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Individual Determinants of Financial Inclusion in Palestine

Zahraa Shabana [a]***, Islam Hassouneh*** [b]*

ABSTRACT

We used data from the 2017 World Bank Global Findex database to investigate the main individual characteristics that are associated to the financial inclusion in Palestine. To do so, logistic regression models are applied. The results indicate that being a rich, educated, employed male and being an older person increase the likelihood of being financially included. Findings also suggest that the barriers to financial inclusion, individuals' saving motivations as well as borrowing motivations differ according to individual characteristics.

Keywords: Financial inclusion, finance, economic development, individual characteristics, Palestine.

1. Introduction

Financial inclusion, typically defined as the use of formal financial services, has recently attracted researcher's attention as an important foundation of economic development. More specifically, financial inclusion enables individuals to invest in education, launch business and thus contributing to poverty reduction and economic growth (Beck et al., 2007; Bruhn & Love, 2014). Financial inclusion can also promotes and encourages entrepreneurship as well as enhances financial stability in banks during trouble times (Demirgüç-Kunt & Klapper, 2012; Dupas & Robinson, 2009; Han & Melecky, 2013). Furthermore, financial inclusion can supports women's empowerment (Ashraf et al., 2010; Swamy, 2014).

The importance of financial inclusion and its positive impact on individuals and society is widely recognized. Financial inclusion is considered a policy priority and topic of considerable research interest. Many of the early empirical analyses investigate financial inclusion using data from the World Bank's Global Findex database. Specifically, previous literature examines individual characteristics (such as, gender, age, income and education) associated with the main indicators of financial inclusion (Kumar, 2013; Fungáčová & Weill 2015; Zins & Weill, 2016). Understanding what influences financial inclusion is a crucial issue to favor economic development. Further, financial inclusion practices vary from country to country, and there is need to identify the factors that can explain the observed variation in financial inclusion practices. This paper sheds light on this issue, and contribute to the expanding literature, by assessing the determinants of financial inclusion in Palestine, a country that has not received much research attention. In particular, we investigate how individual characteristics, such as gender, age, income and education, affect financial inclusion in Palestine. We also analyze how barriers to financial inclusion and uses of alternative sources of saving and borrowing are associated with individual characteristics. This study is also the first to assess the effect of work status (employed or not employed) on financial

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inclusion. Another contribution of this paper is the use of the new released 2017 World Bank Global Findex database.

The current unstable political environment in Palestine highly influence both economic and finance sectors. However, the Palestinian financial sector has demonstrated tremendous growth in volume since the signing of the Oslo Peace Accords and the establishment of the Palestinian Authority in 1994. In 2018, the number of banks in Palestine reached 14 with 340 branches, divided into 7 local banks (3 of them Islamic) and 7 foreign banks. Banking activity since 1994 has increased in total value, with public deposits reaching about US$12 billion in 2017, compared with 9.7 and 10.6 in 2015 and 2016, respectively (Palestinian Central Bureau of Statistics, 2019). A better understanding of individual's behavior regarding their access to the financial services, which is the main objective of this paper, will enhance financial inclusion and thus contribute to a sustainable development in the financial sector.

The paper is organized as follows. Section 2 presents a brief overview of the previous literature. Section 3 and section 4 are devoted to discuss the data used in the empirical analysis and the econometric methods, respectively. The discussion of the results are presented in Section 5. Finally, the paper ends with the concluding remarks.

2. Literature review

Financial inclusion is the ease of access to basic financial services to all members of the population so that they can improve their living standards, which leads to general economic development and growth. Theories of financial inclusion indicate a conflict of results about the determinants of financial inclusion. Some studies argue that poor people are less likely to access financial resources (Bhandari, 2018), others think that male are the beneficiaries of financial inclusion (Fungáčová and Weill, 2015). More details about the studies that have been carried out to investigate the determinants and key factors that may influence financial inclusion are now provided.

Barslund & Tarp (2008) investigate the sources of borrowing in Vietnam using a survey of 932 rural households. To do so, authors apply both probit and Ordinary Leas Square (OLS) regressions and find that the determinants of formal and informal credit demand are distinct. The study by Kumar (2013) analyzes the determinants of financial inclusion in India using panel fixed effects and dynamic panel generalized methods of moments methodologies. He finds that the branch network has a positive impact on financial inclusion. His findings also show the importance of a region's socio-economic and environmental setup in shaping banking habit of people.

