



## FINANCIAL INCLUSION PROFILE: SOCIO-ECONOMIC DETERMINANTS, BARRIERS, AND THE REASONS FOR SAVING AND BORROWING IN PAKISTAN



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### ABSTRACT

#### Article History

Received: 8 July 2022

Revised: 1 September 2022

Accepted: 16 September 2022

Published: 27 September 2022

#### Keywords

Barriers  
Demographic groups  
Financial inclusion  
Pakistan  
Probit technique  
Socio-economic determinants.

Pakistan is one of the least financially inclusive countries in Asia. To understand the reasons, this paper examines the Socio-economic determinants, the barriers to financial inclusion, and the reasons for individuals saving and borrowing. We used GFI 2017 data, and the Probit technique to estimate the coefficients. The results show that female and age group reduce the likelihood of being financially included while education level and high income increase their likelihood. Furthermore, voluntary exclusion such as *religious beliefs*, and involuntary exclusion such as *lack of documents, trust deficits, and someone else having an account* are found significant for different demographic groups. Significant coefficients are found for *saving for old age* and *borrowing for medical and business*. The findings of this study are valuable for policymakers in Pakistan to initiate innovative approaches to enhance the excluded groups and focus on the removal of reasons for financial exclusion in Pakistan.

**Contribution/Originality:** This study is important as it examines the determinants, barriers, and reasons for saving for borrowing for a country that is one of the least financially included in the region. This study will contribute to the current literature as the analysis is done on latest data available since the last study found in the literature was done in 2014. In addition, this study analyzes the reasons for saving and borrowing which up to our knowledge has never been done for Pakistan. The results of the study will provide guidelines for the policymakers to formulate their financial inclusion policies accordingly.

## 1. INTRODUCTION

Financial inclusion is a broad concept that has different implications for different segments of society. For an individual, financial inclusion means using financial products to bring comfort in life and improve his living standard. For societal groups, it means turning towards the formal sector to obtain credits for investment at lower interest rates which otherwise would not have been possible (Kim, 2016). According to Cabeza-García, Del Brio, and Oscanoa-Victorio (2019), financial inclusion is inferred in one of two ways: access to different financial products and services, or the number of individuals or enterprises using the financial services. On the same note, Kim (2016); Kim, Yu, and Hassan (2018), and Fareed, Gabriel, Lenain, and Reynaud (2017) describe financial inclusion as a state where all participants in the economy have access to credit, payments, savings, and insurance from financial

institutions in such a way that these services are available at the reasonable, affordable and convenient way that enables them to use formal financial services instead of using informal options that increase their capital stability. While in confirmation with others, Ozili (2020) especially emphasized the significance of access to financial services for the poor people of the society.

The importance of financial inclusion has been well recognized. It sits in a very important position as an *enabler* of achieving seven out of seventeen Sustainable Development Goals (SDGs) 2030 which include: SDG 1 eradication of poverty; SDG 2 ending hunger; SDG 3 health and well-being; SDG 5 gender equality and economic empowerment of women; SDG 8 promoting economic growth and jobs; SDG 9 supporting industry, innovation and infrastructure; and SDG 10 reducing inequality (UNCDF, 2020). Despite its acknowledged importance, there exists a large gap in global financial inclusion. According to GFI (2017) report, about 1.7 billion adults throughout the world are unbanked which means around 23 percent of people are still not associated with any financial institution or have a mobile money account.

In recent years, financial inclusion has received considerable attention from researchers as it has been perceived as an instrument for bringing improvement in the welfare of people. Numerous studies have discussed the significance of financial inclusion in improving the lives of individuals and societies as a whole. At a household level, financial inclusion improves well-being by enhancing consumption, children’s school attendance, education, cash income, and out-of-pocket health expenditures (Koomson, Abdul-Mumuni, & Abbam, 2021; Sakyi-Nyarko, Ahmad, & Green, 2022), helps in reducing poverty and energy poverty (Churchill & Marisetty, 2020; Koomson. & Danquah, 2021), and reduces gender differential in financial inclusion by improving female empowerment (Chakraborty & Abraham, 2021; Garikipati, 2008). At a regional level, financial inclusion has proved its worth in cultivating economic growth, development, and reducing income inequality in numerous empirical papers (Datta & Singh, 2019; Kim, 2016; Ofosu-Mensah Ababio, Attah-Botchwey, Osei-Assibey, & Barnor, 2021; Thatasarani, Wei, & Samaraweera, 2021).

It is pertinent to mention the alternative concept of financial inclusion i.e., financial exclusion. It means some societal groups are inept to have access to financial services (Carbó, Gardener, & Molyneux, 2005). It is imperative to differentiate between voluntary and involuntary financial exclusion. A voluntary exclusion means the situation where people voluntarily choose not to become a part of any financial institution because either they feel no need or their exclusion is due to religious and cultural grounds. An involuntary exclusion means that though people want to use financial services but they are unable to due to many economic and social reasons (World Bank, 2014). Figure 1 illustrates the perceived reasons that impede financial inclusion.

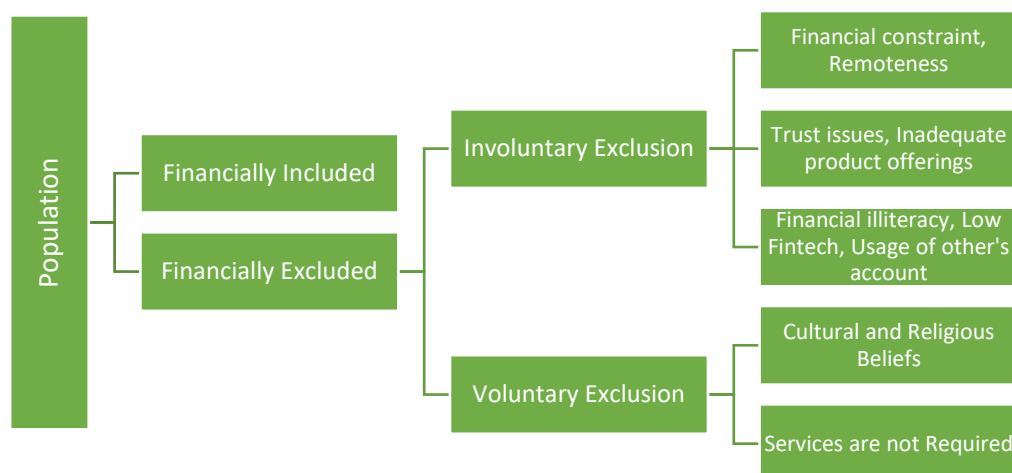


Figure 1. The reasons for impediments in financial inclusion.

As mentioned earlier, realizing the benefits of financial inclusion, the focus of the global agenda has been to increase financial inclusion. In order to assess the perceived impacts, a number of studies have focused on social determinants that play their part in financial inclusion, and in identifying the perceived reasons for financial exclusion. Social determinants play a key role in people’s behavior and decision-making regarding their ability and willingness to be a part of the financial system. Literature suggests social factors are as significant as other factors in determining financial inclusion. Age, health, education, financial literacy, gender gap, and income are all considered important social factors that impact the behavior of people towards financial inclusion (Cabeza-García et al., 2019; Demirgüç-Kunt, Klapper, & Panos, 2016; Grohmann, Klühs, & Menkhoff, 2018; Sha’ban, Girardone, & Sarkisyan, 2019). Similarly, the literature identifies several reasons that impede individuals to opt for financial services. These include; proximity to the financial institutions, financial services being too expensive, lack of trust in financial institutions, financial constraints, religious reasons, and no requirement for an account (Beckmann & Mare, 2017; Brown, Guin, & Kirschenmann, 2016; Crépon, Devoto, Duflo, & Parienté, 2015; Girón, Kazemikhasragh, Cicchiello, & Panetti, 2022; Ulwodi & Muriu, 2017; Zulfiqar, Chaudhary, & Aslam, 2016).

The objective of this paper is to investigate the socio-economic determinants of financial inclusion and the reasons that impede the individuals of Pakistan from using financial services. Pakistan is one of the least financially included in the region (discussed in detailed in the next section) which makes it an important case to examine to provide policy makers to devise policies accordingly. The rest of the paper is organized as follows: section 2 presents the financial inclusion situation in Pakistan, section 3 contains data and methodology, section 4 presents estimation findings, and the last section concludes the study.

## 2. THE SITUATION OF FINANCIAL INCLUSION IN PAKISTAN

The situation of financial inclusion in Pakistan is not very promising. According to GFI (2018), it is one of the least financially inclusive countries in the world. Figures represent the comparative analysis of financial inclusion in Pakistan with other South Asian countries in 2014 and 2017. Figure 2 represents the situation of different financial inclusion indicators in Pakistan and South Asia in 2014. Account ownership difference in Pakistan and South Asia is huge. 47 percent of the adults have accounts in South Asia while it is only 13 percent in Pakistan.



Figure 2. Financial inclusion situation in Pakistan and South Asia (2014).

Saving and borrowing percentage in the past year for Pakistan and South Asia is not much apart i.e., 32 percent and 50 percent for Pakistan whereas 36 percent and 48 percent for South Asia. While account ownership is low, the usage of an account is greater for Pakistan. 2 percent of the adults did not do any deposits or withdrawals from an account in the last year whereas this percentage is 19 percent for South Asia. Sending or receiving remittances is 30% for Pakistan and 18 percent for South Asia. The use of digital modes for making and receiving payments is almost half of what is in South Asia (8 percent and 17 percent respectively). Although in 2017, financial inclusion indicators of Pakistan have made some progress as compared to 2014 but compared to South Asia, the gaps in account ownership and use of digital payments have not reduced [Figure 3](#). For Pakistan and South Asia, it is 21 percent and 70 percent for account ownership while 18 percent and 28 percent for the usage of digital mode respectively. Change in saving percentage is not much noticeable (35 percent and 33 percent for Pakistan and South Asia) while borrowing percentage has decreased from 50 percent to 37 percent for Pakistan and from 48 percent to 42 percent for South Asia. Sending or receiving remittances percentage have improved for South Asia. Previously it was 18 percent which increased to 20 percent in 2017 but it has decreased from 30 percent to 19 percent for Pakistan. [Table 1](#) illustrates the situation of financial inclusion in Pakistan across various demographic groups in 2017. Overall, the situation looks dismal. Female financial inclusion is 5 times lesser than males. Only 15 percent of the young adults and 25 percent of adults are financially included. Low financial inclusion for the poorest 40% is observed and only 26% of the richest 60% perhaps suggest the dominance of the undocumented economy.



Figure 3. Financial inclusion situation in Pakistan and South Asia (2017).

Table 1. The situation of financial inclusion across various demographic groups.

Demography	Groups	Financially Included
Gender	Male	35%
	Female	7%
Age	Young Adults (15-24)	15%
	Adults (25+)	25%
Income	Poorest 40%	14%
	Richest 60%	26%
Education	Primary	16%
	Secondary	34%
Workforce status	In Workforce	35%
	Out of Workforce	13%

Source: GFI (2017).

The percentage of primary and secondary educated financially included are 16 percent and 34 percent respectively while people in the workforce are 35 percent and 13 percent out of the workforce are financially included. The values cited above speaks volume of the worrisome financial inclusion state in Pakistan. The country is lagging behind its neighbors in different financial indicators. Similarly, the disaggregated data based on different demographic groups also suggests low financial inclusion in Pakistan.

Thus, for a country that is one of the least financially inclusive in the region, it is absolutely essential to investigate the determinants of financial inclusion and to identify the reasons to improve financial inclusion.

### 3. DATA AND METHODOLOGY

In this research, financial inclusion data from GFI (2017) has been used. This data is collected through Gallup survey conducted in 144 countries from 150,000 adults aged more than 15 years. For Pakistan, the sample size is 1600 adults. To analyze the determinants of financial inclusion in Pakistan, we used three measures of financial inclusion, namely, ownership of a bank account, savings, and borrowings following Zins and Weill (2016). As our dependent variable is binary, we the used Probit model for estimation.

$$Y_i = \alpha + \beta gender_i + \gamma age_i + \delta age_i^2 + \vartheta edu_i + \theta income_i + \varepsilon_i$$

Where,  $Y_i$  is a binary variable, proxy for financial inclusion. The independent variables are individual characteristics of respondents including gender, age, education, and income. We use age square to analyze nonlinearity. We construct dummies for gender, education, and income. Gender is equal to one if the respondent is a female, and zero otherwise. We use three dummies for education i.e., primary, secondary, and tertiary. Similarly, for income, we use five dummies to capture the effect of different groups of income levels from the poorest 20% to the richest 20%.

Table 2. Descriptive statistics.

Variables	Definition	Observations	Mean	St. Dev
Formal account	Yes =1, No = 0	1592	0.221	0.415
Formal saving	Yes =1, No = 0	1579	0.074	0.262
Formal borrow	Yes =1, No = 0	1583	0.027	0.161
Gender	(Female = 1, Male = 0)	1592	0.502	0.5
Age	In number of years	1592	34.459	13.417
Primary Education	Primary or less= 1, otherwise = 0	1592	0.654	0.476
Secondary Education	Secondary = 1, otherwise = 0	1592	0.288	0.453
Tertiary Education	Tertiary or more = 1, otherwise = 0	1592	0.058	0.233
quintile1 (Income)	(Poorest 20%) =1, otherwise = 0	1592	0.182	0.386
quintile2 (Income)	(Second 20%) =1, otherwise = 0	1592	0.163	0.37
quintile3 (Income)	(Middle 20%) =1, otherwise = 0	1592	0.187	0.39
quintile4 (Income)	(Fourth 20%) =1, otherwise = 0	1592	0.217	0.413
quintile5 (Income)	(Richest 20%) =1, otherwise = 0	1592	0.251	0.434
Too far away	Yes =1, No = 0	1321	0.184	0.388
Too expensive	Yes =1, No = 0	1272	0.236	0.425
Lack of documentation	Yes =1, No = 0	1345	0.182	0.386
Lack of trust	Yes =1, No = 0	1336	0.14	0.347
Religious reasons	Yes =1, No = 0	1344	0.52	0.5
Not enough money	Yes =1, No = 0	1351	0.154	0.361
Family member has an account	Yes =1, No = 0	1350	0.29	0.454
To grow a business or farm	Yes =1, No = 0	1568	0.095	0.293
for old age	Yes =1, No = 0	1519	0.164	0.37
Health or medical purpose	Yes =1, No = 0	1557	0.054	0.226
To grow a business or farm	Yes =1, No = 0	1578	0.046	0.209

We have omitted the dummy for primary education and the poorest 20% income level to avoid the dummy variable trap. To estimate the reasons for barriers in financial inclusion, we replace  $Y_i$  by reasons and estimated their determinants using the Probit model. In the end, we replaced the dependent variable for motivation of saving and borrowing behavior. Information about variables used in the study, their attached dummies, and descriptive statistics are provided in the [Appendix 1. Table 2](#) shows the descriptive statistics for the variables used. It shows the mean values and standard deviations. The statistics show that the spread of variables is fair around the mean indicating no clustering.

#### 4. ESTIMATION FINDINGS

This section provides the estimation results of the determinants of financial inclusion, identification of reasons for financial exclusion, and the sources of borrowing in Pakistan. The probit estimation results of the determinants of financial inclusion are presented in [Table 3](#). Financial inclusion is measured using three different dependent variables i.e., account at a formal financial institution, saving at a formal financial institution, and borrowing from a formal financial institution.

Results suggest the existence of gender discrimination in using financial instruments. For a female, it is difficult to avail and utilize the provided financial services. The values of the female coefficient are negative and significant suggesting a negative relationship between financial inclusion and the female gender. The values infer that being a female, it is 9 percent less likely for them to have an account at a formal financial institution, 2 percent less likely to save at a formal financial institution, and about 3 percent less likely to borrow from a financial institution.

The findings stated above are in conformity with the literature on this topic. For example, [Demirgüç-Kunt, Klapper, and Singer \(2013\)](#) and [Wellalage and Thrikawala \(2021\)](#) also suggested the global gender gap in financial inclusion. Several reasons have been identified in the literature that contributes to female financial exclusion. These include their risk-taking abilities ([Byrnes, Miller, & Schafer, 1999](#)) reluctance to the anticipation of rejection on the part of the lender ([Moro, Wisniewski, & Mantovani, 2017](#)) legal discrimination ([Popov & Zaharia, 2019](#)) higher collateral requirements to attain loans, and firms size consideration ([Coleman, 2002](#)) lack of education and income ([Ghosh & Vinod, 2017; Morsy, 2020](#)).

The values of coefficients of age are positive and significant which infers that the older the people of the country, the greater the likelihood of being financially included. They are more likely to have an account, saved at and borrowed from a financial institution. This is true because as people age, their income increases along with their intention to save more for their life after retirement and fulfillment of other obligations like marrying their children and performing religious duties. The results are in line with [Tuesta, Sorensen, Camara, and Haring \(2015\)](#) and [Kokorović Jukan, Okičić, and Hopić \(2020\)](#). For age\_sq the values of coefficients are significant and negative which suggests a nonlinear relationship between age and financial inclusion. This exclusion can be both voluntary and involuntary. For example, this happens when people after fulfilling their liabilities require fewer financial services or with the advent of new technology (like bank applications on mobile), they opt not to use them.

Secondary and Tertiary education leads to a greater likelihood to have formal accounts and savings in a formal financial institution. The coefficients of tertiary education for accounts and savings are greater than secondary education which suggests the higher the level of education, the greater the likelihood of being financially included. The results are in line with [Abdu, Buba, Adamu, and Muhammad \(2015\)](#). An increase in education improves the knowledge (financial literacy) of the use of financial services available and familiarity with financial technology consequently leads to an increase in financial inclusion.

Table 3. The determinants of financial inclusion.

Dependent/ Independent Variables	Account	Saved	Borrowed
Female	-0.965*** (-11.63)	-0.224*** (-3.37)	-0.370*** (-5.60)
Age	0.0625*** (4.25)	0.0504*** (4.22)	0.0527*** (4.40)
Age_sq	-0.000612*** (-3.41)	-0.000476** (-3.24)	-0.000566*** (-3.83)
Secondary	0.522*** (6.12)	0.292*** (3.91)	-0.146 (-1.94)
Tertiary	1.274*** (8.15)	0.439** (3.07)	-0.280 (-1.93)
Quintile2	-0.106 (-0.74)	0.0597 (0.53)	-0.0741 (-0.67)
Quintile3	0.157 (1.18)	0.174 (1.59)	0.102 (0.96)
Quintile4	0.206 (1.62)	0.184 (1.75)	-0.0323 (-0.31)
Quintile5	0.392** (3.16)	0.423*** (4.12)	0.0427 (0.42)
Constant	-2.149*** (-7.28)	-1.598*** (-6.66)	-1.096*** (-4.62)
N	1592	1592	1592

Note: t statistics in parentheses \*\*\*t-statistics > |2.57|, \*\*t-statistics > |1.96|.

\*\*p < 0.05, \*\*\*p < 0.01.

Coefficients of income levels are mostly positive and insignificant except for quintile 5 (highest 20% income). The values of coefficients are though positive but increase as quintiles increase. For example, for saving, individuals of quintile 2 are about 6% likely to save, for quintile 3 it is 17%, quintile 4 is 18% and for quintile 5 it is around 42%. This suggests that increase in income is inducing people to increase their use of financial services. However, because most of the coefficients are insignificant; therefore, income level is found not significant determinant in Pakistan. This conclusion is mostly in conformity with [Zulfiqar et al. \(2016\)](#) and [Kaligis, Tewal, Maramis, and Mangantar \(2018\)](#). Table 4 represents Probit estimation analyzing the reasons to financial exclusion in Pakistan. Both voluntary and involuntary reasons for financial exclusion have been considered for analysis. The coefficients of proximity suggest if formal financial services are located nearby, it is convenient for the individuals to use financial services. The results show that coefficients are insignificant except for quintile 4 which suggests the location of financial institutions does not matter much. This is true due to the improved infrastructure that even for females and age group, the commute is not an issue ([Noelia, Ximena, & David, 2014](#)).

Similarly, the reason for financial exclusion is that declared and the hidden cost is a hurdle in financial inclusion is found not significant for any group. This is in line with [Hoyo, Ximena, Hidalgo, and Tuesta \(2013\)](#). Having fewer finances is found not significant for any group in financial inclusion.

