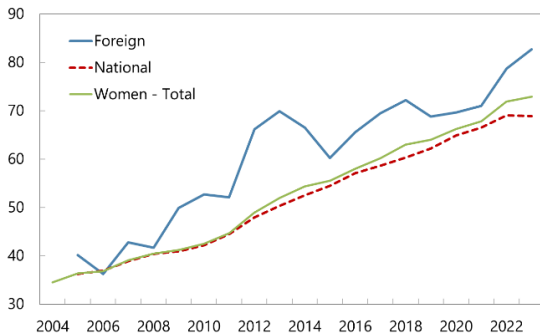
(Percent)



Sources: Eurostat, IMF staff calculations.

Female Participation Rate in Malta by Citizenship

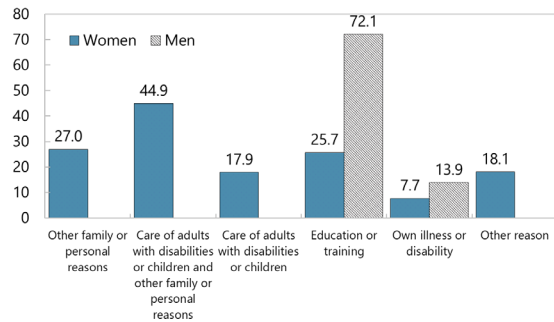
(Percent)



Sources: Eurostat, IMF staff calculations.

Reasons for Not Seeking Work While Inactive, 2019

(Percent)



Sources: Eurostat, IMF staff calculations.

Note: Data limitations post 2019. Multiple responses are possible.

Box 1. Measures to Strengthen Women’s Labor Market Participation over the Last Decade

The 2014 National Employment Policy introduced active labor market strategies, with a particular focus on attracting women to the labor market. One of the key measures was the provision of free childcare services, enabling many women having given birth to re-enter the workforce. The authorities also introduced new tax credits and deductions targeted at women and parents. These include (i) a tax credit for women returning to work after having children (which helps offset children-related costs) and (ii) tax deductions for childcare expenses, school fees, and medical expenses, along with the long-standing child allowance.

The authorities have also adopted further measures to improve work-life balance. Additional work-life balance entitlements were introduced in 2022. These measures seek to further enhance the quality of life for families, including an extended period of paternity leave, parental leave, carers' leave, and the right to request flexible working arrangements for caregiving purposes. Paid maternity leave was increased from 14 weeks to 18 weeks, and additional unpaid parental leave increased from three months to four months.

Other financial support measures aimed at self-employed women, and low-income families. The In-Work Benefit Scheme was introduced in 2015. This is a means-tested benefit scheme to support low-income working families and single parents, and encourage employment. In 2019, the maternity benefit rate of self-employed women was raised to the national minimum wage.

Sources: Malta authorities, Caruana (2023) and Micallef (2018).