Demirgüç-Kunt et al. (2013a) focus on analyzing the gender differences in the use of financial services using individual-level data from 98 developing countries and by applying probit technique. The authors' results confirm the presence of gender gaps in ownership of accounts and usage of savings and credit products. They argue that in countries where women face legal restrictions in their ability to work, head a household, choose where to live, and receive inheritance, women are less probably to have an account, relative to men, as well as to save and borrow. Fungáčová & Weill (2015) studies the determinants of financial inclusion in China using individual data from 2011 Global Findex database. More specifically, the study uses the individual's characteristics (gender, age, income and education) to show how these characteristics affect financial-inclusion indicators, barriers and borrowing sources. To do so, authors apply probit approach. Their results show that higher income, better education, being a man, and being older are associated with greater use of formal accounts and formal credit in China. They also find that income and education influence the use of alternative sources of

borrowing. Using the 2012 World Bank Global Findex database for 123 countries and over 124,000 individuals, Allen et al. (2016) investigate the individual and country characteristics associated with the use of formal accounts. They use the Heckman-style model (Heckman, 1979) and find that financial inclusion is associated with lower account costs, greater proximity to financial intermediaries, stronger legal rights and more politically stable environments.

The analysis by Zins & Weill (2016) identify the determinants of financial inclusion in Africa by using the 2014 World Bank's Global Findex database on 37 African countries. They use probit model as the study of Fungáčová and Weill (2015). Their findings imply that being a male, older, richer and more educated increase the chance to be financially included in Africa. Their findings also show that barriers to financial inclusion differ with individual characteristics. Further, they find that the determinants of informal finance differ from those of formal finance. Shihadeh (2018) study the influence of individual's characteristics on their financial inclusion level in the Middle East, North Africa, Afghanistan, and Pakistan, MENAP region. He uses probit model and finds that females and the poor are less likely to access financial resources. His results also indicate that educated individuals have higher opportunities to access financial resources. The study by Lotto (2018) investigates the determinants of financial inclusion in Tanzania using probit regression model. Findings provide evidence that being a male, have a good education, financially stable and relatively older increases the likelihood of being financially included.

In addition to the above studies that investigate the determinants of financial inclusion across different world markets, a number of analyzes have been conducted on this topic in Islamic and MENA countries. Some of these studies are reviewed in this paper.

Demirgüç-Kunt et al. (2013b) apply probit model to examine the use of and demand for formal financial services among self-identified Muslim adults using a sample of more than 65,000 adults from 64 economies. The study reveals that Muslims are less likely than non-Muslims to own a formal account or save at a formal financial institution. They also show that no evidence that Muslims are less likely than non-Muslims to report formal or informal borrowing. Naceur et al. (2015) analyze the relationship between the presence and activity of Islamic banking and financial inclusion. Their results indicate that, though physical access to financial services has increased substantially in the Organization for Islamic Cooperation (OIC) countries, it seemed that OIC countries are still less financially inclusive compared with the rest of the world, in part because of religious self-exclusion. Using Generalized Method of Moments (GMM) and Generalized Least Squares (GLS) econometric models, Neaime & Gaysset (2018) examine the financial inclusion and financial stability in eight MENA countries over the period 2002–2015. Their results show that while financial inclusion decreases income inequality, population size and inflation are found to increase income inequality. Authors also indicate that while financial integration is a contributing factor to financial instability, an increase in financial inclusion contributes positively to financial stability.

As far as the studies on Palestine are concerned, the empirical literature is very limited. One notable non-empirical paper by Shihadeh et al. (2017), discusses the financial inclusion indicators in Palestine and compare them to other indicators in certain countries in the region. In particular, they discuss the banking penetration and usage of banking services and found that while Palestine has achieved a remarkable improvement in the banking presentation, the credits still in low level. Another notable study by Shihadeh (2019) uses the 2014

World Bank Global Findex database to study the influence of individual characteristics on financial inclusion in Palestine. The study shows that females are less likely to be included in financial system. Further, the results indicate that borrowing behavior in Palestine leans toward informal sources.

The above studies focused on the financial inclusion determinants, barriers for access to formal financial institutions, the source of borrowing and linkage with individual characteristics (gender, age, education and income) on several economies, countries and regions worldwide; however, no studies have comprehensively focused on the determinants of financial inclusion in the Palestinian economy. The contribution of the current work is trifold. First, to our knowledge, this paper is the first to include the effect of work status (employed or not employed) on financial inclusion. This variable is added to our model in order to know whether work status matter for financial inclusion or not. Second, this study contributes to the expanding literature on the determinants of financial inclusion by focusing on Palestine, a country that has not received much research attention. Third, we utilize the recently released data, the 2017 Global Findex database, on individuals' characteristics to examine how these different characteristics are associated with financial inclusion