Not having required documents for the use of financial services is found a hurdle in financial inclusion. Usually, financial institutions require substantial documentation for account opening, remitting money, or borrowing credit. Old-aged people are especially prone to this issue because of low levels of know-how, loss of documents, difficulty in proving the source of income, and problem in communication due to the language barrier ([Noelia et al., 2014](#)).

Having no trust in financial institutions is a significant issue for people belonging to different income levels. For example, individuals belonging to quintiles 2 and 4 have trust issues with financial institutions. Trust deficit usually occurs due to a lack of information and pre-occupied with the negative perception about financial institutions. Hence, people with varying income levels show distrust on offerings from financial institutions which impedes financial inclusion. These results are backed by the literature ([Ulwodi & Muriu, 2017](#)).



The results suggest that having an account of others or having a single-family account is a hurdle in financial inclusion. This is particularly true in the case of females. In developing countries, the economic decision-making mostly lies with the males. Females usually stay at home and assist their male counterparts in managing household affairs. The duty of a male is to earn and make economic decisions making. Almost 28% of females consider having an account of any family member is a barrier to having their own account. [Field, Pande, Rigol, Schaner, and Troyer Moore \(2021\)](#) suggest having a personal account strengthens women's financial control, and their choices of work that would consequently lead to an increase in financial inclusion. Similarly, educated individuals and individuals in various income bracket groups also perceive it as a barrier to personal account ownership. The same results are concluded by [Zulfiqar et al. \(2016\)](#) and [Ulwodi and Muriu \(2017\)](#).

Furthermore, reasons for voluntary exclusion/self-exclusion also proved important. No need for an account is significant in the case of females and age groups. The coefficient is significant but negative which infers that being a female reduces 23 percent of the likelihood of self-exclusion as compared to males. This appears strange but literature suggests that female excluded from the financial sector show greater interest in financial services once they are offered financial services. This means that their self-exclusion is voluntary due to the hostile position with respect to men ([Dupas & Robinson, 2009](#)). For the age group, results suggest they do not want to be part of a financial institution.

Religious reasons for not using financial instruments resulted significant for female, age group, and individuals with tertiary education. Being a Muslim-majority country, Shari'ah forbids individuals to use any instrument based on interest. Those financial institutions that are offering and are involved in interest-based transactions must not be approached. In Pakistan, generally conventional banks are operating, therefore, people try to avoid any lending and borrowing from these financial institutions. Our analysis suggests that females in Pakistan are about 20% more likely to avoid financial involvement as compared to males, while it is 3% for the age group. The result is in line with [Kim et al. \(2018\)](#).

[Table 5](#) represents individual characteristics and the motives for saving and borrowing. According to the results, savings for doing business is not the preference for females. Usually, for females, saving is done to fulfilling the basic needs of other household members, especially the dependents. The role of females is mostly to manage household affairs instead of becoming an entrepreneur ([Garikipati, 2008](#)). Saving for business is associated with age group and individuals with high income. This is true because as people age, they tend to opt for doing business that will assist them after their retirement and even for not being dependent on their children. Individuals with high income, their motive is to grow their business but importantly, they can save for it. Therefore, the association is positive. Understandably, savings for old age is important for old aged people and individuals belonging to any income level. The results prove this behavior. Saving for old age is positively and strongly related to people with age and for every quintile (2-5). This infers that saving for old age is equally important irrespective of how much an individual is earning. The results are in line with ([Demirgüç-Kunt et al., 2016](#)).



Table 4. Barriers in financial inclusion.