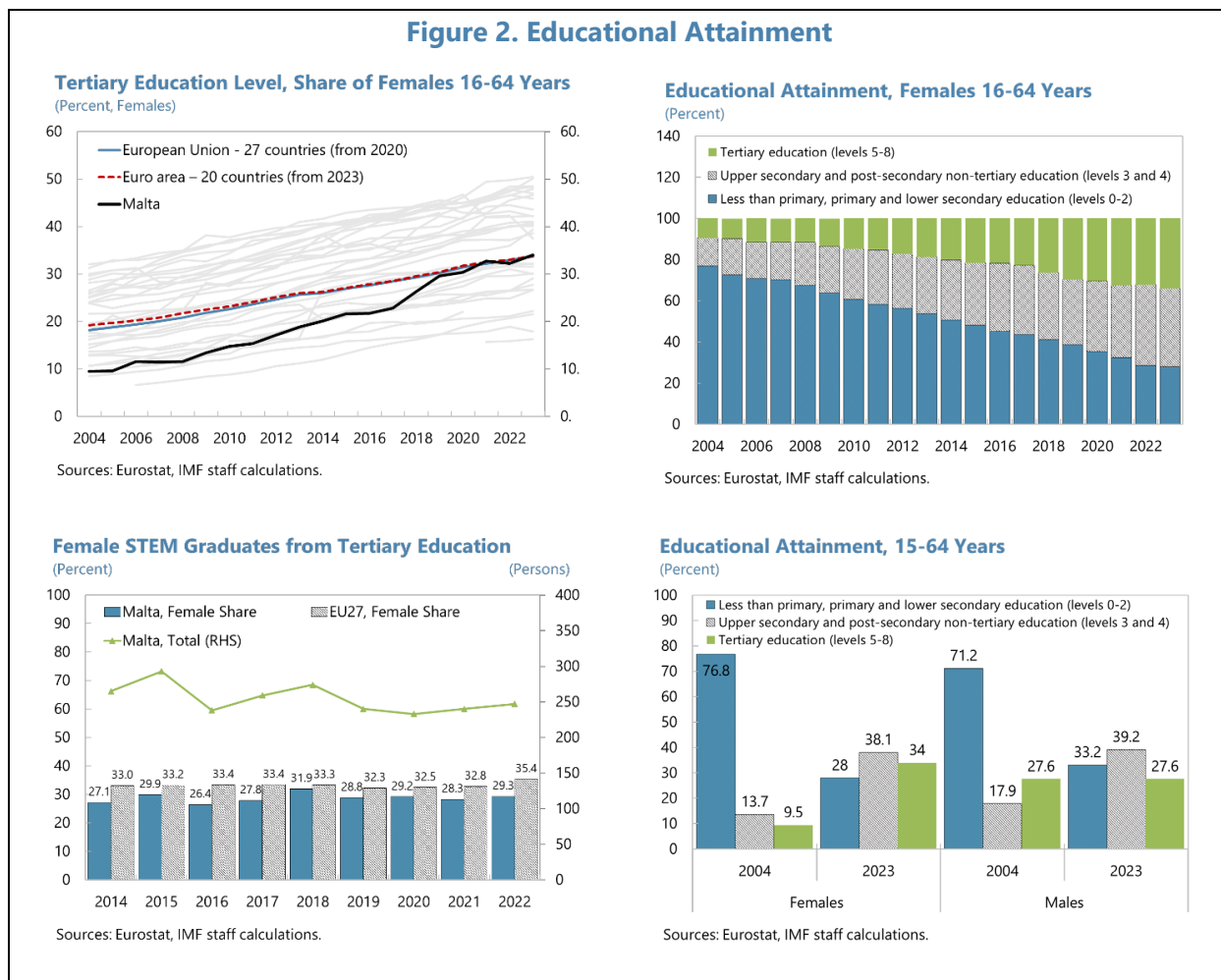
Educational Attainment

3. Female educational attainment in Malta has significantly improved over recent years, with women now surpassing men in higher education enrollment and graduation rates.

Women in Malta excel in various academic fields, particularly in social sciences, humanities, and education, but remain underrepresented in STEM disciplines (see Figure 2). The share of women with tertiary education has risen to 34 percent, up from 10 percent two decades ago, and is higher than the 27.6 percent share of men with tertiary education. This “reverse” gender gap continues to grow, as the share of women graduating with a tertiary education significantly outpaces that of men. Despite these educational achievements, women face challenges translating their qualifications into equivalent career opportunities and advancement.

4. The government and educational institutions are implementing initiatives to encourage women to pursue diverse fields of study and ensure their skills are recognized in the labor market. The national education system in Malta has implemented measures to encourage women to pursue diverse fields of study. These measures include: (i) initiatives to boost female participation in STEM through scholarships, mentorships, and partnerships with industry leaders; (ii)

inclusive education policies to eliminate gender biases and support the aspirations of female students; (iii) gender equality programs designed to challenge stereotypes and promote gender balance in various academic disciplines and careers, including awareness campaigns that encourage girls and young women to explore non-traditional fields; and (iv) support for work-life balance and career advancement for women by enhancing access to professional development opportunities and flexible working arrangements.

