



Women, men, and money: A gendered analysis of financial resilience

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ARTICLE INFO

Keywords:

Gender gap
Emergency funds
Legal origins
Emerging markets

ABSTRACT

Leveraging data from the 2021–2022 Global Findex surveys encompassing 134 countries, we find evidence suggesting that women face greater difficulty mobilizing emergency funds within 7 and 30 days. This gender gap is more pronounced in emerging markets, bank-based financial systems, and civil law countries, highlighting the need for context-sensitive policy interventions to address institutional constraints and strengthen women's financial resilience.

1. Introduction

Policymakers have devoted significant effort to enhancing financial resilience — the ability to mobilize emergency funds — which is crucial for economic security and individual well-being. At the same time, while gendered disparities in financial inclusion have gained growing attention, little research has explored how gender influences the ability to mobilize emergency funds across varying socioeconomic and institutional settings. This study fills this gap by examining gendered differences in financial resilience using micro-level data from the 2021 and 2022 Global Findex surveys, which provide detailed insights into individuals' ability to navigate through financial shocks (see Demirgüç-Kunt et al., 2015; Demirgüç-Kunt et al., 2018; Demirgüç-Kunt et al., 2020). Specifically, we investigate three key questions: (i) Is there a gendered gap in individuals' ability to mobilize emergency funds? (ii) What factors drive this engendered gap, and how does it vary across socioeconomic and institutional contexts? (iii) How does the gendered gap vary across regions with different financial system orientations and levels of institutional development?

In this study, we argue that institutional, economic, and sociocultural factors might shape gendered disparities in financial resilience. Prior research on financial inclusion supports this prediction as it highlights that women experience greater barriers in accessing formal financial services, earning lower incomes, and accumulating fewer financial assets, limiting their liquidity during financial distress (see Demirgüç-Kunt et al., 2018; Magwegwe et al., 2022; Kadzima et al., 2025). At the same time, institutional theories suggest that legal traditions influence access to finance, with civil law countries — characterized by

rigid financial systems and weaker investor protections — exhibiting a more pronounced gendered financial exclusion than common law systems (Porta et al., 1998). Likewise, financial systems orientation shapes access to finance, with bank-oriented economies that emphasize relationship lending and collateral-based financing, which may disproportionately disadvantage women due to their lower asset ownership and weaker credit histories (Beck et al., 2003; Demirgüç-Kunt and Levine, 2008). Additionally, sociocultural norms that limit women's financial decision-making autonomy — particularly in emerging economies — could further reinforce liquidity constraints (Cozarenco and Szafarz, 2023; Espinoza-Delgado and Silber, 2024; Sahay and Cihak, 2018).

Drawing on the above insights, we conjecture and test whether: (i) women experience greater difficulty in securing emergency funds than men; (ii) the gendered gap will be wider in emerging market economies (EMEs) than in developed market economies (DMEs); (iii) civil law countries exhibit stronger gendered disparities than common law countries, and (iv) bank-oriented financial systems are associated with larger gendered gap than market-oriented systems. Our findings confirm the predictions as women face greater difficulty securing emergency funds than men, with the gendered gap being more pronounced in EMEs than in DMEs, consistent with research on financial constraints in lower-income countries (Demirgüç-Kunt et al., 2018). This gendered gap is also stronger in civil law countries, where rigid legal systems limit financial access (Porta et al., 1998), and in bank-oriented economies, where collateral-based lending disproportionately disadvantages women (Beck et al., 2003). Regional disparities further

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<https://doi.org/10.1016/j.econlet.2025.112352>

Received 25 March 2025; Accepted 18 April 2025

Available online 7 May 2025

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emerge, with South America exhibiting the largest gender gap, likely due to economic volatility and gender biases in credit markets (Bruhn and Love, 2011, 2014).

This study contributes to the literature by introducing a novel measure of financial resilience—individuals' ability to raise emergency funds within 7 or 30 days. To our knowledge, it is among the first studies to provide cross-country empirical evidence on gender disparities in financial resilience, highlighting the role of socioeconomic and institutional factors. The findings underscore the need for policies that enhance women's access to finance, particularly in emerging market economies (EMEs), civil law jurisdictions, and bank-based financial systems.

The rest of the paper is structured as follows: Section 2 covers data and methodology, Section 3 presents findings, and Section 4 concludes.

