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What Determines Financial Inclusion in the Philippines? Evidence from a National Baseline Survey

Gilberto M. Llanto and Maureen Ane D. Rosellon[1]

Abstract

This paper contributes to the literature on financial inclusion in the Philippines by examining three key financial services namely, savings, credit and insurance, and identifying individual socioeconomic characteristics that are associated with access to these financial services. Financial inclusion is also analyzed in the context of four geographical areas in the Philippines – NCR, balanced Luzon, Visayas and Mindanao, which provides more insights and a better understanding of financial inclusion. Using data collected from the national baseline survey of financial inclusion, estimation results indicate that socio-demographic characteristics such as age, sex, civil status, education, employment and income are associated significantly with accessing various financial products and services. Findings also suggest similarities in the socio-economic profiles of users and non-users of financial services in the four geographic areas, while differences appear to be related to the presence of banks and other formal financial institutions. These results provide useful inputs to policy and strategies for attaining inclusive finance.

Keywords: financial inclusion, inclusive finance, