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Exploring the Gender Gap in Financial Inclusion: Evidence from the 2017 World Bank Global Findex Data

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Exploring the Gender Gap in Financial Inclusion: Evidence from the 2017 World Bank Global Findex Data

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Resumo

A análise das disparidades de género na inclusão financeira é crucial devido ao seu impacto direto no desenvolvimento económico, na redução da pobreza e na equidade social. Garantir a igualdade de acesso aos serviços financeiros fortalece o poder económico das mulheres, aumenta a sua participação na economia e ajuda a reduzir as desigualdades socioeconómicas mais amplas.

Este estudo investiga a diferença de género na inclusão financeira, analisando a base de dados 2017 World Bank Global Findex, que contém mais de 120,000 indivíduos em 120 países. Focamos em duas medidas de inclusão financeira: propriedade da conta e propriedade de conta de dinheiro móvel. Além disso, investigamos se a igualdade de género a nível social, capturada pelo Índice de Disparidade de Género (GGI), desempenha um papel importante na formação da disparidade de género na inclusão financeira. Os resultados mostram uma diferença de género estatisticamente significativa na inclusão financeira. Após controlar as caraterísticas individuais e os efeitos fixos do país, concluímos que as mulheres têm, em média, menos 3.6 pontos percentuais do que os homens de possuir uma conta numa instituição financeira e menos 2.8 pontos percentuais de possuir uma conta de dinheiro móvel. As disparidades de género mantêm-se robustas em diferentes especificações de modelos e métodos de estimação. Fornecemos provas de que uma maior igualdade de género na sociedade está associada a uma menor diferença de género na titularidade de contas em instituições financeiras. O impacto do GGI na diferença de género na titularidade de conta de dinheiro móvel não é estatisticamente significativo.

Palavras-chave: disparidade de géneros, igualdade de género, inclusão financeira

Número de palavras: 6700

Abstract

Examining gender disparities in financial inclusion is crucial due to its direct impact on economic development, poverty reduction, and social equity. Ensuring equal access to financial services strengthens women's economic power, enhances their participation in the economy, and helps reduce broader socioeconomic inequalities.

This study investigates the gender gap in financial inclusion by analysing the 2017 World Bank Global Findex database, which contains more than 120,000 individuals across 120 countries. We focus on two measures of financial inclusion: account ownership and mobile money account ownership. Moreover, we investigate whether societal level gender equality, captured by the Gender Gap Index (GGI) plays an important role in shaping the gender gap in financial inclusion. The results show a statistically significant gender gap in financial inclusion. After controlling for individual characteristics and country-fixed effects, we find that women are, on average, 3.6 percentage points less likely than men to own an account at a financial institution and 2.8 percentage points less likely to own a mobile money account. These gender gaps remain robust across different model specifications and estimation methods. In addition, we provide evidence that greater societal gender equality is associated with a smaller gender gap in account ownership at financial institutions. However, the impact of the GGI on the gender gap in mobile money account ownership is not statistically significant.

Keywords: gender gap, gender equality, financial inclusion
Words count: 6700

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List of Abbreviations

CDF	Cumulative Distribution Function
EAP	East Asia Pacific
ECA	Europe and Central Asia
GDP	Gross Domestic Product
GGI	Gender Gap Index
LAC	Latin America and the Caribbean
LPM	Linear Probability Model
MENA	Middle East and North Africa
OLS	Ordinary Least Squares
SA	South Asia
SubSA	Sub-Saharan Africa

1. Introduction

Financial inclusion is an essential factor for mitigating poverty, increasing economic growth and promoting fairness in financial services. It ensures that individuals and businesses with access to financial services such as savings, credit, insurance and digital payments systems.

The gender gap in financial inclusion is a persistent issue that limits women's ability to achieve economic independence and participate equally in financial systems. Women continue to face greater barriers due to lower levels of education, employment, and levels of income. These disparities not only reflect broader patterns of gender inequality but also hinder the full economic potential of entire societies. Studying the gender gap in financial inclusion is therefore crucial for understanding how financial systems can became more inclusive and equitable. It allows us to identify which structural, social, and economic factors contribute to unequal access, and how these patterns vary across countries and regions. Furthermore, examining this issue provides valuable insights into the effectiveness of policies aimed at promoting gender equality and inclusive development.

This study investigates the gender gap in financial inclusion by using data from the 2017 World Bank Global Findex, which includes more than 120,000 individuals from 120 countries. We focus on two key dimensions of financial inclusion: account ownership and mobile money account ownership, which are widely used in the literature as measures of financial inclusion. Moreover, we investigate whether societal level gender equality, captured by the Gender Gap Index (GGI) plays an important role in shaping the gender gap in financial inclusion. The Gender Gap Index (GGI), a composite measure of societal gender equality across the educational, economic, political, and health domains, is reported annually by the World Economic Forum for a broad range of countries worldwide.

We use both the Linear Probability Model (LPM) and the Probit model to explore the determinants of financial inclusion, with a particular focus on the gender gap. We employ three different model specifications for each measure of financial inclusion. The first specification includes individual-level variables and country-fixed effects. The second specification replaces country fixed effects with the GGI, GDP per capita and region fixed effects. In the third specification, we include the interaction term between the female dummy variable and GGI to examine the impact societal gender equality on the gender gap in financial inclusion.

Our results show that females, on average, are 3.6 percentage points less likely than males to have an account at a financial institution and 2.8 percentage points less likely to own a mobile money account after controlling for individual characteristics and country fixed effects. The gender gap in financial inclusion is robust to changing model specifications and estimation methods. Consistent with the literature, we find that age, education, income, and employment status are key determinants of financial inclusion. Moreover, our results provide evidence that higher levels of societal gender equality are associated with a smaller gender gap in account ownership at financial institutions. However, the impact of societal gender equality on the gender gap in mobile money account ownership is not statistically significant.

The results suggests that policies promoting gender equality – such as women access to education, legal rights, and economic participation – can play a critical role in enhancing financial inclusion. Policymakers should focus on gender equality strategies into broader financial sector reforms to address barriers that affect women's access to financial services.

This study is organized as follows: **Section 2** elaborates on the relevant literature, **Section 3** describes the data and variables used in our analysis, **Section 4** introduces the econometric model employed to investigate gender differences financial inclusion, **Section 5** presents the estimation results from the empirical analysis, **Section 6** covers

robustness checks to validate the empirical findings and offers a comparative analysis of the results, and **Section 7** concludes.

2. Literature Review

Financial inclusion refers to the process of ensuring that individuals and businesses have access to financial products and services that meet their needs, including transactions, payments, savings, credit, and insurance. Financial inclusion is an essential factor for reducing poverty, increasing economic growth and increasing equality in financial services. It provides individuals and businesses with access to financial services such as savings, credit, insurance and digital payments systems. In the case of women, financial inclusion is particularly important as it increases their economic independence, enables investments in education and household wealth (Demirgüç-Kunt et al., 2018). Despite its critical importance, the gender gap in financial inclusion remains a constant challenge, undermining global efforts to achieve economic and social equality (Aterido et al, 2013; Lyons & Kass-Hanna, 2021; Morsy, 2020; Demirgüç-Kunt et al., 2018; Yeyouomo et al, 2023).

Achieving financial inclusion can be analysed across three key levels: individual, institutional, and technological.