2. Data and methodology

2.1. Data

We draw individual-level datasets from the 2021 and 2022 Global Findex surveys and merge them with macroeconomic indicators from the World Bank, data on religion from the World Value Surveys (WVS), employment statistics from the International Labor Organization (ILO), data on national culture from Hofstede (1981), data on legal origins from Djankov et al. (2008) and Porta et al. (1998), data on social infrastructure support from Galor and Özak (2016), and data on country classification from Morgan Stanley Capital International (MSCI). Following prior studies, we exclude individuals and countries with missing values for key variables and countries with fewer than 50 individual-year observations (see Kadzima et al., 2025; Machokoto and Nyantakyi, 2023; Magwegwe et al., 2022). The final sample includes 115,990 individuals from 134 countries. Detailed variable definitions, summary statistics, cross-country sample composition, and pairwise correlations are available in the Online Appendices—Tables A.1, A.2, A.3 and A.4, respectively.

2.2. Methodology

To examine the association between financial resilience and gender, we estimate the following ordered probit model:

$$y_{ijt} = \alpha_0 + \alpha_1 \text{GENDER}_{ijt} + \beta X_{ijt} + \eta_j + \eta_t + \epsilon_{ijt} \quad (1)$$

where y measures the difficulty in mobilizing emergency funds for individual i in country j in year t . y is proxied by three variables: DIFF1, DIFF2, and DIFF3. DIFF1 is an ordinal variable indicating the difficulty in mobilizing emergency funds within 30 days, with values 0 ("Very possible"), 1 ("Somewhat possible"), 2 ("Not very possible"), and 3 ("Not at all possible"). DIFF2 similarly captures difficulty within 7 days. DIFF3 is a dummy variable taking the value of 1 if an individual faces difficulty in mobilizing emergency funds (i.e., "Not very possible" or "Not at all possible"), and 0 otherwise. α_1 , β , and θ are the coefficients to be estimated. GENDER is a dummy variable that equals 1 if the individual is female and 0 otherwise. X represents a vector of individual-specific control variables.¹ Finally, η_j , η_t , and ξ represent country-fixed effects, time-fixed effects, and the error term, respectively. Online Appendix—Table A.1 defines all variables used.

¹ Control variables are selected based on the literature to isolate the effects of gender from confounding factors (see Ahamed and Limbu, 2024; Magwegwe et al., 2022; Kadzima et al., 2025).

3. Results and discussions

3.1. The baseline regressions

Table 1 presents the results from estimating Eq. (1). Columns (1)–(3) report univariate analyses, while Columns (4)–(6) incorporate multivariate analyses. In the univariate models [Columns (1)–(3)], we find that GENDER exhibits a consistent positive and statistically significant association with DIFF1, DIFF2, and DIFF3. This association remains consistent in the multivariate models [Columns (4)–(6)], even after controlling for key individual and country level covariates.

While the results in Table 1 do not permit causal inference, they indicate that women, on average, encounter greater difficulty in accessing emergency funds than men—likely reflecting entrenched structural and institutional disparities. These findings are consistent with prior research demonstrating that women tend to have lower access to formal financial services, earn comparatively lower incomes, and hold fewer financial assets—all of which limit their liquidity and capacity to absorb financial shocks.² Moreover, social and cultural norms, particularly in economies with restrictive property rights and low female labor force participation, may further limit the autonomy and access to credit of women (Sahay and Cihak, 2018). These structural barriers might collectively contribute to the observed gendered gap in financial resilience.

3.2. Cross-sectional variations

Fig. 1, which plots the estimated coefficients for the gender variable (GENDER) across sub-samples, show that the positive and significant association we have thus far documented between gender and financial vulnerability persists, suggesting that women face more difficulty in raising emergency funds globally. However, this effect is heterogeneous. It is accentuated in emerging market economies (EMEs) than in developed market economies (DMEs), consistent with prior research suggesting that women in lower-income countries often have weaker financial networks, lower financial literacy, and limited access to formal credit (Demirgüç-Kunt et al., 2018). Similarly, the accentuated gender gap in civil law countries compared to common law countries aligns with institutional theories suggesting that less flexible financial systems and weaker investor protections in civil law traditions exacerbate financial constraints and vulnerability for women (La Porta et al., 2008).

While the results derived from DIFF1 in Fig. 1(a) do not exhibit significant heterogeneity, those based on DIFF2 in Fig. 1(b) indicate that the gender gap is more pronounced in bank-oriented economies compared to market-oriented economies. This finding, although suggestive, highlights the pivotal role of financial system orientation in influencing financial resilience. Due to the reliance on relationship lending and collateral-based credit allocation (see Beck et al., 2003; Demirgüç-Kunt and Levine, 2008; Levine, 2002), bank-oriented economies may disproportionately disadvantage women, given their lower asset ownership and weaker credit histories (Berger, 1989; Blanchard et al., 2008; Kadzima et al., 2025). Conversely, market-oriented economies, which offer broader access to financial markets (see Levine, 2002; Demirgüç-Kunt and Maksimovic, 2002), may provide alternative financing mechanisms that help mitigate engendered disparities.