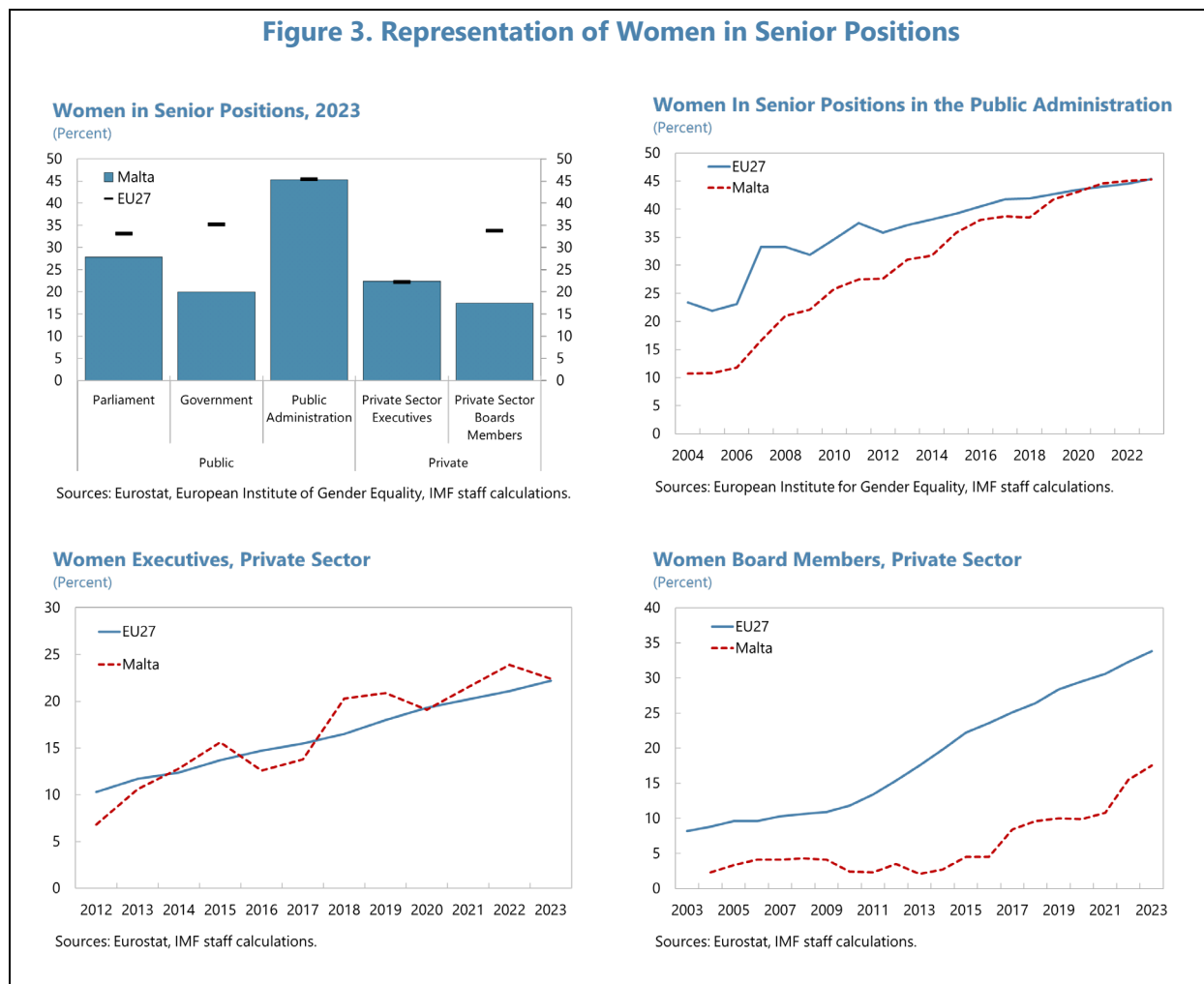


Representation, Legal Framework and Financial Access

5. The representation of women in senior positions remains a significant challenge despite progress in gender-equality initiatives. While women are well represented in senior roles in public administration, they are underrepresented in leadership roles across various sectors, including in government and businesses (see Figure 3). Continued efforts are needed to bridge the gap between educational attainment and equitable professional outcomes for women in Malta. Malta introduced a gender-equalizing mechanism in the national parliament in its most recent election. Policies promoting gender diversity in parliament, on boards, via mentoring programs, and

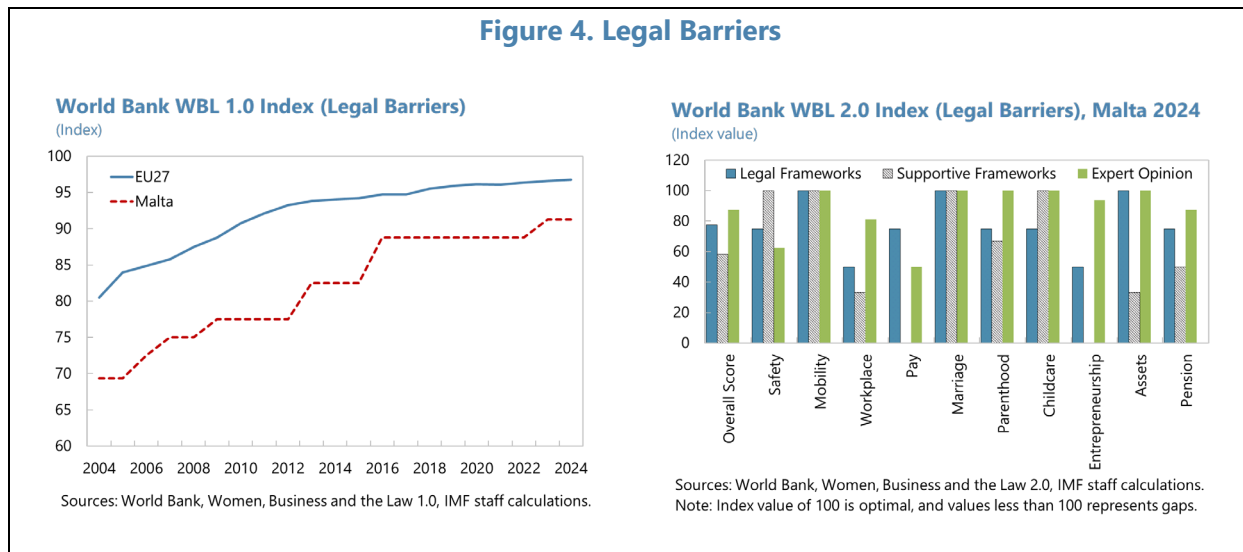
through leadership-training initiatives are steps forward, but achieving gender parity at the senior level requires sustained efforts and broader societal support.