At the individual level, financial inclusion is often related to income, education and employment status (Demirgüç-Kunt et al., 2018). Individuals with higher incomes are more likely to access financial services, as they can pay service fees to the financial institutions. Individuals with lower level of education are often the ones who face challenges in achieving financial inclusion. Men are more likely to have higher education or financial literacy to achieve financial inclusion, a barrier evident to women in developing economies.

Deléchat et al. (2018) emphasize that women face greater barriers to financial inclusion than men, primarily due to legal discrimination, workplace harassment, and entrenched gender norms. Several factors can promote financial inclusion, one of which is financial literacy refers to the ability to understand and effectively use financial skills, including personal financial management and investment strategies.

Individuals with financial literacy are better equipped to make informed financial decisions, navigate complex financial systems, and achieve economic well-being. Conversely, a lack of financial literacy makes individuals makes individuals more vulnerable to financial exploitation and exclusion from formal financial systems. On average, women tend to score lower in financial literacy, highlighting a significant barrier to achieving equitable financial inclusion.

For instance, Fonseca et al. (2012) explore potential explanations for the gender gap in financial literacy, focusing on differences in the characteristics of men and women and how these characteristics shape financial literacy. Within households, men more often specialize in financial decisions, thereby acquiring greater financial knowledge, while women tend to specialize in other household functions. In couples, financial decision-making depends on the relative education levels of the spouses. When couples have similar levels of education, they tend to share financial responsibilities more equally. However, within individual households, it largely depends on the relative education and involvement of each spouse. Further research is needed to understand how the intensity of involvement in financial decision-making contributes to financial knowledge (Fonseca et al, 2012).

The gender gap in financial literacy has consequences for the gender gap in financial inclusion. Financial literacy is a key element for accessing and effectively utilising financial services, such as bank accounts, credit and investment opportunities. When women score lower in terms of financial literacy due to systemic and cultural factors, they are less likely to participate in formal financial systems, thus increasing the gender gap in financial inclusion. For this reason, addressing the gender gap in financial literacy is a fundamental step towards achieving financial inclusion and empowering women economically.

At the institutional level, such as the availability and accessibility of financial institutions, also plays a crucial role in defining financial inclusion. The lack of physical infrastructure, such as bank branches in rural areas, has a disproportionate impact on

women, who may face cultural or logistical barriers to travel. Legal and regulatory barriers, such as the absence of property rights or identity documents, further restrict women's access to financial services.

Every country has their own culture, some similar to others, while others differ. Anyangwe et al. (2022) investigate how cultural dimensions within a country relate to the financial inclusion. To measure culture and the ideologies within a country, the authors use the Hofstede's cultural dimensions, which are Power distance, Individualism/Collectivism, Masculinity/Femininity, Uncertainty Avoidance, Long/Short-Term Orientation, and Indulgence/ Restraint. For example, a high Power Distance, characterized by hierarchical dominance and structural inequality, discourages financial inclusiveness by creating barriers to formal financial institutions. Similarly, highly masculine cultures – which emphasize competitiveness and materialism – tend to exhibit worse gender and income equality, limiting access to formal financial resources. In contrast, societies with stronger individualistic values, focused on achievement and independence, show a positive correlation with financial inclusiveness, as formal accounts are encouraged and reliance on informal networks decreases.

Policies of countries also play a crucial role in promoting financial inclusion across all economies. Deléchat et al. (2018) demonstrate that stronger legal rights and positive societal attitudes toward women are associated with higher financial inclusion for women, both globally and in developing economies. Laws protecting employees, especially women, from workplace harassment are highly desirable, as they can enhance women's productivity and empower them to make more optimal economic decisions. Introducing such laws would benefit both genders by promoting financial inclusion. Equal access to financial services could lead to increased economic welfare, reduced inequality, and greater economic diversification (Deléchat et al, 2018).

Mose & Thomi (2021) find a positive relationship between economic growth and financial inclusion, suggesting that economic expansion enhances individuals' access

to financial services. Specially, they highlight the significant impact of economic growth on financial access in East Africa. Similarly, Deléchat et al. (2018) provide evidence that higher Gross Domestic Product (GDP) per capita is positively correlated with financial inclusion, as greater economic prosperity improves access to financial services.

At the technological level, the rise of the internet and mobile phone services has greatly enhanced financial inclusion. Digital financial services reduce barriers between financial institutions and customers by lowering the cost of providing services and eliminating the constraints of physical distance. Demirgüç-Kunt et al. (2020) emphasise the importance of digital technology, such as mobile banking, in increasing financial inclusion and reducing the gender gap. Yeyouomo et al. (2023) find that fintech and the development of fintech infrastructure have a negative influence on the gender gap in financial inclusion.

Lyons & Kass-Hanna, (2019) report that the effects of financial literacy, infrastructure, and other socio-economic macro-level factors differ across individuals within the Middle East and North Africa (MENA) region. Among these factors, financial literacy emerges as a key determinant, showing a strong and positive relation with improved savings and borrowing behaviours. Their findings indicate that higher national level of financial literacy rates is significantly linked to better financial decision-making across all MENA countries.

The Global Gender Gap Index (GGI), developed by the World Economic Forum, measures gender disparities across countries in four main areas: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment. The GGI serves as a benchmark for comparing gender equality across countries and tracking changes over time. It provides valuable insights into persistent gender gaps, highlight areas where further progress is needed.

Societal-level gender equality, as measured by Global Gender Gap Index (GGI), can help explain gender gaps in financial inclusion because the two are closely

interconnected for the following reasons. First, societal gender equality addresses structural inequalities, such as discriminatory laws and practices, unequal access to education, or cultural norms that limit women's autonomy and financial decision-making power. Threse barriers often translate into a lack of financial inclusion such as not having a bank account or access to credit. Second, one of the GGI's subindexes focuses on economic participation and opportunity. Financial inclusion, particularly account ownership, is strongly correlated to women's ability to participate economically. In societies with higher gender equality, women are more likely to have equal access to resources, income, and opportunities, which directly boosts financial inclusion. Third, gender equality promotes women's empowerment and decision-making ability. This empowerment enables women to take control of their financial lives, opening bank accounts, saving, borrowing, investing. In contrast, in societies with significant gender inequality, these choices might be restricted due to cultural norms or lack of resources.

3. Data and Descriptive Statistics

The data used in the empirical analysis comes from the World Bank Global Findex surveys. The World Bank Global Findex database is a biyearly cross-country dataset that tracks financial inclusion trends worldwide since 2011. Our final sample, obtained from the 2017 World Bank Global Findex, consists of 122 280 individuals from 120 different countries.

We use two binary variables to measure financial inclusion: (i) whether the respondent owns an account at a financial institution, and (ii) whether the respondent holds a mobile money account. These variables are widely used in the studies as indicators of financial inclusion (Anyangwe et al., 2022; Deléchat et al., 2018; Demirgüç-Kunt et al., 2020; Lyons & Kass-Hanna, 2021; Morsy, 2020). Table 1 presents summary statistics for the individual-level variables used in the empirical analysis by gender. There is statistically significant gender gap in account ownership, as 69.1% of males have an account at a financial institution, compared to 60.3% of females, and in mobile money account ownership, as 18.1% of males own a mobile money account, compared to 11.7% of females.