3. Data

In our empirical analysis, the World Bank's 2017 Global Findex database is used. The database is obtained using a household survey realized in 143 countries and covering about 150,000 people around the world. In particular, about 1000 people, aged 15 and above, in each economy have been randomly selected and questioned using over 140 languages. The Global Findex database contains a large number of indicators on financial inclusion such as: the amount of account penetration, the use of financial services, the purposes and motivations, the alternatives of formal finance, the individual characteristics (gender, age, income and education). In this paper and in order to achieve our objective, three measures of financial inclusion are considered in our analysis to the Palestinian economy. The first measure is formal account and refers to the use of bank services. The variable takes 1 if the respondents has an account at a financial institution and 0 otherwise. The second measure is formal saving and refers to the use of the account to save at a financial institution in the past 12 months. The variable takes one if the individual saved money in the past 12 months and 0 otherwise. Formal credit is the third measure and refers to the fact that if the respondent borrowed from a financial institution in the past 12 months or not. The variable is equal to 1 if the individual responded yes and 0 otherwise.

To explain barriers to financial inclusion, respondent is asked eight questions about the reason behind why he does not have an account at a bank or another type of formal financial institution. Each of the answer is a dummy variable equal to 1 if the respondent answer yes and 0 otherwise (see Table 1). A question asks the respondent to choose between three answer options is used to determine saving motivations. In Palestine, two answers are selected by respondents: (a) to start, operate, or grow a business or farm; (b) for old age. Each of the answer is a dummy variables equal to 1 if the respondent responded yes and 0 otherwise. In order to understand saving behavior, people are asked two questions about their saving customs. In the first question, respondents are asked to answer if they have saved any many for any reason in the past 12 months. In the second question, respondents are asked to select if they have saved any money in the past 12 months (a) using an account at a bank or another type of formal financial institution, (b) using an informal savings group/club or a person outside the family.

Table 1: Descriptive statistics for the dependent variables in the estimation

	Obs.	Mean	Std. Dev.
Main indicators of financial inclusion			
Formal account	1000	0.309	0.462
Formal saving	999	0.076	0.265
Formal credit	998	0.067	0.250
Determinants of barriers to financial inclusion			
Too far away	696	0.031	0.175
Too expensive	681	0.130	0.337
Lack of documentation	701	0.032	0.178
No trust	694	0.069	0.253
Religious reasons	699	0.145	0.353
Lack of money	697	0.671	0.470
Family member has an account	698	0.199	0.399
No need for financial services	698	0.358	0.479
Determinants of saving motivation			
For old age	998	0.053	0.224
To start, operate/grow a business or farm	998	0.036	0.186
Determinants of informal saving			
Informal saving	996	0.128	0.334
Saved in the past 12 months	1000	0.292	0.454
Determinants of loan-taking motivation			
For farm or business	999	0.019	0.136
For medical purposes	1000	0.051	0.220
To purchase a home or land	1000	0.070	0.255
Determinants of alternative sources of borrowing			
Family and friends	998	0.215	0.411
Borrowed in the past 12 months	1000	0.321	0.467

The questionnaire also contains questions concerning the individuals' motivations to get credits. Respondents are asked to choose among three propositions: (a) to start, operate, or grow a business or farm; (b) for health or medical purposes; (c) to purchase a home, apartment, or land. Individuals also asked about their ways to borrow money. In particular, they are asked to select between two types of borrowing: (a) from financial institutions and (b) from family and friends (informal credit). Total credit variable is considered by asking the respondents whether they have borrowed money from any source for any reason in the past 12 months. The variable equal to 1 if the answer yes and 0 otherwise. The descriptive statistics for all financial inclusion indicators used in our estimations are presented in Table 1. The table shows that only 30.9% of Palestinians have a formal account. The percentage of Palestinian people having a formal saving in the past 12 months and formal credit are 7.6% and 6.7%, respectively.

Descriptive statistics show that the lack of money is the main barrier to financial inclusion in Palestine (67.1%). The second main barrier is no need for

financial services (35.8%) followed by family member has an account (19.9%), religious reasons (14.5%) and too expensive (13%). Lack of trust, lack of documentation and too far away variables are considered less important barrier to financial inclusion. Saving habits can be for several reasons. In Palestine, 5.3% of people save many for old age and 3.6% save many to start, operate or grow a business or farm.

By comparing formal and informal saving, we can observe that the percent of informal saving is higher than formal saving in Palestine, 12.8% and 7.6%, respectively. As for the saving habit, 29.2% of Palestinians saved money in the past of 12 months. As for the reasons why people need a loan in Palestine, 7% of the Palestinians apply for a loan to purchase a home or land. People also apply for a loan to cover unexpected medical expenses (5.1%) as well as to start, operate or grow a business or firm (1.9%). Borrowing is not limited to formal credit, but also to informal credit such as family and friends. In Palestine 21.5% of people borrow from friends and relatives. The respondents declare that 32.1% of them have borrowed in the past 12 months.