Figure 3. Representation of Women in Senior Positions



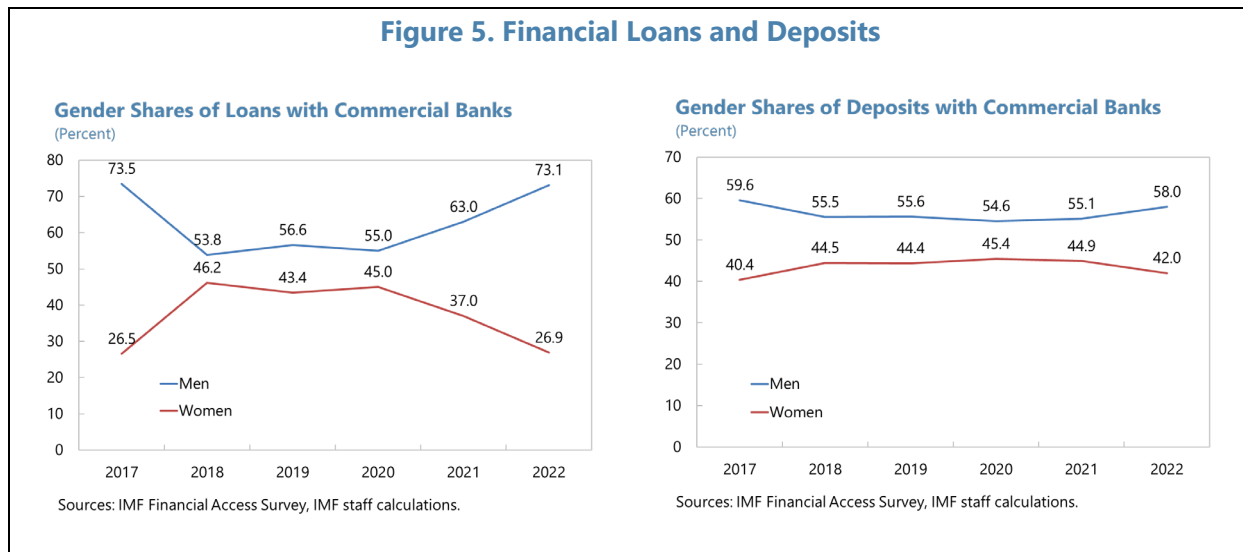
6. Malta's legal framework for preventing gender-based discrimination has been strengthened. Over the years, Malta has adopted legislation that prevents gender-based discrimination and several EU directives, including the Equal Treatment Directive, the Gender Equality Directive, as well as the Women on Boards Directive. In the World Bank Women, Business and the Law (WBL) Index, Malta's legal frameworks score was 77.5, still below the EU average, but indicating strong *de jure* provisions for women's rights (see Figure 4). Supportive frameworks for implementing these laws, with a score of 58.3, also reflects effective *de jure* policies in areas such as Safety, Mobility, Marriage, and Childcare. Yet, greater implementation of support in areas related to equity in the Workplace, Pay, Parenthood, Entrepreneurship, and Pensions are needed. Expert opinions, scoring 87.5, affirm strong *de facto* perceptions of gender equality in several domains, but highlight the room for improvements in workplace pay equity. Overall, while Malta demonstrates considerable progress, targeted efforts in specific areas could further strengthen gender equality and economic empowerment both *de jure* and *de facto*.