Table 1 reveals that there are statistically significant gender differences in the mean of each explanatory variable. On average, males have higher completion rates for Secondary and Tertiary education compared to females (0.519 vs. 0.467 for Secondary education and 0.189 vs. 0.167 for Tertiary education). In contrast, females have higher completion rates for Primary education than males (0.292 vs. 0.365). The descriptive statistics indicate that females face disadvantages in achieving higher levels of education, which may hinder their financial inclusion. Given that education is an important determinant of financial inclusion, disparities in educational attainment may contribute to gender gaps in access to financial services.

Income is a critical determinant of financial inclusion, as individuals with higher income levels are better positioned to access and afford financial products and

services. Conversely, lower-income individuals often face significant barriers, such as high service fees and limited resource, which block their ability to participate in formal financial systems. We control for household income using five dummy variables representing income quintiles, ranging from the poorest to richest. Table 1 indicates that, on average, males are more represented the fourth income quintile and richest quintile compared to females (0.214 vs. 0.208 fourth quintile and 0.287 vs. 0.218 for the richest quintile). In contrast, females are more represented, on average, in the poorest, second, and middle-income quintiles compared to males (0.150 vs. 0.183 for poorest, 0.164 vs. 0.191 for second and 0.184 vs. 0.199 for middle, respectively).

Employment status plays an important role in determining financial inclusion, as being in the workforce provides individuals with regular income and greater financial stability. Employed individuals are more likely to access financial services, such as maintaining a bank account and utilizing mobile banking.

To capture employment status, we use a binary variable based on the survey question: "Is the respondent employed?". This variable is coded as 1 if the respondent is employed and 0 otherwise. Table 1 shows that, on average, males have a higher employment rate than females (0.761 vs. 0.561 for females).

Age significantly affects financial inclusion because individuals' financial needs, behaviours, and accessibility to services often change throughout their life cycle. Younger individuals may face barriers to accessing financial services due to limited income or experience, while older individuals typically demonstrate greater financial stability and access to formal financial systems. Our sample consists of individuals aged between 18 and 80 years old. Table 1 shows that the mean ages for males and females in our sample ae 42.79 and 42.99 years, respectively.

To capture differences in financial inclusion across regions, we create eight dummy variables, one for each region: East Asia Pacific (EAP), Europe and Central Asia (ECA), OECD, NonOECD, Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SA) and Sub-Saharan Africa (SubSA). Each variable takes

the value of one if the individual belongs to the corresponding region and zero otherwise.

We incorporate two country-level variables in our analysis: the Gender Gap Index (GGI) and GDP per capita. We use the Gender gap Index (GGI) as measure of societal gender equality. The GGI, which has been reported by the World Economic Forum on yearly basis since 2006, captures national gender gaps in economics, politics, education, and health. The GGI varies between 0 and 1, with higher values indicating higher gender equality in society (Demirgüç-Kunt et al., 2018). Moreover, we control for GDP per capita to account for economic conditions across countries. Higher GDP per capita is typically linked to better-developed financial infrastructure, facilitating broader access to banking, credit, and savings products. The GGI and GDP data are derived from the World Economic Forum's Annual Global Gender Gap Reports for the year 2017 (World Economic Forum, 2017).

Table A.1 in the appendix presents the GGI and GDP per capita for 120 countries in our sample, with the gender gap in account ownership and mobile money account ownership across countries. Table 1 indicates that the GGI ranges between 0.546 in Pakistan and 0.830 in Norway.

Figure 1 corresponds to Table A.1, specifically the columns on the gender gap in account ownership and the Gender Gap Index (GGI). It visually depicts the relationship between the GGI and the gender gap in account ownership. The gender gap in account ownership is defined as the difference between the proportion of females with an account and the proportion of males with an account within a given country. The positive slope in Figure 1 demonstrates that greater gender equality within a country is associated with a smaller gender gap in account ownership, favouring males. This pattern suggests that institutional and socio-cultural factors are pivotal in influencing women's financial participation.

Figure 2 relates with Table A.1, specifically the column gender gap in account mobile money account ownership and the GGI. The gender gap in mobile money

account ownership is defined as the difference between the proportion of females with a mobile money account and the proportion of males with a mobile money account within a given country. Figure 2 reveals a very weak positive relationship, nearly negligible, between the GGI and gender gap in mobile account ownership, suggesting that gender equality improvements may have limited impact on narrowing the gender gap in mobile money account ownership.

Figure 1 – The relationship between gender gap in account ownership and the gender gap index (GGI) across countries

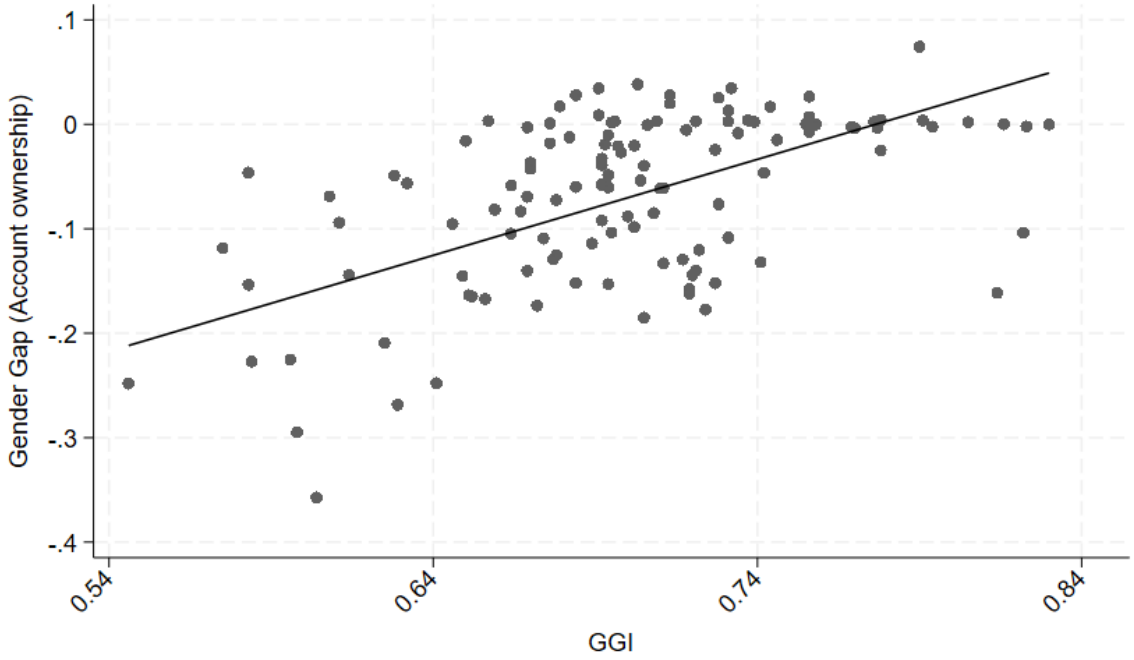

Figure 2 – The relationship between gender gap in mobile money account ownership and the gender gap index (GGI) across countries