4. Methodology

To understand the determinants of financial inclusion in Palestine, binary logistic regression models are estimated using the following equation:

$$Y_i = \ln(\frac{P_i}{1-P_i}) = b_0 + b_1 Female_i + b_2 Age_i + b_3 Income_i + b_4 Education_i + b_5 Employed_i \quad (1)$$

where Y_i is the log odds of the dependent variables (financial inclusion variables presented in Table 1) and i is the ith observation. b_0 is the constant variable, $b_1, b_2, b_3, b_4 \; and \; b_5$ are the logistic regression coefficients and female, age, income, education and employed are the independent variables of the logistic regression equation More specifically, the female variable takes value 1 if the individual is a female and 0 otherwise. Age represents the number of years for each individual. Concerning the income, four dummy variables are used (poorest – 20%, second – 20%, third – 20% and fourth – 20%). The richest – 20% is the reference level. Education represents the educational level completed by respondent (primary school, secondary education and tertiary education). In our analysis, primary school is used as the reference level. Employed variable is a dummy variable equal to 1 if the individual is employed and 0 otherwise.

5. Results

5.1. Determinants of the main indicators of financial inclusion

In order to measure the main indicators of financial inclusion in Palestine, logistic regression model, in which the odds ratios are computed, is applied. The results using the three measures of financial inclusion as the dependent variables (formal account, formal saving and formal credit) are presented in Table 2, columns 1-3.

Results show that most of individual characteristics have a significant relation with financial inclusion. Being a female, versus being male, significantly decreases the probability of having a formal account or a formal credit, while no significant result is observed concerning formal saving. These results are expected and are consistent with previous literature that has shown that being a female decreases the likelihood to be financially included since females have low income levels and less business experience (Shihadeh 2019; Demirgüç-Kunt et al., 2018). The odds ratios of age are greater than 1 in all cases and thus suggesting a positive

relationship between age and the three indicators of financial inclusion. Older people are more likely to be financially included.

Table 2: Determinants of the main indicators of financial inclusion.

	Formal account	**Formal saving**	**Formal credit**
	(1)	(2)	(3)
Female	0.498*** (0.093)[a]	1.230 (0.333)	0.600* (0.179)
Age	1.035*** (0.005)	1.020** (0.008)	1.017* (0.009)
Income – poorest 20%	0.081*** (0.025)	[b]	0.107** (0.112)
Income – second 20%	0.152*** (0.040)	0.159*** (0.096)	1.270 (0.514)
Income – third 20%	0.312*** (0.071)	0.375*** (0.142)	1.618 (0.576)
Income – fourth 20%	0.390*** (0.089)	0.718 (0.223)	1.401 (0.512)
Secondary education	2.360*** (0.566)	2.067* (0.810)	3.544** (1.810)
Tertiary education	3.928*** (1.119)	3.286*** (1.411)	3.828** (2.122)
Employed	4.184*** (0.810)	2.630*** (0.769)	2.790*** (0.894)
Constant	0.119*** (0.049)	0.015*** (0.010)	0.008*** (0.006)
Observations	998	997	996
Pseudo R^2	0.2634	0.0957	0.1192
Log likelihood	-454.902	-242.936	-216.257

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively. [b] Variable was dropped since none of them (Income – poorest 20%) have formal saving.

Results also suggest that dummy variables for income are all less than 1 and statistically significant for the first indicator of financial inclusion, which is formal account. Hence, the 20% of population with the highest income are more likely to have a formal account compared with the other groups. When determining the main indicators of formal saving, the category with the lowest income (Income – poorest 20%), has been dropped from the estimation since no one in this category has formal saving. Results indicate that dummy variables for income with the second 20% and the third 20% are statistically significant indicating that these two categories are less likely to have formal saving compared with the fourth 20% and highest 20% (the base category). Results further suggest that the dummy variable for income with the poorest 20% are less likely to have formal credit versus the other categories of income. In short, findings suggest that higher income is

associated with higher financial inclusion.

The odds ratios for secondary education and tertiary education for the three indicators of financial inclusion are greater than 1, with higher odds ratios for the later one, suggesting that people with higher education are more likely to be financially included. These results are not surprising and are consistence with the findings obtained by Shihadeh (2019) which stated that more-educated people are more likely to be financially included in Palestine. Results further suggest a statistically significant positive relationship between being employed and the three indicators of financial inclusion. Findings are in line with previous research that has shown that being a male, educated and older person make a good chance of being financially included (see, Allen et al., 2016; Fungácová & Weill, 2015; Zins & Weill, 2016).

5.2. Determinants of barriers to financial inclusion

Previous studies have shown that financial inclusion has several barriers (Fungáčová & Weill, 2015). These barriers can be classified into two types: Voluntary and involuntary barriers. According to Allen et al. (2016), voluntary financial inclusion barriers occur for three reasons: Lack of money, religious reasons and one of the family members has an account. On the other hand, involuntary exclusion which is driven by market failures occurs due to the distance from the bank, the high cost, documentation requirements and lack of trust. In this study and in order to better understand who barriers to financial inclusion are associated with individual characteristics, a logistic regression model is estimated. In particular, we analyze how individual characteristics exert an effect on the causes for not having a formal account. Columns 1 to 7 of Table 3 show the results corresponding to both voluntary and involuntary barriers. The eighth column in Table 3 presents the results if individual does not require any financial services.

Table 3: Determinants of barriers to financial inclusion.

	Too far away	**Too expensive**	**Lack of documentation**	**Lack of trust**	**Religious reasons**	**Lack of money**	**Family member has an account**	**No need for financial services**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	2.613 (1.692)[a]	1.137 (0.328)	0.897 (0.453)	1.296 (0.496)	0.759 (0.197)	1.449* (0.283)	1.794** (0.482)	0.843 (0.161)
Age	0.996 (0.014)	0.999 (0.007)	0.921*** (0.023)	0.993 (0.010)	1.004 (0.007)	1.005 (0.005)	0.993 (0.007)	0.995 (0.005)
Income – poorest 20%	0.550 (0.432)	0.683 (0.277)	0.326 (0.281)	0.335* (0.192)	0.431** (0.170)	1.220 (0.320)	0.072*** (0.033)	0.499*** (0.130)
Income – second 20%	1.131 (0.750)	1.060 (0.402)	0.525 (0.394)	0.579 (0.286)	0.658 (0.241)	1.770** (0.475)	0.180*** (0.061)	0.566** (0.146)
Income – third 20%	0.792 (0.571)	0.982 (0.382)	1.243 (0.759)	0.883 (0.404)	1.515 (0.495)	2.234** (0.611)	0.285*** (0.087)	0.668 (0.170)
Income – fourth 20%	1.203 (0.830)	1.759 (0.657)	1.123 (0.711)	1.351 (0.594)	1.106 (0.388)	1.352 (0.361)	0.839 (0.229)	0.722 (0.188)
Secondary education	0.486 (0.267)	0.417*** (0.120)	0.744 (0.392)	0.673 (0.269)	0.801 (0.228)	0.673* (0.153)	2.978*** (1.026)	0.994 (0.212)
Tertiary education	0.202 (0.229)	0.335** (0.160)	[b]	0.428 (0.272)	0.559 (0.246)	0.408*** (0.129)	3.117*** (1.361)	0.946 (0.294)

	Too far away	**Too expensive**	**Lack of documentation**	**Lack of trust**	**Religious reasons**	**Lack of money**	**Family member has an account**	**No need for financial services**
Employed	1.622 (0.994)	1.600 (0.504)	0.764 (0.444)	1.546 (0.606)	1.258 (0.353)	1.323 (0.286)	0.669 (0.194)	1.236 (0.255)
Constant	0.029*** (0.033)	0.211*** (0.119)	.191 (.205)	0.123*** (0.089)	0.217*** (0.116)	1.177 (0.486)	0.239*** (0.130)	1.077 (0.421)
Observations	694	679	699	692	697	695	696	696
Pseudo R2	0.035	0.036	0.117	0.030	0.032	0.030	0.173	0.013
Log likelihood	-94.086	-254.131	-89.276	-169.014	-280.690	-426.259	-287.585	-448.382

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively. [b] Variable was dropped since none of individuals with tertiary education have lack documentation.

Findings show that females, compared with males, are associated with two barriers to financial inclusion: Lack of money and family member has an account. This result confirms findings obtained by Shihadeh (2019) which argued that females, in Palestine, considered the lack of money and "family member has an account" as barriers to not having a formal account. Findings further suggest that involuntary financial inclusion barriers (too far away, too expensive, lack of documentation and lack of trust) are not responsible for gender discriminations. This finding is expected and is consistent with previous literature that has shown that the existing gender gap in the financial sector is due to female participation in the economy and not within the financial sector itself (Aterido et al., 2013; Demirgüç,-Kunt et al., 2013a; Zins & Weill, 2016). Regarding the age, lack of documentation seems to be the only problem for younger people. The other barriers to financial inclusion are not linked to age. R-square values are also presented in Table 3 above.

Results further show that the lack of money for poor and middle individuals (Income – second 20% and Income – third 20%) comparing with the richest people (the reference level), seems to be an important barrier to be financially included. This result is in line with the findings of Zins & Weill (2016). While education is negatively related with both too expensive and lack of money barriers, it is positively associated with a family member with an account, which is a voluntary self-excluded barrier. Hence, education is considered as an important driver of financial inclusion. Fungácová & Weill (2015) have also found that education is a key driver of financial inclusion. The results of the eighth column, in Table 3, are of particular interest. A negative relationship is found between low income individuals (Income – poorest 20% and Income – second 20%) and no need for financial services and thereby highlighting the fact that poor people are in need for financial services.

5.3. Understanding what shapes financial inclusion in Palestine

To better understand the indicators of financial inclusion in Palestine, the determinants of saving behavior as well as credit behavior are analyzed. First, we address the saving behavior by taking into account two issues: The motives for formal saving and informal saving. Second, the credit behavior using the motives of formal credit and informal credit is analyzed.

5.3.1. Understanding saving behavior in Palestine

The relevance of individual characteristics as indicators of saving behavior has been analyzed in several studies (Barslund & Tarp, 2008; Zins & Weill, 2016). In this paper and in order to understand the determinants of saving behavior, two important motivations for saving are considered. Saving for old age as well as for farm or

business. Results that show how these two motivations are affected by the individual characteristics are presented in Table 4. The coefficients of female are not statistically significant, indicating that saving behavior is not influenced by gender. Results also suggest that for every one unit increase in age, the odds of saving for old age (versus not saving for old age) increases by a factor of 1.053. This result is in line with the findings of Zins & Weill (2016) that show that saving behavior is influenced by age. Concerning income, findings indicate that being next to the poorest people (Income – second 20%) decreases the probability of having saving for old age. Findings further show that all income categories are negatively associated with saving for farm or business. As for education, the coefficients indicate that the odds of have saving for old age increases with the level of education. In particular, being secondary education and tertiary education increases the odds of having saving for old age by factors of 2.075 and 6.204, respectively. The coefficients of employed variable in both models are statistically significant suggesting a positive relationship between saving behavior and being employed.

Table 4: Determinants of saving motivation in Palestine

	For old age	For farm or business
	(1)	(2)
Female	1.610 (0.524)[a]	1.428 (0.553)
Age	1.053*** (0.010)	1.016 (0.012)
Income – poorest 20%	[b]	0.181** (0.138)
Income – second 20%	0.299*** (0.186)	0.240** (0.153)
Income – third 20%	0.775 (0.299)	0.253** (0.142)
Income – fourth 20%	0.645 (0.271)	0.377** (0.183)
Secondary education	2.075* (0.909)	2.182 (1.294)
Tertiary education	6.204*** (2.946)	1.579 (1.059)
Employed	2.016** (0.718)	4.951*** (2.209)
Constant	0.001*** (0.001)	0.008*** (0.007)
Observations	996	996
Pseudo R2	0.134	0.122
Log likelihood	-179.152	-135.887

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively. [b] Variable was dropped since none of them (Income – poorest 20%) have saving for old age.

We now focus on how individual characteristics affect the informal saving. Results are presented in Table5.

Table 5: Determinants of informal saving

	Informal saving	Formal saving	Saved in the past 12 months
	(1)	(2)	(3)
Female	1.942*** (0.455)[a]	1.230 (0.333)	1.425** (0.253)
Age	0.997 (0.006)	1.020** (0.008)	1.000 (0.005)
Income – poorest 20%	0.098*** (0.060)	[b]	0.069*** (0.025)
Income – second 20%	0.427*** (0.140)	0.159*** (0.096)	0.234*** (0.056)
Income – third 20%	0.749 (0.198)	0.375*** (0.142)	0.442*** (0.090)
Income – fourth 20%	1.012 (0.256)	0.718 (0.223)	0.559*** (0.113)
Secondary education	1.760* (0.571)	2.067* (0.810)	2.125*** (0.494)
Tertiary education	1.790 (0.669)	3.286*** (1.411)	2.347*** (0.643)
Employed	2.040*** (0.484)	2.630*** (0.769)	1.629*** (0.298)
Constant	0.070*** (0.037)	0.015*** (0.010)	0.325*** (0.126)
Observations	994	997	998
Pseudo R2	0.084	0.095	0.127
Log likelihood	-349.554	-242.936	-526.400

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively. [b] Variable was dropped since none of them (Income – poorest 20%) have formal saving.

For comparison reasons, the determinants of formal saving, explained above, as well as the total saving are also presented in the table. An interesting point can be observed when comparing the coefficients of female variable in both formal and informal models. Results show that, female play a different role for informal saving compared with formal saving. In particular, while being a female does not affect the probability of formal saving, it increases the odds of informal saving by a factor of 1.94. Results are consistent within the Palestinian context where only 19.1% of females participate in the labor force and having in consideration that females are not responsible for financial duties in the community. While for older people the chance of having a formal saving increases, age does not affect the informal saving. Results further show that income have relatively the same relationship with both formal and informal saving. Specifically, being poorer decreases the

likelihood to be financially included. As for education, results suggest that people with higher education are more likely to have formal saving. However, secondary education is the only dummy variable that increases the likelihood of holding informal saving. As for employed people, the same relationship is found with informal saving and formal saving. Focusing on the indicators that affect the variable saved in the past 12 months. Finding suggest that being a female increases the odds ratio of having money saved in the past 12 months by a factor of 1.425. While income is negatively related to the variable saved in the past 12 months, higher education and being employed increase the probability of saving money in the past year.

5.3.2. Understanding credit behavior in Palestine

To enhance our understanding of financial inclusion, the determinants of credit behavior are analyzed by focusing on the motivations behind getting a loan. Three potential motivations providing an explanation to get a loan have been identified (credit for farm or business, credit for medical purposes and credit to purchase a home or land). The results of the estimation that shows how these three reasons are affected by individual characteristics are presented in Table 6.

Table 6: Determinants of loan-taking motivation

	For farm or business	For medical purposes	To purchase a home or land
	(1)	(2)	(3)
Female	1.058 (0.543)[a]	1.081 (0.359)	0.731 (0.212)
Age	1.026 (0.017)	1.019** (0.009)	1.020** (0.009)
Income – poorest 20%	1.117 (0.830)	0.904 (0.405)	0.865 (0.444)
Income – second 20%	0.931 (0.675)	0.987 (0.422)	1.695 (0.693)
Income – third 20%	0.681 (0.484)	0.765 (0.331)	2.193** (0.794)
Income – fourth 20%	0.656 (0.467)	0.637 (0.299)	1.318 (0.518)
Secondary education	2.682 (2.211)	0.913 (0.342)	4.244*** (2.152)
Tertiary education	3.180 (2.909)	0.832 (0.411)	4.276*** (2.377)
Employed	6.610*** (4.268)	1.970* (0.695)	4.476*** (1.462)
Constant	0.001*** (0.001)	0.022*** (0.016)	0.003*** (0.003)
Observations	997	998	998

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively.

The coefficients of gender are not statistically significant for the three motivations, indicating that gender does not influence credit behavior. However, age happened to be positively significant for two motivations. Specifically, results show that for every one unit increase in age, the odds of taking loan for medical purposes (versus not taking loan for medical purposes) increase by a factor of 1.019. The second motivation affected by age is purchase a home or land. For every one unit increase in age, the odds of taking loan to purchase a home or land (versus not taking loan to purchase a home or land) increases by a factor of 1.02. Results are in line with previous study (see, Shihadeh, 2018; Zins & Weill, 2016). Regarding income, only one coefficient is found to be significant. In particular, income is positively related to loans asked to purchase a home or land for middle class people (Income – third 20%). Income is not associated to loans requested for medical purposes. This finding is not surprising and is consistent with the Palestinian context where the ministry of health contributes financially to health care, especially for the poor and unemployed. Concerning education, secondary education and tertiary education are both have a significant positive effect on the probability of purchasing a home or land. As for the employed, results suggest that employed people are positively associated with all three motivations with high coefficients for farm or business and for purchase a home or land motivations.

The considerable attention in literature has not only been devoted to formal credit, but also to informal credit. Previous studies argue that the determinants of informal credit are distinct from the formal one (see, for example, Zeller, 1994; Barslund and Tarp, 2008). In this paper, the determinants of the informal credit in Palestine is analyzed (see Table 7). For comparison reasons, the determinants of formal credit, explained earlier, are represented in the table. Findings indicate that gender, age and education are not statistically significant when borrowing from family and friends. These results are of prime interest because these three variables are showed to significantly affect formal credit. More specifically, results suggest that the use of alternative sources of borrowing varies with gender, age and education.

Table 7: Determinants of alternative sources of borrowing (Family and friends)

	Family and friends	Formal credit	Borrowed in the past 12 months
	(1)	(2)	(3)
Female	1.076 (0.194)[a]	0.600* (0.179)	0.966 (0.155)
Age	1.002 (0.005)	1.017* (0.009)	1.005 (0.004)
Income – poorest 20%	1.344 (0.346)	0.107** (0.112)	0.748 (0.174)
Income – second 20%	1.758** (0.425)	1.270 (0.514)	1.309 (0.280)
Income – third 20%	1.325 (0.313)	1.618 (0.576)	0.959 (0.198)
Income – fourth 20%	1.120 (0.276)	1.401 (0.512)	0.803 (0.171)
Secondary education	1.161 (0.251)	3.544** (1.810)	1.378 (0.270)

	Family and friends	Formal credit	Borrowed in the past 12 months
	(1)	(2)	(3)
Tertiary education	1.195 (0.329)	3.828** (2.122)	1.601* (0.393)
Employed	1.816*** (0.343)	2.790*** (0.894)	2.424*** (0.408)
Constant	0.132*** (0.053)	0.008*** (0.006)	0.218*** (0.078)
Observations	996	996	998
Pseudo R2	0.017	0.1192	0.046
Log likelihood	-509.211	-216.25797	-596.875

[a] Number in parentheses are standard errors. *, ** and *** denotes statistical significance at the 10%, 5% and 1% levels, respectively.

Concerning income, overall results show that poor people differ from riche people in the way of having credit. While rich people tend to have formal credit, poor people prefer to borrow from family and friends. In other words, people with higher income are more likely to be financially included than poor people. Results are compatible with previous research results (Shihadeh, 2019). As for employee, the same relationship with both forms of credit, formal credit and family and friends, are found. In concerning with borrowed in the past 12 months, the results suggest a positive relation with high educated person and employee. For an individual with tertiary education (versus primary education as well as secondary education) the odds of borrowing in the past 12 months increases by a factor of 1.601. Being employee (versus being not employed) increase the odds ratio by a factor of 2.424. All other individual characteristics are non-significant and thus do not affect the probability of borrowing in past 12 months.

6. Conclusion

In recent years, financial inclusion industry has attracted the attention of policy makers and researchers as a possible channel to develop economy. This paper sheds light on this issue by addressing the individual characteristics that influence financial inclusion in Palestine using the 2017 data from the World Bank's Global Findex database. To capture this issue, logistic regression models are applied.

The results of this study can be summarized as follows. First, we find that being a male, older, richer, more educated and employed increases the likelihood of being financially included in Palestine. These results suggest that financial inclusion plans and policies should target individuals with the following characteristics to increase access to financial services: women, young, less educated, limited income and not employed. Second, findings suggest that the barriers to financial inclusion differ with individual characteristics. Specifically, results suggest the existence of gender heterogeneity in the financial sector and this heterogeneity is due to female participation in the economy and not in the financial sector itself. Lack of documentation appears to be the only problem for younger people to be financially included. In general, income and education variables seem to be important factors to access financial products and services.

Third, the analysis show that individuals' saving motivations differ across people in Palestine. Results indicate that while increase in age increases the probability to save money for old age, age does not influence saving to start business or farm. Findings also

show that educated people are more likely to save money for old age. Fourth, the analysis also suggests that the determinants of resorting to formal or informal sources of savings differ across individual characteristics. Being a female does not influence the probability of official saving, but increases the probability of informal saving. Results are expected and in line with the view that females, in Palestine, are not responsible for financial obligations in society. Age is positively associated with formal credit. For the rest of characteristics (income, education and employed) they have the same relationship with informal saving and formal saving.

Fifth, regarding borrowing motivations, they are three: for farm or business, for medical purposes and for purchase a home or land. These motives differed according to individual characteristics. More specifically, while gender is not an influential factor, the increase in age is positively associated with medical as well as purchase of house or land motivations. Income is positively related to loans asked to purchase a home or land for middle class people only. Furthermore, educated people are borrowing to buy a house or land and employed individuals are positively associated with the three different motives. Sixth, as for credit, the use of alternative sources of borrowing varies with gender, age and education. Being a man, being older and being educated increase the likelihood to have formal credit.

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المحددات الفردية للشمول المالي في فلسطين

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ملخص

تم تطبيق نماذج الانحدار اللوجستي باستخدام قاعدة بيانات البنك الدولي لعام 2017 (Global Findex) من أجل دراسة الخصائص الفردية، المرتبطة بالشمول المالي في فلسطين. وتشير النتائج إلى أن الذكور والأغنياء والمتعلمون والموظفون وكبار السن أكثر وصولاً واستخداماً للخدمات، والمنتجات المالية مقارنة بغيرهم. كما تظهر النتائج أيضاً أنَّ العوائق التي تحول دون انتشار الشمول المالي، ودوافع الادخار لدى الأفراد إضافة لدوافع الاقتراض، تختلف باختلاف الخصائص الفردية.

الكلمات الدالة: الشمول المالي، التمويل، التنمية الاقتصادية، الخصائص الفردية، فلسطين.

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