Figure 4. Legal Barriers



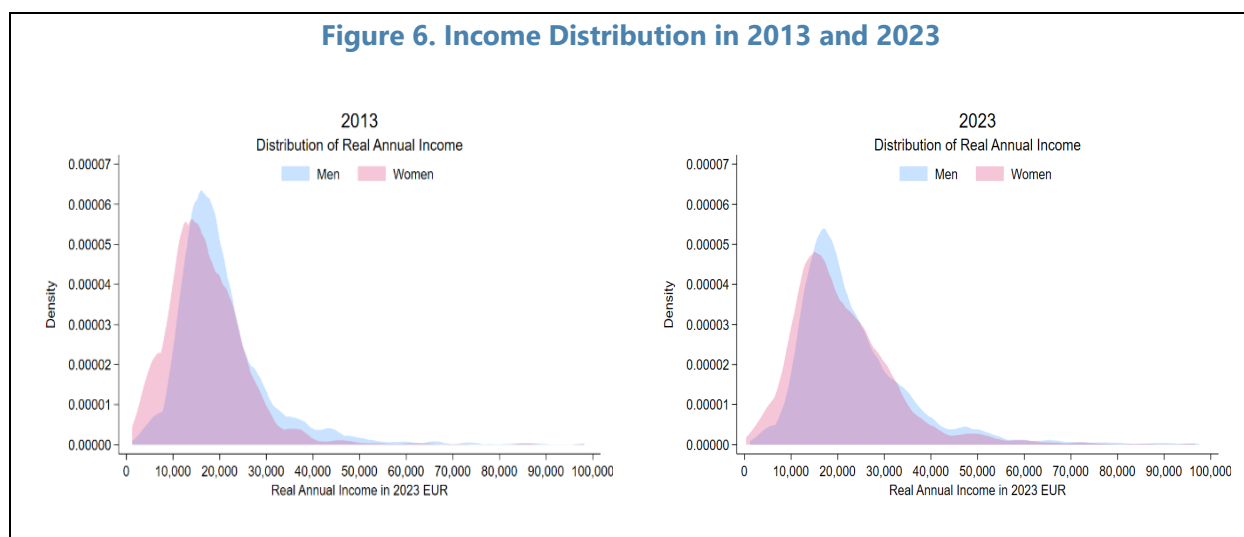
7. In addition, some gaps remain related to financial access. While many women have gained increased access to financial services and resources, including banking and credit facilities, disparities still exist. The female share of outstanding household loans with commercial banks (26.9 percent) was significantly lower than men (73.1 percent) in 2022 (see Figure 5). While the difference is less, the 42 percent female share of household deposits is also lower than the 58 percent for men. Loans in Malta are generally provided on a risk-based approach, and while there is no clear evidence, the gender difference may in part be attributed to the general gaps in the labor market where women are less likely to work, have lower incomes, and own fewer assets, therefore having a lower collateral base (see Figure 5).

Figure 5. Financial Loans and Deposits



B. An Empirical Study of Gender Income Gaps

8. Income gaps in Malta have narrowed significantly, yet still persist. Using approximately 20,000 anonymized micro data observations from Labor Force Surveys in 2013 and 2023, made available by Malta’s National Statistical Office (NSO), we can analyze income gaps across age, occupation, economic activity, education, gender, and immigrant status. Overall, real yearly incomes—adjusted for inflation—increased for both men and women between 2013 and 2023 (see Figure 6). The median gender income gap was about 14 percent in 2014, narrowing to about 4 percent in 2023. Although the gender income gap in Malta is on aggregate in line with the EU27 average, women in Malta typically earn less than their male counterparts, even when holding similar qualifications and job roles. This disparity might be attributed to various factors, including occupational segregation, where women are overrepresented in lower-paying sectors, or prevalent gender norms that influence career choices and progression.



9. Our regression exercises are designed to quantify the percentage differences in real yearly salaries between men and women.³ Regressions are estimated separately for 2013 and 2023; sample weights and primary sample units (PSU) provided with the data were used in the estimation to ensure representative and unbiased results.⁴ To estimate the gender gap in mean

³ Our analysis uses yearly salary as the dependent variable rather than hourly wages, as annual working hours are not available in the dataset. While we control the regressions for part-time versus full-time status, we acknowledge this binary indicator may not fully capture differences in working hours between men and women.

⁴ Standard errors for the estimates are calculated using the Huber/White/sandwich estimator, which does not require the errors to follow a normal distribution or to be identically distributed across observations, ensuring robustness to heteroskedasticity.

income, we use Ordinary Least Squares (OLS) regressions with the log of real yearly salary as the dependent variable.⁵ The model is specified as follows:

$$\ln(\text{Income}_i) = \alpha + \beta \text{Female}_i + \gamma X_i + \varepsilon_i, \quad (1)$$

where $\ln(\text{Income}_i)$ is the natural logarithm of the real yearly salary of individual i , Female_i is a binary variable indicating the gender of the individual (one if female, zero if male), X_i represents a vector of control variables, and ε_i is the error term.⁶ The coefficient β captures, approximately, the percentage difference in mean income between men and women. We further employ a quantile regression approach to estimate the gender gap in selected percentiles of annual income, including the median.⁷ The model for the q th quantile is specified as follows:

$$Q_q(\ln(\text{Income}_i)) = \alpha_q + \beta_q \text{Female}_i + \gamma_q X_i + \varepsilon_i, \quad (2)$$

where $Q_q(\ln(\text{Income}_i))$ represents the conditional q th quantile of real yearly salary. For instance, the coefficient $\beta_{0.5}$ provides an estimate for the percentage gender gap in median income.