Dependent/ Independent Variables	Too far away	Too expensive	Lack of documents	Lack of trust	Religious reasons	Less finances	Someone else has account	No need of an account
Female	0.0407 (0.49)	0.0625 (0.79)	-0.0526 (-0.64)	-0.0891 (-0.94)	0.199* (2.24)	0.0635 (0.91)	0.279** (3.14)	-0.235** (-3.19)
Age	0.0148 (0.97)	0.0220 (1.53)	-0.0526*** (-3.74)	0.00498 (1.43)	0.0374* (2.18)	0.0214 (1.71)	-0.0145 (-0.97)	0.0299* (2.23)
Age_sq	-0.000200 (-1.04)	-0.000222 (-1.24)	0.000520** (2.94)	0.0000367 (0.87)	-0.000432* (-1.98)	-0.000291 (-1.86)	0.000227 (1.22)	-0.000314 (-1.87)
Secondary	-0.118 (-1.23)	0.0601 (0.66)	-0.109 (-1.16)	0.0863 (0.79)	-0.0740 (-0.71)	0.00144 (0.02)	0.450*** (4.74)	0.107 (1.26)
Tertiary	-0.559 (-1.87)	-0.0593 (-0.25)	-0.282 (-1.06)	0.160 (0.61)	0.553* (2.48)	-0.0400 (-0.19)	0.487* (2.11)	0.126 (0.58)
Quintile 1	0.0641 (0.52)	0.0370 (0.31)	-0.0601 (-0.48)	-0.173 (-1.23)	-0.0204 (-0.15)	0.125 (1.16)	-0.626*** (-4.51)	-0.0660 (-0.57)
Quintile 2	-0.0883 (-0.67)	-0.0811 (-0.64)	-0.118 (-0.90)	-0.497** (-3.15)	0.00791 (0.06)	0.000109 (0.00)	-0.514*** (-3.70)	0.0839 (0.71)
Quintile 3	-0.0108 (-0.09)	0.0180 (0.15)	-0.0916 (-0.73)	-0.226 (-1.63)	-0.0104 (-0.08)	0.0255 (0.24)	-0.452*** (-3.50)	0.0767 (0.67)
Quintile 4	-0.255* (-2.03)	-0.203 (-1.70)	0.0519 (0.43)	-0.354** (-2.58)	0.0264 (0.20)	0.100 (0.97)	-0.189 (-1.61)	0.224* (2.04)
Constant	-1.058*** (-3.63)	-1.177*** (-4.23)	0.268 (1.01)	-1.031*** (-5.53)	-1.897*** (-5.79)	-0.372 (-1.54)	-0.843** (-2.92)	-1.130*** (-4.33)
N	1321	1272	1345	1115	1336	1344	1351	1350

Note: t statistics in parentheses \*\*\*t-statistics > |2.57|, \*\*t-statistics > |1.96|, \*t-statistics > |1.64|. \*p< 0.1, \*\*p< 0.05, \*\*\*p< 0.01

Table 5. The Reasons for saving and borrowing.

Dependent/ Independent Variables	Saved for business	Saved for old age	Borrowed for medical	Borrowed for business
Female	-0.815*** (-7.86)	-0.119 (-1.47)	-0.255* (-2.31)	-0.681*** (-5.27)
Age	0.0461* (2.45)	0.0587*** (3.89)	0.0302 (1.48)	0.102*** (3.44)
Age_sq	-0.000513* (-2.18)	-0.000488** (-2.69)	-0.000294 (-1.18)	-0.00137*** (-3.46)
Secondary	0.00346 (0.03)	0.150 (1.65)	0.0570 (0.47)	-0.200 (-1.48)
Tertiary	-0.0854 (-0.45)	0.244 (1.50)	-0.309 (-1.15)	-0.695* (-2.18)
Quintile 2	0.0160 (0.10)	0.357* (2.47)	0.00616 (0.03)	0.224 (1.09)
Quintile 3	-0.0163 (-0.10)	0.315* (2.22)	0.0220 (0.13)	0.234 (1.16)
Quintile 4	0.0949 (0.62)	0.392** (2.89)	-0.0285 (-0.17)	0.190 (0.95)
Quintile 5	0.299* (2.05)	0.392** (2.94)	-0.00851 (-0.05)	0.321 (1.65)
Cons	-2.005*** (-5.47)	-2.691*** (-8.55)	-2.144*** (-5.20)	-3.257*** (-5.89)
N	1568	1519	1557	1578

Note: t statistics in parentheses \*\*\*t-statistics > |2.57|, \*\*t-statistics > |1.96|, \*t-statistics > |1.64|. \*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01.

In contrast to saving, borrowing seems a lesser option either for medical purposes or for doing business in Pakistan. The preference of individuals for saving is noteworthy but borrowing, whether it is for as basic as medical expenses or for doing business, is slight. Old aged people prefer doing business. For this, they not only save for business but also borrow. Borrowing for doing business is not the preference for females compared to men as it is observable in saving cases. The results of individuals from different levels of income are insignificant.