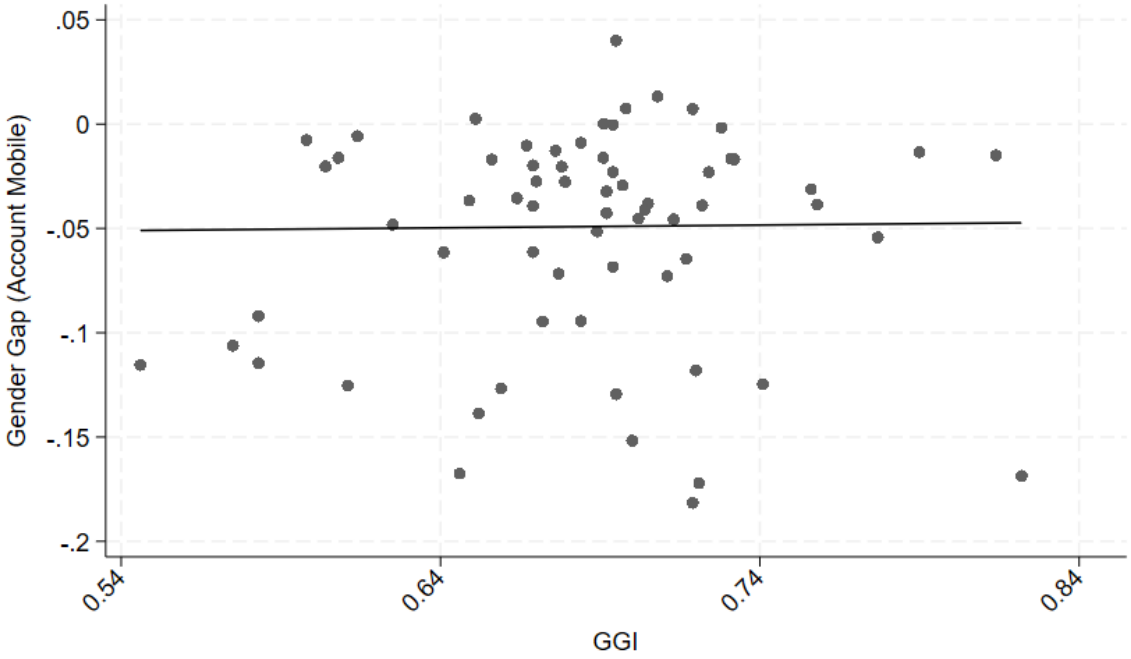

Table 1 - Individual-level Variables: Definitions and Descriptive Statistics

		Male		Female		T-Statistic
Variables	**Definition**	**Mean**	**SD**	**Mean**	**SD**	
Account ownership	Dummy variable that takes the value 1 if the respondent has an account at the bank or another type of financial institution and 0 otherwise.	0.691	0.462	0.603	0.489	[32.107***]
Mobile money account ownership	Dummy variable that takes the value 1 if the respondent owns a mobile money account and 0 otherwise.	0.181	0.385	0.117	0.322	[23.467***]
Age	Age of the respondent.	42.79	16.48	42.99	16.62	[-2.088*]
Employment	Dummy variable that takes the value 1 if the respondent is employed and 0 otherwise.	0.761	0.427	0.561	0.496	[74.632***]
Primary education	Dummy variable that takes the value 1 if the respondent's highest education level is primary education or less and 0 otherwise.	0.292	0.455	0.365	0.482	[-27.265***]
Secondary education	Dummy variable that takes the value 1 if the respondent's highest education level is secondary education and 0 otherwise.	0.519	0.500	0.467	0.499	[18.034***]
Tertiary education	Dummy variable that takes the value 1 if the respondent's highest education level is tertiary education or more and 0 otherwise.	0.189	0.391	0.167	0.373	[9.951***]
Income level: Poorest 20%	Dummy variable that takes the value 1 if the respondent's household income falls is in the lowest 20% within the country and 0 otherwise.	0.150	0.357	0.183	0.387	[-15.248***]
Income level: Second 20%	Dummy variable that takes the value 1 if the respondent's household income falls is in the second-lowest 20% within the country and 0 otherwise.	0.164	0.370	0.191	0.393	[-12.343***]
Income level: Middle 20%	Dummy variable that takes the value 1 if the respondent's household income falls is in the middle 20% within the country and 0 otherwise.	0.184	0.388	0.199	0.399	[-6.683***]
Income level: Fourth 20%	Dummy variable that takes the value 1 if the respondent's household income falls is in the second-highest 20% within the country and 0 otherwise.	0.214	0.410	0.208	0.406	[2.591**]
Income level: Richest 20%	Dummy variable that takes the value 1 if the respondent's household income falls is in the top 20% within the country and 0 otherwise.	0.287	0.452	0.218	0.413	[27.813***]
Region EAP	Dummy variable that takes the value 1 if the respondent is from East Asia Pacific (EAP) and 0 otherwise.	0.097	0.296	0.114	0.317	[-9.528***]
Region ECA	Dummy variable that takes the value 1 if the respondent is from Europe and Central Asia (ECA) and 0 otherwise.	0.128	0.334	0.147	0.354	[-9.780***]
Region OECD	Dummy variable that takes the value 1 if the respondent is from Organisation for Economic Co-operation and Development (OECD) and 0 otherwise.	0.239	0.426	0.222	0.415	[6.988***]
Region nonOECD	Dummy variable that takes the value 1 if the respondent is from nonOECD and 0 otherwise.	0.093	0.291	0.065	0.247	[18.342***]
Region LAC	Dummy variable that takes the value 1 if the respondent is from Latin America and the Caribbean (LAC) and 0 otherwise.	0.097	0.296	0.126	0.332	[-16.028***]
Region MENA	Dummy variable that takes the value 1 if the respondent is from Middle East and North Africa (MENA) and 0 otherwise.	0.084	0.277	0.086	0.281	[-1.427]
Region SA	Dummy variable that takes the value 1 if the respondent is from South Asia (SA) and 0 otherwise.	0.059	0.235	0.059	0.235	[0.124]
Region SubSA	Dummy variable that takes the value 1 if the respondent is from Sub-Saharan Africa (SubSA) and 0 otherwise.	0.204	0.403	0.182	0.385	[9.879***]
n	The number of observations	55,585		66,695		

Notes: The number of observations for the variable mobile money account ownership is 30,180 for the male sample and 37,832 for female sample. The last column presents t-statistics. t-test compares the difference in the means of the two samples. *** significant at 1%, ** significant at 5% and * significant at 10%.

4. Empirical Methodology

We employ the Linear Probability Model (LPM) to investigate the determinants of financial inclusion, with a particular focus on the gender gap in financial inclusion. The LPM represents a specific application of Ordinary Least Squares (OLS) regression to a binary dependent variable. Its primary advantage lies in the direct interpretability of the estimated coefficients, as they reflect changes in probability corresponding to unit changes in the explanatory variables (Wooldridge, 2012).

We present our baseline model as follows:

$$Y_{ic} = \beta_0 + \beta_1 Female_{ic} + \beta_2 X'_{ic} + \alpha_c + \varepsilon_{ic} \quad (1)$$

Where Y_{ic} represents a measure of financial inclusion (either account ownership or mobile money account ownership) for individual i in country c. $Female_{ic}$ is a binary variable, equal to 1 for females and 0 for males. The vector X'_{ic} contains individual-level variables: age, education, income, and employment status. α_c denotes country fixed effects, capturing for unobserved heterogeneity at the country level. ε_{ic} represents the error term.

To analyse the impact of country-level variables, we estimate the following specification that replaces country fixed effects with explanatory variables capturing gender equality and economic development. In addition, this specification includes regional dummies to account for geographical disparities in financial inclusion.

$$Y_{ic} = \theta_0 + \theta_1 Female_{ic} + \theta_2 X'_{ic} + \theta_3 GGI_c + \theta_4 GDP_c + \gamma_r + \mu_{ic} \quad (2)$$

Where Y_{ic} represents a measure of financial inclusion (either account ownership or mobile money account ownership) for individual i in country c. $Female_{ic}$ is a binary variable, equal to 1 for females and 0 for males. The vector X'_{ic} contains individual-level variables: age, education, income, and employment status. GGI_c represents Gender Gap Index in country c, which is a measure of societal gender equality. GDP_c represents GDP per capita, in thousands of dollars, in country c. γ_r denotes region fixed effects, accounting for unobserved heterogeneity at the regional level. μ_{ic} represents the error term.

To investigate whether greater societal gender equality influences the gender gap in financial inclusion, the final specification incorporates an interaction term between the female dummy variable and the Gender Gap Index (GGI). Building on the second specification presented in equation (2).

$$Y_{ic} = \alpha_0 + \alpha_1 Female_{ic} + \alpha_2 X'_{ic} + \alpha_3 GGI_c + \alpha_4 GDP_c + \gamma_r + \alpha_5 (Female_{ic} \times GGI_c) + e_{ic} \quad (3)$$

A positive and statistically significant coefficient α_5 indicates that a higher levels of societal gender equality, as measured by the GGI, are associated with a smaller gender gap in financial inclusion. In other words, in countries with greater gender equality, financial inclusion disparities between men and women are reduced, highlighting the role of societal gender norms in shaping access to financial resources.

The Linear Probability Model (LPM) is simple and easy to interpret, but it has some drawbacks[1]. To evaluate the robustness of our findings, we also estimate the Probit model. The Probit model for the baseline specification presented in equation (1) is as follows:

[1] Since it is linear model, predicted probabilities can fall outside the [0,1] range, making some estimates unrealistic. In addition, LPM suffers from heteroscedasticity, meaning that standard errors may be inefficient, potentially affecting the reliability of statistical inference.

$$P(Y_{ic} = 1 \mid Female_{ic}, X'_{ic}, \alpha_c) = \Phi(\beta_0 + \beta_1 Female_{ic} + \beta_2 X'_{ic} + \alpha_c) \qquad (4)$$

Where $\Phi(.)$ represents the cumulative distribution function (CDF) of the standard normal distribution. For a detailed discussion on the probit model, see Wooldridge (2012). We also employ a probit framework to estimate the second and third specifications presented in equation (2) and (3).

5. Results

Table 2 presents the estimation results from the Linear Probability Model (LPM) for account ownership. Column 1 controls for individual characteristics and country-fixed effects. In Column 2, country-fixed effects are replaced by two country-level variables—GGI and GDP—along with region fixed effects. Column 3 builds upon the specification in Column 2 by introducing an interaction term between the female dummy and the Gender Gap Index (GGI), allowing the effect of being female on financial inclusion to vary with the level of societal gender equality.

Column 1 of Table 2 shows that the estimated coefficient of the female dummy is -0.036 and statistically significant at the 1% significance level, suggesting that females, on average, are 3.6 percentage points less likely than males to have an account at a financial institution after controlling for individual characteristics and country-fixed effects. The estimated coefficient of Age is positive and statistically significant at the 1% significance level, indicating that each additional year increases the probability of having an account at a financial institution by 0.2 percentage points. Education has a positive impact on financial inclusion. We find that individuals with tertiary education are 23.4 percentage points more likely to own an account at a financial institution than those with primary education or less. Similarly, individuals with secondary education are 15.4 percentage points more likely to have an account compared to those with primary education or less.

The estimated coefficients of income quintiles are positive and statistically significant at the 1% level, suggesting that income is positively correlated with financial inclusion. For instance, individuals in the highest income quintile are 15.2 percentage points more likely to have an account at a financial institution

than those in the lowest income quintile. Employment status has a significant impact on the probability of owning an account at a financial institution. Employed individuals are, on average, 9.8 percentage points more likely to own an account at a financial institution than those who are unemployed.

Column 2 of Table 2 shows that that the estimated coefficient of female dummy remains negative and statistically significant at the 1% level, implying that the gender gap in financial inclusion is robust even after controlling for societal gender equality (GGI), economic development (GDP) and region fixed effects. The estimated coefficients of individual characteristics are statistically significant at the 1% level. Age, education, income, and employment have a positive impact on the probability of having an account at a financial institution. The estimated coefficient of the Gender Gap Index (GGI) is positive and statistically significant at the 10% level, suggesting that greater societal gender equality is associated with a higher probability of account ownership. Moreover, GDP per capita has a positive impact on the probability of account ownership. Specifically, a ten-thousand increase in GDP per capita is associated with a 2-percentage point increase in the probability of account ownership.

Column 3 of Table 2 shows that the estimated coefficient of the interaction term between GGI and the female dummy variable is positive and statistically significant at the 1% level, indicating that the effect of the Gender Gap Index (GGI) on the probability of account ownership differs between females and males. The positive estimated coefficient of the interaction term suggests that as societal gender equality measured by GGI increases, the probability of account ownership increases more for females than males, highlighting a stronger effect of gender equality on women's financial inclusion. In other words, we can conclude that the gender gap in account ownership, which is in favour of males, decreases as GGI increases. Specifically, greater societal gender equality

improves financial inclusion for females more than for males, thereby reducing the gender gap.

It is important to note that in the specification presented in Column 3 of Table 2, the estimated effect of being female on account ownership depends on the level of societal gender equality (GGI). As outlined in Equation 3, this effect is the sum of the estimated coefficient of the female dummy and the product of the interaction term's estimated coefficient multiplied by the level of gender equality in the country (i.e., $\widehat{\alpha_1} + \widehat{\alpha_5} \times GGI$). Therefore, the estimated coefficient of the female dummy captures the gender gap in account ownership when GGI is equal to zero.

Table 3 presents the estimation results from the Linear Probability Model (LPM) for mobile money account ownership. Column 1, Column 2, and Column 3 replicate the specifications presented in Table 2.

Column 1 of Table 3 shows that the estimated coefficient of the female dummy is -0.028 and statistically significant at the 1% significance level, suggesting that females, on average, are 2.8 percentage points less likely than males to have mobile money account.

The estimated coefficient of Age is negative and statistically significant at the 1% level, indicating that each additional year of age decreases the probability of having a mobile money account by 0.1 percentage points. This suggests that younger individuals are generally more comfortable in adopting newer technologies and innovations, whereas older individuals may prefer traditional, face-to-face banking services due to greater familiarity and confidence with such methods compared to mobile financial technology.

Education has a positive impact on the financial inclusion. We find that individuals with tertiary education are 11.3 percentage points more likely to own a mobile money account than those with primary education or less.

The estimated coefficients of income quintiles are positive and statistically significant at the 1% level, suggesting that income is positively correlated with financial inclusion. For instance, individuals in the highest income quintile are 8.3 percentage points more likely to have a mobile money account than those in the lowest income quintile. Employment status has a significant impact on the probability of owning a mobile money account. Employed individuals are, on average, 4 percentage points more likely to own a mobile money account than those who are unemployed.

Column 2 of Table 3 shows that the estimated coefficient of female dummy remains negative and statistically significant at the 1% level, implying that the gender gap in mobile money account ownership is robust even after accounting for individual characteristics, societal gender equality (GGI), economic development (GDP) and region fixed effects. The estimated coefficients of individual characteristics are statistically significant at the 1% level. While education, income, and employment increase the probability of having a mobile money account, age is the only individual characteristic that decreases this probability. This column also indicates that the estimated coefficients of the country-level variables, The GGI and GDP per capita, are not statistically significant at conventional level.

Column 3 of Table 3 shows that the estimated coefficient of the interaction term between GGI and the female dummy variable is statistically insignificant, suggesting that societal gender equality, as measured by GGI, does not have a statistically significant effect on the gender gap in mobile money account ownership.

In other words, women are less likely to own mobile money accounts than men, regardless of their country's level of gender equality. This finding suggests that policies aimed at improving financial inclusion must address gender-specific barriers beyond societal gender equality.

Table 2 - Linear Probability Model (LPM) for Account Ownership

	(1)	(2)	(3)
Female	-0.036***	-0.036***	-0.439***
	(0.007)	(0.008)	(0.122)
Age	0.002***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)
Secondary education	0.154***	0.197***	0.195***
	(0.009)	(0.017)	(0.017)
Tertiary education	0.234***	0.285***	0.282***
	(0.015)	(0.024)	(0.024)
Income second	0.031***	0.028***	0.028***
	(0.005)	(0.005)	(0.005)
Income middle	0.062***	0.053***	0.054***
	(0.007)	(0.007)	(0.007)
Income fourth	0.093***	0.084***	0.085***
	(0.009)	(0.009)	(0.009)
Income richest	0.152***	0.138***	0.139***
	(0.010)	(0.011)	(0.011)
Employment	0.098***	0.101***	0.097***
	(0.008)	(0.010)	(0.009)
GGI		0.660*	0.368
		(0.371)	(0.369)
GDP		0.002***	0.002***
		(0.001)	(0.001)
GGI*Female			0.580***
			(0.170)
Country Fixed Effects	Yes	No	No
Region Fixed Effects	No	Yes	Yes
R-squared	0.384	0.294	0.295
Observations	122,280	122,280	122,280

Note: GDP is measured in terms of the Gross Domestic Product per capita, in thousands of US$. Standard errors are clustered at the country level presented in parentheses. *** significant at 1%, ** significant at 5%, and * significant at 10%.

Table 3 - Linear Probability Model (LPM) for Mobile Money Account Ownership

	(1)	(2)	(3)
Female	-0.028***	-0.029***	0.003
	(0.005)	(0.007)	(0.120)
Age	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Secondary education	0.063***	0.070***	0.070***
	(0.011)	(0.016)	(0.016)
Tertiary education	0.113***	0.125***	0.125***
	(0.015)	(0.022)	(0.022)
Income second	0.014***	0.014***	0.014***
	(0.005)	(0.005)	(0.005)
Income middle	0.026***	0.025***	0.025***
	(0.006)	(0.006)	(0.006)
Income fourth	0.043***	0.040***	0.039***
	(0.008)	(0.008)	(0.008)
Income richest	0.083***	0.078***	0.078***
	(0.012)	(0.013)	(0.013)
Employment	0.040***	0.040***	0.041***
	(0.007)	(0.010)	(0.010)
GGI		0.456	0.480
		(0.277)	(0.318)
GDP		-0.003	-0.003
		(0.003)	(0.003)
GGI*Female			-0.047
			(0.174)
Country Fixed Effects	Yes	No	No
Region Fixed Effects	No	Yes	Yes
R-squared	0.256	0.155	0.155
Observations	68,012	68,012	68,012

Note: GDP is measured in terms of the Gross Domestic Product per capita, in thousands of US$. Standard errors are clustered at the country level presented in parentheses. *** significant at 1%, ** significant at 5%, and * significant at 10%.

6. Robustness Checks

Tables A.2 and A.3 present the Probit model estimation results for account ownership and mobile money account ownership.[2] Columns 1 and 2 of Table 4 show the average marginal effects calculated from Probit model estimates presented in Table A.2 for account ownership, while columns 3 and 4 of Table 4 show the average marginal effects calculated from Probit model estimates presented in Table A.3 for mobile money account ownership.

Column 1 of Table 4 indicates that females are, on average, 3.2 percentage points less likely than males to own an account at a financial institution after controlling for individual characteristics and country-fixed effects, which is consistent with the findings in Column 1 of Table 2. The marginal effect of Age is positive and statistically significant at the 1% level, suggesting that each additional year of age increases the probability of owning an account, reaffirming the findings from Table 2 regarding the importance of age in financial inclusion.

Similarly, education is positively associated with account ownership. For example, individuals with tertiary education are 24.5 percentage points more likely to own an account at a financial institution than those with primary education or less. Column 1 of Table 4 also indicates that income is positively correlated with account ownership. Individuals in the highest income quintile are 15.1 percentage points more likely to have an account at a financial institution than those in the lowest income quintile. These findings, in line with the LPM results presented in Table 2, confirm the robustness of education and income as key determinants of financial inclusion.

[2] Norway and Sweden are excluded from the analysis of account ownership due to perfect predictability, as all respondents from these countries reported having an account at a financial institution.

Moreover, the marginal effect of employment status is statistically significant at the 1% level, suggesting that employed individuals are 9.5 percentage points more likely to own an account at a financial institution, again consistent with the results in Table 2.

Column 2 of Table 4 indicates that greater societal gender equality, measured by the Gender Gap Index (GGI), is associated with a higher probability of account ownership. The marginal effect of GGI is statistically significant at the 1% level, whereas in Column 2 of Table 2, it is significant at the 10%. Moreover, the effect of GDP per capita on the probability of account ownership remains positive and statistically significant at the 1% level. Overall, a comparison of columns 1 and 2 in Table 2 with those in Table 4 shows that the Probit estimation results are consistent with Linear Probability Model (LPM) estimation results.

Column 3 of Table 4 indicates that females are, on average, 2.8 percentage points less likely than males to own a mobile money account after accounting for individual characteristics and country fixed effects, which is consistent with the findings in Column 1 of Table 3.

We find that the marginal effects of individual characteristics—age, education, income, and employment status—on the probability of mobile money account ownership remain robust in the probit model.

Column 4 of Table 4 shows that neither Gender Gap Index (GGI) nor GDP per capita has a statistically significant effect on the probability of mobile money account ownership. This finding is consistent with the results LPM results presented in Table 3.

Overall, the Probit estimation results provide robust evidence that the gender gap in financial inclusion persists across different model specifications and estimation methods.