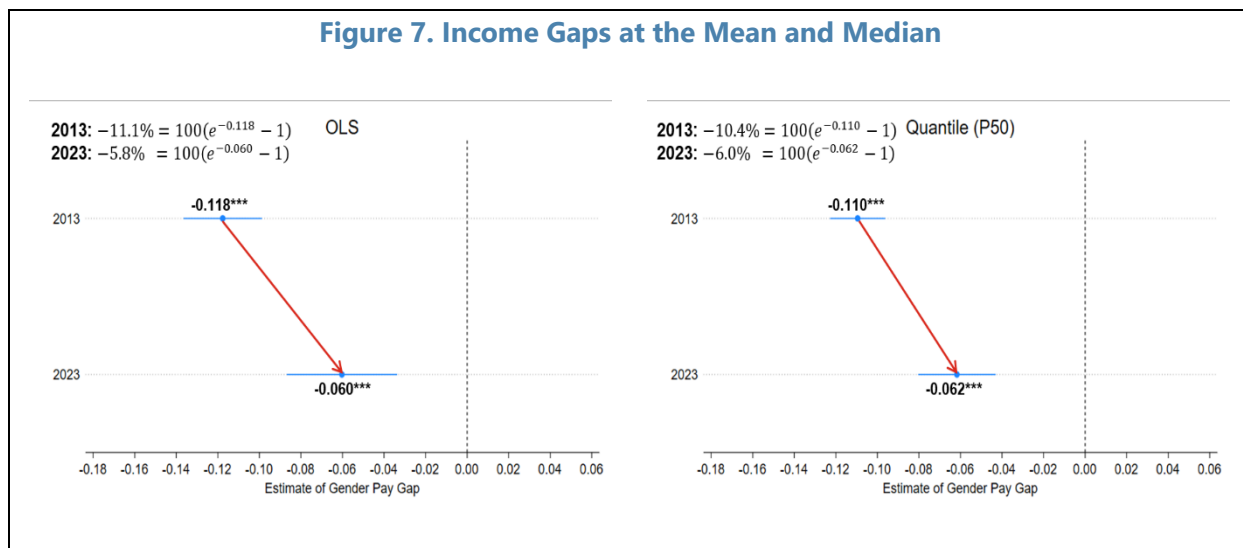
10. The regression results (Model 1) indicate that the gender pay gap in Malta has narrowed significantly over the past decade but remains substantial. On average, the pay gap between men and women dropped from 11.1 percent in 2013 to 5.8 percent in 2023, controlling for similar characteristics (Figure 7).⁸ At the median, the gap declined from 10.4 percent in 2013 to 6.0 percent in 2023. Despite this improvement, the estimates underscore that women in Malta still face a notable earnings disadvantage compared to men.

⁵ Given the skewness in the distribution of real yearly salaries, logging the dependent variable helps to stabilize variance and normalize the distribution.

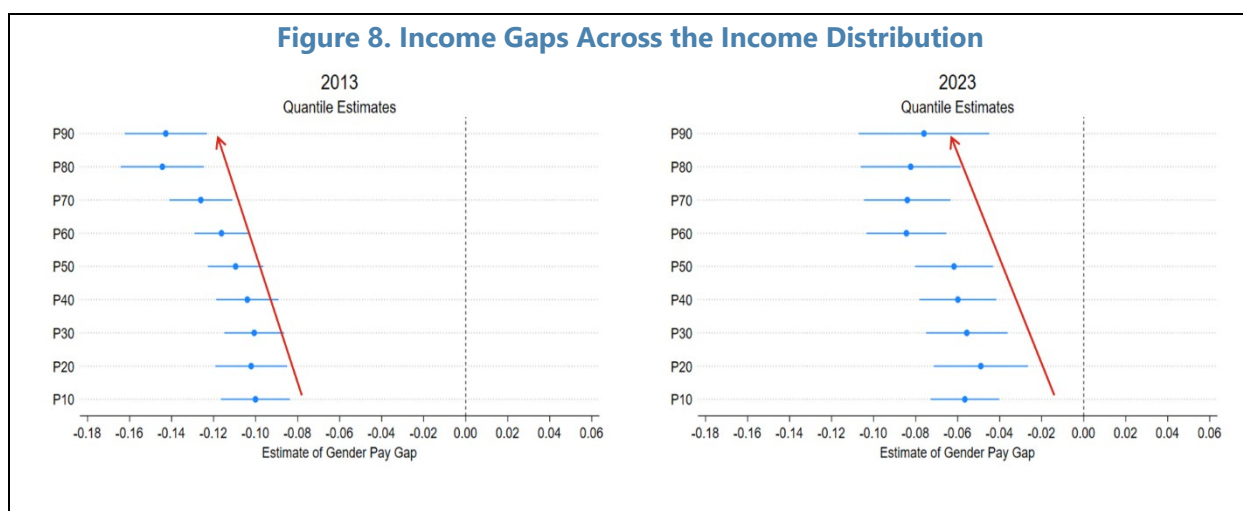
⁶ All regressions are controlled for 7 age groups, 4 education levels, 3 different birth places, 10 industries, 10 occupations, and a part- vs full-time indicator. The analysis is constrained by data availability in the Labor Force Survey. While additional controls for household composition (marital status, number and age of children) and job characteristics (job tenure, work experience, overtime hours, managerial responsibilities) would be valuable for understanding gender pay differences, these variables are not available in our dataset. The absence of these controls may affect our estimates of the gender pay gap, though the direction and magnitude of potential bias is ambiguous and would depend on the correlation between these omitted variables and included controls.