Fig. 1 also presents the gender coefficient (GENDER) across continental sub-samples [see, Fig. 1(c) and Fig. 1(d)], showing that the gendered disparity in financial resilience is lowest in Africa and highest in South America. In Africa, informal financial mechanisms, such as rotating savings and credit associations (ROSCAs) and extended family

² See, amongst others, Demirgüç-Kunt et al. (2018) and Kadzima et al. (2025).

Table 1
The effects of gender on financial resilience.

Estimations Dependent variables Independent variables	PROBIT DIFF1 (1)	PROBIT DIFF2 (2)	OPROBIT DIFF3 (3)	OPROBIT DIFF1 (4)	OPROBIT DIFF2 (5)	OPROBIT DIFF3 (6)
GENDER	0.2464*** (0.0069)	0.2187*** (0.0072)	0.2593*** (0.0104)	0.1704*** (0.0073)	0.1565*** (0.0075)	0.1601*** (0.0112)
AGE				−0.1616*** (0.0097)	−0.2683*** (0.0102)	−0.3798*** (0.0148)
EDUCATE				−0.2120*** (0.0065)	−0.2077*** (0.0067)	−0.2069*** (0.0099)
INCOME				−0.1850*** (0.0027)	−0.1631*** (0.0028)	−0.1207*** (0.0042)
EMPLOYED				0.0028 (0.0082)	0.0457*** (0.0086)	−0.1347*** (0.0124)
BANKAC				−0.1745*** (0.0099)	−0.1715*** (0.0105)	−0.3859*** (0.0160)
BORROWED				0.1289*** (0.0075)	0.1415*** (0.0078)	0.2045*** (0.0117)
SAVERETIRE				−0.4776*** (0.0089)	−0.4913*** (0.0088)	−0.8410*** (0.0126)
INTERNET				−0.2549*** (0.0108)	−0.1943*** (0.0115)	−0.1006*** (0.0172)
OWNMOBILE				−0.0620*** (0.0141)	0.0199 (0.0151)	0.0318 (0.0224)
PAYMOBILE				−0.1140*** (0.0097)	−0.1410*** (0.0098)	−0.1430*** (0.0149)
Country fixed effects	✓	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓
# of observations	115,990	115,990	74,549	115,990	115,990	74,549
Pseudo.R ²	0.1190	0.1410	0.2270	0.1860	0.1990	0.3350

The table the results estimating Eq. (1). The sample, data sources, and variables utilized in this study are detailed in the Online Appendix — Tables A.1. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