Table 4 - Robustness Check: Marginal Effects from the Probit Model

	Account Ownership		Mobile Money Account Ownership	
	(1)	(2)	(3)	(4)
Female	-0.032***	-0.032***	-0.028***	-0.029***
	(0.006)	(0.007)	(0.004)	(0.006)
Age	0.002***	0.002***	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Secondary education	0.113***	0.138***	0.064***	0.069***
	(0.005)	(0.012)	(0.005)	(0.013)
Tertiary education	0.245***	0.280***	0.114***	0.131***
	(0.009)	(0.017)	(0.007)	(0.018)
Income second	0.030***	0.029***	0.020***	0.020***
	(0.005)	(0.005)	(0.005)	(0.005)
Income middle	0.060***	0.056***	0.033***	0.032***
	(0.005)	(0.006)	(0.006)	(0.006)
Income fourth	0.091***	0.087***	0.047***	0.044***
	(0.007)	(0.007)	(0.006)	(0.007)
Income richest	0.151***	0.145***	0.078***	0.071***
	(0.007)	(0.009)	(0.007)	(0.009)
Employment	0.095***	0.095***	0.051***	0.054***
	(0.006)	(0.008)	(0.004)	(0.008)
GGI		0.869***		0.314
		(0.303)		(0.205)
GDP		0.013***		-0.002
		(0.003)		(0.001)
Country Fixed Effects	Yes	No	Yes	No
Region Fixed Effects	No	Yes	No	Yes
Observations	120,456	120,456	68,012	68,012

Note: Average marginal effects resulting from probit regression analyses are reported. Standard errors are clustered at the country level presented in parentheses. *** significant at 1%, ** significant at 5%, and * significant at 10%.

7. Conclusion

Using data from the 2017 World Bank Global Findex, which contains more than 120,000 individuals across 120 countries, this study explores the gender gap in financial inclusion in account ownership and mobile money account ownership. Moreover, we examine whether societal level gender equality, measured by the Gender Gap Index (GGI) plays an important role in explaining the gender gap in financial inclusion.

Our results reveal a statistically significant gender gap in financial inclusion. After accounting for individual characteristics and country-fixed effects, women are, on average, 3.6 percentage points less likely than men to own an account at a financial institution and 2.8 percentage points less likely to own a mobile money account. These findings are robust across different model specifications and estimation methods. In addition, we provide evidence that greater societal gender equality is associated with a smaller gender gap in account ownership at financial institutions. However, the impact of the GGI on the gender gap in mobile money account ownership is not statistically significant. These results suggests that policies promoting gender equality can play a crucial role in financial inclusion. Policymakers should focus on strategies that address barriers women face in financial services.

Future research could examine the evolution of the gender gap in financial inclusion over time using multiple waves of World Bank Global Findex data. Moreover, it would be valuable to construct a comprehensive index of financial inclusion that incorporates multiple dimensions beyond account ownership and mobile money account ownership. Such an index would allow for a more detailed exploration of gender disparities in financial inclusion.

Disclosure of AI-Assisted Writing Tools:

During the preparation of my written dissertation, "Exploring the Gender Gap in Financial Inclusion: Evidence from the 2017 World Bank Global Findex Data". I used ChatGPT for grammatical and language corrections, with the prompts used listed at the end of the document in the AI Prompts List section. After using this tool, I reviewed and edited the content as necessary to ensure accuracy, and I take full responsibility for the content of the work presented. I also declare that I am aware of and respect the Artificial Intelligence Rules of Conduct of Católica Porto Business School.

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Appendix

Table A.1 - Gender Gap in Financial Inclusion, Gender Gap Index (GGI) and GDP across Countries

Country	Gender Gap (Account Ownership)	Gender Gap (Mobile Money Account Ownership)	GGI	GDP	N
Albania	-0.076**	-0.002	0.728	4.531	920
Algeria	-0.269***	-	0.629	4.555	947
Argentina	0.035	-0.017	0.732	14.533	938
Armenia	-0.129***	-0.072***	0.677	3.869	917
Australia	0.003	-	0.731	53.902	893
Austria	0.003	-	0.709	47.164	946
Azerbaijan	0.001	-	0.676	4.147	928
Bahrain	-0.056***	-	0.632	24.785	1027
Bangladesh	-0.162***	-0.182***	0.719	1.811	944
Belarus	0.017	-	0.744	5.786	994
Belgium	0.002	-	0.739	44.035	932
Benin	-0.165***	-0.139***	0.652	1.055	893
Bolivia	0	-0.039**	0.758	3.306	904
Bosnia and Herzegovina	-0.098***	-	0.702	5.345	941
Botswana	-0.144***	-0.118***	0.720	7.105	922
Brazil	-0.060**	-0.009	0.684	10.081	916
Bulgaria	-0.007	-	0.756	8.382	951
Burkina Faso	-0.095***	-0.167***	0.646	0.709	892
Cambodia	-0.018	-0.013	0.676	1.826	1446
Cameroon	-0.114***	-0.051*	0.689	1.496	888
Canada	-0.002	-	0.769	45.130	927
Chad	-0.119***	-0.106***	0.575	0.640	902
Chile	-0.054*	-0.041*	0.704	14.880	975
China	-0.109***	-	0.674	8.817	3503
Colombia	-0.108***	-0.017	0.731	6.480	928
Costa Rica	-0.152***	-	0.727	12.317	929
Cote d'Ivoire	-0.094***	-0.125***	0.611	1.964	928
Croatia	-0.061***	-	0.711	13.903	936
Cyprus	0.028*	-	0.684	26.697	952
Denmark	0.002	-	0.776	57.522	908
Dominican Republic	-0.021	-0.029**	0.697	7.500	870
Ecuador	-0.177***	-0.023**	0.724	6.233	916
Egypt, Arab Rep.	-0.069**	-0.016*	0.608	2.395	949
El Salvador	-0.185***	-0.038***	0.705	4.020	939
Estonia	0.013*	-	0.731	20.852	916

Table A.1 (continued)

Country	Gender Gap (account ownership)	Gender Gap (Mobile Money Account Ownership)	GGI	GDP	N
Ethiopia	-0.167***	-0.017***	0.656	0.746	928
Finland	-0.002	-	0.823	46.085	929
France	-0.025***	-	0.778	38.687	953
Georgia	0.017	-0.028***	0.679	4.419	930
Germany	0.004	-	0.778	45.527	949
Ghana	-0.104***	-0.028***	0.695	2.013	876
Greece	-0.039*	-	0.692	18.632	904
Guatemala	-0.083**	-0.010	0.667	4.325	891
Guinea	-0.082***	-0.127***	0.659	0.834	843
Honduras	-0.133***	-0.073***	0.711	2.413	906
Hungary	-0.037	-	0.670	14.621	920
India	-0.069***	-0.020***	0.669	1.950	2788
Indonesia	0.009	-0.016	0.691	3.799	941
Iran, Islamic Rep.	-0.046***	-0.092***	0.583	5.753	937
Ireland	-0.002	-	0.794	72.499	935
Israel	0.003	-	0.721	40.998	969
Italy	-0.033***	-	0.692	32.554	969
Japan	0.003	-	0.657	38.834	914
Jordan	-0.357***	-0.020***	0.604	4.066	914
Kazakhstan	0.02	-	0.713	8.943	953
Kenya	-0.153***	-0.069***	0.694	1.667	967
Korea, Rep.	-0.016	-	0.650	31.601	939
Kuwait	-0.049*	-	0.628	29.048	991
Kyrgyz Republic	0.035	0.0002	0.691	1.221	924
Lao PDR	0.038	-	0.703	2.432	939
Latvia	0.007	-	0.756	15.132	942
Lebanon	-0.225***	-	0.596	8.608	977
Lesotho	0.002	0.040	0.695	1.069	876
Liberia	-0.140***	-0.061**	0.669	0.699	877
Lithuania	-0.046**	-	0.742	16.885	878
Luxembourg	-0.001	-	0.706	110.193	942
Madagascar	-0.058**	-0.043*	0.692	0.492	930
Malawi	-0.174***	-0.095***	0.672	0.496	890
Malaysia	-0.043**	-0.027	0.670	9.863	895
Mali	-0.154***	-0.115***	0.583	0.776	885
Malta	-0.012	-	0.682	30.259	959
Mauritania	-0.144***	-0.006	0.614	1.615	896
Mauritius	-0.058***	-0.035**	0.664	10.842	932
Mexico	-0.092***	-0.032**	0.692	9.649	941