⁷ Unlike OLS, which focuses on the mean of the dependent variable, the quantile regression estimates the effects at different points in the distribution, providing a more comprehensive understanding of the gender gap across the income distribution.

⁸ We used the following formula to obtain exact percentage differences from the estimated coefficients: $\% \text{Diff} = 100(\exp(\hat{\beta}) - 1)$.



11. The results of quantile regressions (Model 2) suggest that the gender pay gap increases with income levels but has decreased over time across the income distribution. In 2013, women in the 90th income percentile earned approximately 14 percent less than men, while the gap at the 10th percentile was around 10 percent (see Figure 8). By 2023, the gap narrowed at all income levels, with the disparity at the 90th percentile decreasing to 7.5 percent and at the 10th percentile dropping to about 6 percent. These results highlight significant progress in closing the gender pay gap, particularly for lower-income earners, although challenges remain particularly at the higher end of the income distribution.



12. Further regression analysis is conducted to assess differences in gender pay gaps based on individual characteristics. The estimation setup is the same as above, but now we

include an interaction term between the female indicator and each characteristic of interest, as follows:

$$\ln(\text{Income}_i) = \alpha + \beta \text{Female}_i + \gamma \text{Characteristic}_i + \delta (\text{Female}_i \times \text{Characteristic}_i) + \theta X_i + \varepsilon_i, \quad (3)$$

where Characteristic_i represents the set of individual i 's characteristics of interest, and the remainder of the notation is the same as before. Note that the vector of controls now excludes the characteristic being assessed. The interaction term's coefficient δ in this context captures the differential effect of the characteristic of interest on the mean gender income gap.⁹

13. The results show that the gender pay gap in Malta has narrowed across multiple dimensions over the past decade, reflecting widespread progress in reducing income disparities. From 2013 to 2023, gender pay gaps shrank across all age groups (See Table 1). Tertiary education shows a significant reduction in gender pay gaps, while gaps persist among those with lower education attainment. The gap also declined across different places of birth, with non-EU workers driving much of this progress. Among full-time workers, the gender pay gap halved, while it remained statistically insignificant for part-time workers. The services sector led the way in closing wage gaps, and higher-skilled jobs demonstrated the strongest progress in pay equality.

	2013	2023
Age groups		
10-19	-0.122** (0.055)	-0.079 (0.084)
20-29	-0.112*** (0.016)	-0.068*** (0.024)
30-39	-0.102*** (0.018)	-0.032 (0.024)
40-49	-0.114*** (0.021)	-0.075*** (0.024)
50-59	-0.143*** (0.022)	-0.072*** (0.027)
60-69	-0.165*** (0.061)	-0.102** (0.045)
70-79	-0.515*** (0.139)	-0.107 (0.293)
Education levels		
No formal education, primary or lower secondary education	-0.149*** (0.015)	-0.118*** (0.024)

⁹ As presented in Table 1, for the first category of a characteristic, the gender pay gap is equal to the coefficient of the female dummy variable. For other categories of the characteristic, the gender pay gap is calculated by adding the coefficient of the female dummy variable to the coefficient of the interaction term for that category. The interaction term quantifies the additional impact of being female for that specific category, beyond the baseline effect.

Table 1. Malta: Gender Income Gaps in Malta for Selected Worker Characteristics (Continued)