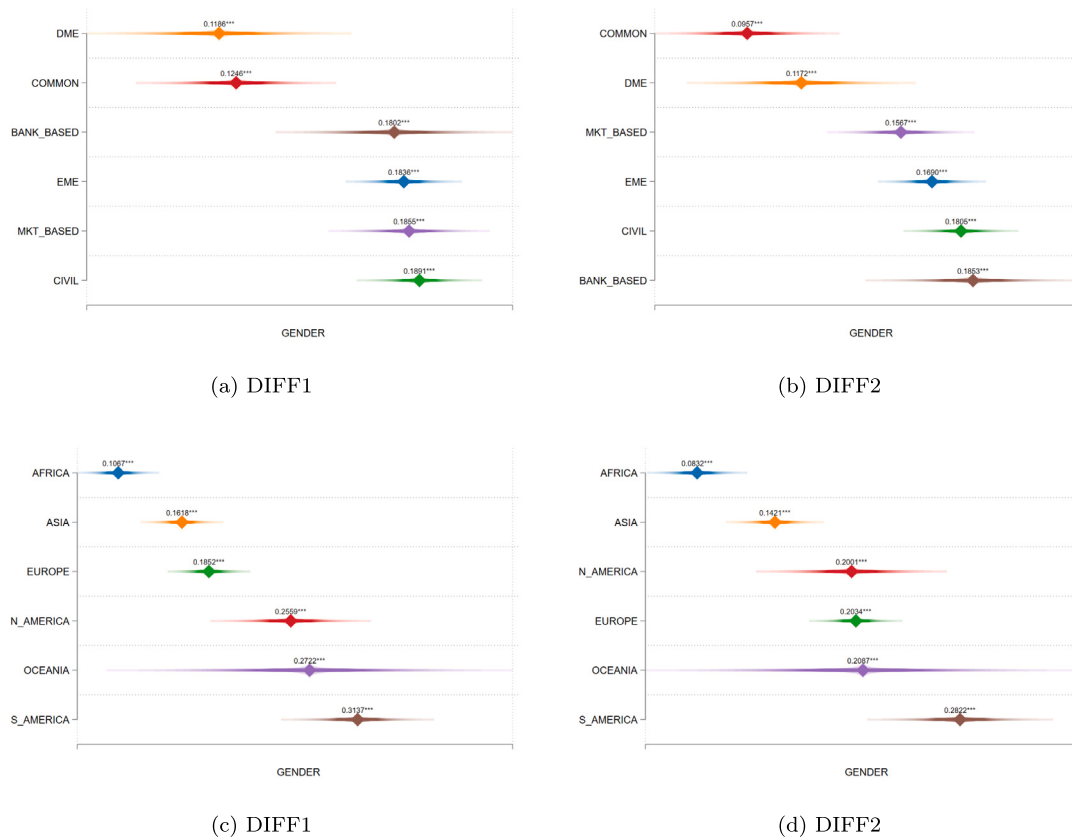


Fig. 1. Sub-sample analysis of gender-based differences in financial anxiety

The figure plots coefficient estimates for the gender dummy (GENDER) from Eq. (1) across various subsamples. EME and DME represent emerging and developed economies, respectively. MKT_BASED and BANK_BASED are countries with below and above the median ratio of private sector credit to stock market capitalization, respectively. Common and Civil denote legal systems based on common and civil law, respectively. Additional subsamples correspond to regional classifications: AFRICA, ASIA, EUROPE, NORTH AMERICA, SOUTH AMERICA, and OCEANIA. The sample, data sources, and variables utilized in this study are detailed in the Online Appendix — Tables A.1. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

Table 2

Robustness tests.

Dependent variables	Controls	WLS1	WLS2	PSM1	PSM2	ENTROPY	Controls	WLS1	WLS2	PSM1	PSM2	ENTROPY
Independent variables	DIFF1	DIFF1	DIFF1	DIFF1	DIFF1	DIFF1	DIFF2	DIFF2	DIFF2	DIFF2	DIFF2	DIFF2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GENDER	0.2782*** (0.0208)	0.1689*** (0.0074)	0.1696*** (0.0073)	0.1599*** (0.0086)	0.1704*** (0.0073)	0.1704*** (0.0073)	0.2369*** (0.0216)	0.1567*** (0.0076)	0.1566*** (0.0075)	0.1440*** (0.0089)	0.1565*** (0.0075)	0.1565*** (0.0075)
EPLX	−0.8601*** (0.1189)						−1.1279*** (0.1262)					
UNEMP RATE	−0.8802*** (0.2370)						−0.7199*** (0.2416)					
RELIGION	4.6281*** (0.3042)						5.5637*** (0.3120)					
CULTURE	−0.0290 (0.0212)						0.0073 (0.0212)					
COMMON	0.1657*** (0.0267)						0.0525* (0.0284)					
Individual level controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country fixed effects	×	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
# of observations	13,539	115,990	115,990	89,303	115,988	115,990	13,539	115,990	115,990	89,303	115,988	115,990
Pseudo.R ²	0.1670	0.1820	0.1840	0.1850	0.1860	0.1860	0.1630	0.1970	0.1980	0.1990	0.1990	0.1990

The table the results estimating Eq. (1). The sample, data sources, and variables utilized in this study are detailed in the Online Appendix — Tables A.1. ***, **, * indicate significance at the one, five, and ten percent levels, respectively, based on robust standard errors.

networks, may help alleviate gender-based financial constraints, despite widespread financial exclusion, (see Dupas and Robinson, 2013; Kimuyu, 1999; Van den Brink and Chavas, 1997). Conversely, in South America, where financial markets are more structured but access remains highly stratified, women may face more institutional and cultural barriers to access to finance due to restrictive property rights, limited financial literacy, and social norms that limit financial autonomy.³

The observed gradients in Fig. 1(c) and Fig. 1(d) — where Asia, North America, Europe, and Oceania fall between these extremes — reflect regional differences in economic development, social safety nets, and gender norms. In South and Southeast Asia, significant gendered disparities in financial resilience may stem from cultural and legal restrictions (Demircuc-Kunt et al., 2018). Despite the comparatively more developed financial markets in North America and Europe, gendered gaps persist due to income inequality and differences in financial literacy (see Cozarenco and Szafarz, 2023; Espinoza-Delgado and Silber, 2024; Lusardi and Mitchell, 2014). Oceania occupies an intermediate position with its relatively small population and varying financial inclusion policies. The more pronounced coefficient of gender (GENDER) in South America suggests systemic economic volatility, high informality, and persistent gender biases in credit allocation disproportionately disadvantage women during financial distress (see Espinoza-Delgado and Silber, 2024; Bruhn and Love, 2014; Seguino, 2010). Taken together, this suggestive empirical evidence underscores the need for targeted financial inclusion policies addressing regional and gender-specific barriers.

3.3. Robustness

This section presents robustness tests. To address potential omitted variable bias, Columns (1) and (7) of Table 2 incorporate additional country-level controls. Columns (2)—(3) and (8)—(9) use weighted least squares (WLS) regressions to account for the uneven distribution of observations across countries.⁴ To mitigate selection bias, Columns (4)—(6) and (10)—(12) employ propensity score matching (PSM) and

entropy balancing.⁵ Across all specifications, the gender variable remains consistently positive and statistically significant, confirming the robustness of the findings.

To further assess omitted variable bias, we conduct the Oster (2019) test, reported in the Online Appendix—Table A.6. The estimated δ values, ranging from 3.574 to 3.700, suggest that a substantial selection of unobservables would be needed to nullify the gender effect, making omitted variable bias an unlikely explanation for our results. Additionally, we perform a falsification test (Online Appendix—Figure A.1) to assess whether our findings could result from random chance. Assigning individuals randomly to placebo treatment (female) and control (male) groups, we estimate Eq. (1) and record the coefficients and p-values of the placebo gender variable. After 2,000 iterations, we conclude that the association that we have thus far documented between the difficulty of mobilizing emergency funds and gender is not spurious, as the placebo coefficients are significantly lower than the actual estimates and the p-values predominantly exceed 10%, indicating a lack of statistical significance.

4. Discussion and implications

This study provides robust suggestive evidence of a persistent and significant global gender gap in financial resilience, revealing that women consistently face greater challenges than men in accessing emergency funds. This gendered disparity is particularly pronounced in emerging market economies, where financial exclusion and weaker institutional support deepen gender-based financial constraints. Legal traditions rooted in legal origins further shape these disparities, as civil law countries exhibit a more pronounced engendered gap, consistent with literature suggesting that rigid financial systems and weaker investor protections disproportionately disadvantage women. Financial system orientation also plays a role, with the engendered gap in financial resilience being more pronounced in bank-oriented

³ See, Bruhn and Love (2011), Demircuc-Kunt et al. (2018) and Sahay and Cihak (2018).

⁴ In the WLS1 specification, weights are constructed as the inverse of the number of the observations within each country, while in WLS2, weights are based on the inverse of the square root of the number of observations within each country. These approaches ensure proportional representation for each country.

⁵ PSM matches treated (female) and control (male) observations with comparable covariates to approximate the conditions of a randomized experiment. The matched samples are employed in models PSM1 (based on observations with non-missing weights) and PSM2 (restricted to observations on the common support). Entropy balancing, by contrast, re-weights observations to align the covariate distributions of treated and control groups, thereby enhancing the credibility of causal interpretation. As shown in the Online Appendix — Table A.5 — entropy balancing achieves covariate balance not only in terms of means but also variances and skewness.

economies, where collateral-based lending restricts women's access to credit. Regional variations align with existing research on financial inclusion: Africa paradoxically exhibits the lowest gender gap, potentially due to a greater reliance on informal financial mechanisms or underreporting of financial hardship, while South America shows the highest, likely reflecting more pronounced engendered institutional and socioeconomic barriers. Robustness checks — including sample weighting, propensity score matching, and falsification tests — suggest that these patterns are not artifacts of model specification or random variation. Taken together, the findings underscore the need for context-specific financial inclusion strategies aimed at reducing structural barriers to women's access to formal financial services, particularly in contexts where structural barriers persist.

Declaration of competing interest

We certify that there are no potential conflicts of interest related to the subject matter discussed in this manuscript. The usual disclaimer applies.

Acknowledgments

We gratefully acknowledge the helpful comments and suggestions from the editor and anonymous reviewers.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.econlet.2025.112352>.

Data availability

Data will be made available upon reasonable request.

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