Table A.1 (continued)

Country	Gender Gap (account ownership)	Gender Gap (Mobile Money Account Ownership)	GGI	GDP	N
Mongolia	0.028**	-0.046*	0.713	3.646	933
Montenegro	-0.019	-	0.693	7.803	944
Morocco	-0.295***	-0.008***	0.598	3.297	4759
Mozambique	-0.132***	-0.125***	0.741	0.471	842
Myanmar	-0.01	0.0004	0.694	1.273	1501
Namibia	-0.003	-0.054	0.777	5.144	935
Nepal	-0.105***	-	0.664	1.034	936
Netherlands	0.004	-	0.737	49.514	927
New Zealand	0.004	-	0.791	42.913	897
Nicaragua	-0.161***	-0.015	0.814	2.183	946
Nigeria	-0.248***	-0.061***	0.641	1.876	871
Norway	0	-	0.830	76.132	917
Pakistan	-0.248***	-0.115***	0.546	1.519	1482
Panama	-0.120***	-0.039***	0.722	15.695	895
Paraguay	-0.072**	-0.020	0.678	6.152	932
Peru	-0.157***	0.007	0.719	6.736	914
Philippines	0.074**	-0.013	0.790	3.038	905
Poland	0.026	-	0.728	13.913	926
Portugal	-0.008	-	0.734	21.442	955
Romania	-0.085***	-	0.708	10.728	919
Russian Federation	0.003	-	0.696	10.659	1876
Rwanda	-0.104***	-0.169***	0.822	0.758	916
Saudi Arabia	-0.227***	-	0.584	23.081	986
Senegal	-0.152***	-0.094***	0.684	1.357	880
Serbia	-0.024	-	0.727	6.548	959
Singapore	-0.020**	-0.045**	0.702	61.162	946
Slovak Republic	-0.060***	-	0.694	17.646	954
Slovenia	0.002	-	0.805	23.303	956
South Africa	0.027	-0.031	0.756	6.618	928
Spain	-0.015	-	0.746	28.368	963
Sri Lanka	-0.003	-0.039***	0.669	4.401	1039
Sweden	0	-	0.816	53.301	907
Switzerland	0.0002	-	0.755	82.254	910
Tajikistan	-0.125***	-	0.678	0.829	914
Tanzania	-0.088***	-0.152***	0.700	0.987	930
Thailand	-0.049*	-0.023	0.694	6.413	955
Tunisia	-0.164***	0.003	0.651	3.619	932
Turkey	-0.209***	-0.048*	0.625	10.696	976
Uganda	-0.140***	-0.172***	0.721	0.765	906

Table A.1 (continued)

Country	Gender Gap (account ownership)	Gender Gap (Mobile Money Account Ownership)	GGI	GDP	N
Ukraine	-0.04	-	0.705	2.604	939
United Arab Emirates	-0.145***	-0.037	0.649	42.341	971
United Kingdom	-0.003	-	0.770	40.572	952
United States	-0.005	-	0.718	60.322	950
Uruguay	-0.061*	-	0.710	19.185	908
Vietnam	-0.027	0.007	0.698	2.956	938
Zimbabwe	-0.130***	-0.065	0.717	3.448	907

Note: The gender gap represents the difference between the proportion of females with an account and the proportion of males with an account within a given country*** significant at 1%. ** significant at 5%. and * significant at 10%.

Table A.2 - Probit Estimation Results for Account Ownership

	(1)	(2)	(3)
Female	-0.134***	-0.120***	-1.282***
	(0.027)	(0.028)	(0.438)
Age	0.008***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)
Secondary education	0.476***	0.515***	0.512***
	(0.024)	(0.045)	(0.045)
Tertiary education	1.030***	1.049***	1.044***
	(0.041)	(0.065)	(0.065)
Income second	0.124***	0.108***	0.109***
	(0.020)	(0.018)	(0.018)
Income middle	0.253***	0.211***	0.213***
	(0.023)	(0.021)	(0.021)
Income fourth	0.383***	0.326***	0.330***
	(0.029)	(0.027)	(0.027)
Income richest	0.636***	0.544***	0.549***
	(0.030)	(0.032)	(0.032)
Employment	0.399***	0.356***	0.347***
	(0.025)	(0.029)	(0.027)
GGI		3.254***	2.393**
		(1.153)	(1.140)
GDP		0.049***	0.049***
		(0.010)	(0.010)
GGI*female			1.197***
			(0.623)
Country Fixed Effects	Yes	No	No
Region Fixed Effects	No	Yes	Yes
Pseudo R-squared	0.354	0.284	0.285
Observations	120,456	120,456	120,456

Note: GDP is measured in terms of the Gross Domestic Product per capita, in thousands of US$. Standard errors are clustered at the country level presented in parentheses. *** significant at 1%, ** significant at 5%, and * significant at 10%.

Table A.3 - Probit Estimation Results for Mobile Money Account Ownership

	(1)	(2)	(3)
Female	-0.174***	-0.157***	-0.627
	(0.024)	(0.031)	(0.517)
Age	-0.009***	-0.010***	-0.010***
	(0.001)	(0.002)	(0.002)
Secondary education	0.398***	0.375***	0.373***
	(0.034)	(0.064)	(0.064)
Tertiary education	0.716***	0.708***	0.706***
	(0.044)	(0.085)	(0.086)
Income second	0.124***	0.108***	0.109***
	(0.032)	(0.029)	(0.029)
Income middle	0.204***	0.171***	0.172***
	(0.037)	(0.034)	(0.034)
Income fourth	0.295***	0.240***	0.241***
	(0.037)	(0.037)	(0.038)
Income richest	0.485***	0.383***	0.385***
	(0.043)	(0.052)	(0.052)
Employment	0.318***	0.290***	0.287***
	(0.025)	(0.037)	(0.037)
GGI		1.699	1.384
		(1.138)	(1.238)
GDP		-0.008	-0.008
		(0.007)	(0.007)
GGI*female			0.686
			(0.743)
Country Fixed Effects	Yes	No	No
Region Fixed Effects	No	Yes	Yes
Pseudo R-squared	0.304	0.195	0.195
Observations	68,012	68,012	68,012

Note: GDP is measured in terms of the Gross Domestic Product per capita, in thousands of US$. Standard errors are clustered at the country level presented in parentheses. *** significant at 1%, ** significant at 5%, and * significant at 10%.

AI Prompts List:

1. “Check the grammar of this text”

2. “Refine the grammar of the text below”

3. “Rephrase this sentence”

4. “Is this text well written?”