## 5. CONCLUSION

In this paper, we investigated the socio-economic determinants of financial inclusion, the reasons that impede financial inclusion, and the motivation for saving and borrowing of individuals belonging to different demographic groups in Pakistan. First, the results suggest that socio-economics determinants such as being female and old group may reduce the likelihood of being financially included while education level and income level increase the chance of being financially included in Pakistan. Second, barriers to financial inclusion, religious reasons, lack of documents, trust deficits, and someone else's having an account are found significant for different demographic groups. Third, saving for business are found both positive and significant for the age group but negative for female. Saving for old age is found significant for age group and for different income levels. Borrowing for medical and business is found negative and significant for females. Borrowing for doing business was also found positive and significant for the age group.

In order to make any meaningful policy to improve financial inclusion in Pakistan, it is imperative for policymakers to target the determinants and barriers to financial inclusion established by this study. For example, females are identified as less likely to use financial services due to someone else having an account already. This comes due to their perceived role in a household in Pakistani society. Therefore, in order for them to be financially included, financial products must be designed in a way that enables them to have their financial autonomy. Similarly, the lack of required documents is also identified significant barrier to financial inclusion. This suggests that policies should be devised that make it easier for people to use financial services. In addition to this,

policymakers must take into account religious reasons if they are to improve financial inclusion. Although a parallel banking system is available in Pakistan that operates on the non-interest principle but still, there is a need to further propagate and clarify the misunderstanding that exists in the mind of people.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study.

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Appendix 1. Definition of variables.

Variables	Definition	Data Source
Formal Account	An account can be used to save money, to make or receive payments, or to receive wages or financial help. Do you, either by yourself or together with someone else, currently have an account at a bank or another type of formal financial institution? Yes =1, no=0?	Global Index
Formal Saving	In the PAST 12 MONTHS, the respondent, personally, saved or set aside any money by using an account at a bank or another type of formal financial institution (This can include using another person's account). Yes =1, no=0	Global Index
Formal Borrowing	In the PAST 12 MONTHS, the respondent, by himself or together with someone else, borrowed any money from a bank or another type of formal financial institution. Yes =1, no=0	Global Index
Reasons for Financial Exclusion		
too far away	The respondent does not have an account at a bank or another type of formal financial institution because financial institutions are too far away. (Yes =1, no=0)	Global Index
Too expensive	The respondent does not have an account at a bank or another type of formal financial institution because financial services are too expensive (Yes =1, no=0)	Global Index
Lack of documentation	The respondent does not have an account at a bank or another type of formal financial institution because you don't have the necessary documentation (identity card, wage slip, etc.). (Yes =1, no=0)	Global Index
Lack of trust	The respondent does not have an account at a bank or another type of formal financial institution because you don't trust financial institutions. (Yes =1, no=0)	Global Index
Religious reasons	The respondent does not have an account at a bank or another type of formal financial institution because of religious reasons. (Yes =1, no=0)	Global Index
Not enough money	The respondent does not have an account at a bank or another type of formal financial institution because you don't have enough money to use financial institutions. (Yes =1, no=0)	Global Index
Family member has an account	The respondent does not have an account at a bank or another type of formal financial institution because someone else in the	Global Index

Variables	Definition	Data Source
	family already has an account. (Yes =1, no=0)	
No need for financial services	The respondent does not have an account at a bank or another type of formal financial institution because you have no need for financial services at a formal institution. (Yes =1, no=0)	Global Findex
Reasons for Saving		
To grow a business or farm	In the past 12 months, the respondent, personally, saved or set aside any money to start, operate, or grow a business or farm? (Yes =1, no=0)	Global Findex
for old age	In the past 12 months, the respondent, personally, saved or set aside any money FOR OLD AGE? (Yes =1, no=0)	Global Findex
Reasons for Borrowing		
Health or medical purpose	In the past 12 months, the respondent, by himself or together with someone else, borrowed money for health or medical purposes? (Yes =1, no=0)	Global Findex
To grow a business or farm	In the past 12 months, the respondent, by himself or together with someone else, borrowed money to start, operate, or grow a business or farm?	Global Findex

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