Upper secondary education	-0.070*** (0.018)	-0.085*** (0.021)
Post-secondary education	-0.047* (0.027)	-0.012 (0.055)
Short-cycle tertiary education, Bachelor's, Master's or Doctoral level or equivalent	-0.141*** (0.019)	-0.024 (0.021)
Place of birth		
Malta	-0.114*** (0.009)	-0.076*** (0.013)
Other EU-27 country	-0.097 (0.075)	-0.010 (0.058)
Other non-EU-27 country	-0.248*** (0.063)	-0.046 (0.030)
Job type		
Full-time job	-0.128*** (0.009)	-0.064*** (0.014)
Part-time job	-0.055 (0.039)	-0.024 (0.057)
Industry		
Agriculture, forestry, and fishing	-0.214** (0.102)	0.007 (0.064)
Manufacturing, energy, and utilities	-0.087***	-0.097**
	2013	2023
Construction	(0.022) -0.092 (0.065)	(0.040) -0.140* (0.076)
Trade, transport, accommodation, and food services	-0.138*** (0.020)	-0.075*** (0.028)
Information and communication	-0.125*** (0.047)	0.029 (0.071)
Finance and insurance	-0.051 (0.039)	-0.046 (0.051)
Real estate	-0.257** (0.118)	0.063 (0.111)
Professional, business, and support services	-0.158*** (0.041)	-0.029 (0.040)
Public administration, education, health, and social work	-0.115*** (0.013)	-0.060*** (0.019)
Arts, entertainment, and other services	-0.123**	-0.062

Table 1. Malta: Gender Income Gaps in Malta for Selected Worker Characteristics
(Concluded)

Occupation	(0.055)	(0.053)
Managers	-0.131*** (0.035)	-0.015 (0.049)
Professionals	-0.145*** (0.022)	-0.055** (0.026)
Technicians and Associate Professionals	-0.069*** (0.024)	-0.019 (0.031)
Clerical Support Workers	-0.017 (0.023)	-0.022 (0.033)
Service and Sales Workers	-0.146*** (0.020)	-0.067*** (0.026)
Skilled Agricultural, Forestry, and Fishery Workers	-0.214** (0.100)	0.013 (0.064)
Craft and Related Trades Workers	-0.035 (0.052)	-0.162 (0.131)
Plant and Machine Operators, and Assemblers	-0.156*** (0.030)	-0.121*** (0.046)
Elementary Occupations	-0.200*** (0.031)	-0.195*** (0.044)
Armed Forces Occupations	0.086*** (0.027)	0.220*** (0.044)

Note: The numbers depict the average marginal effects of being a woman conditional on belonging to the relevant characteristic group. Robust standard errors calculated using the Delta method in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

14. The “Oaxaca-Blinder decomposition” suggests that the narrowing of the gender pay gap in Malta between 2013 and 2023 was primarily driven by reductions in differences in observable worker characteristics. The Oaxaca-Blinder decomposition (Oaxaca, 1973; Blinder, 1973) captures differences in returns to observed characteristics between groups. The analysis shows that the total average pay gap decreased significantly, from 0.209 log points in 2013 to 0.092 log points in 2023 (See Table 2). The explained portion of the gap, reflecting differences in observable characteristics, dropped substantially, accounting for only 10 percent of the total gap in 2023 compared to 43 percent in 2013.¹⁰ Conversely, the unexplained portion, which captures differences in how observable characteristics are rewarded, became more dominant, increasing its share from 57

¹⁰ The observable characteristics considered are the same as those used as controls in the regressions.

percent to 89 percent.¹¹ This shift highlights significant progress in equalizing observable worker attributes.

	2013	2023
Log annual income		
Men	9.839***	9.912***
Women	9.629***	9.821***
Gap	0.209***	0.092***
Gap decomposition		
Explained	0.089***	0.009
<i>Share</i>	43%	10%
Unexplained	0.120***	0.082***
<i>Share</i>	57%	89%

*** p<0.01, ** p<0.05, * p<0.1

C. Conclusion and Policy Considerations

15. Malta has made significant progress reducing gender gaps over the last two decades, but some gaps remain – especially representation in senior positions and incomes. The female participation rate has increased significantly to 73 percent - above the EU average - due to active government policies and an inflow of foreign workers. Malta’s legal framework for preventing gender discrimination is sound. However, despite a higher share of women with a tertiary education than men, representation of women in senior positions remain low in the private sector. In addition, income gaps remain – especially for women with less than tertiary education, in technical functions, and across most age categories, although the overall income gap narrowed significantly during the last decade.

16. Malta has made progress in policies that support women entering and returning to the labor force, but more can be done. While enhancing parental leave, flexible work arrangements, and promoting women in leadership are important, achieving parity requires ongoing commitment to addressing both structural and cultural gender inequalities in the labor market. Looking ahead, implementation of the government’s Gender Equality and Mainstreaming Strategy and Action Plan, 2022-2027, bringing a gender perspective into all stages and sectors of policymaking, should drive further narrowing of gender gaps.¹²

¹¹ Note that the unexplained component of the Oaxaca-Blinder decomposition captures differences in returns to observed characteristics between groups, not omitted variables effects. While omitted variables may affect the overall estimation, they are distinct from the decomposition’s unexplained portion, which specifically measures how differently the included characteristics are rewarded between men and women.

¹² See Government of Malta: [Gender Equality and Mainstreaming Strategy and Action Plan, 2022-2027](#).

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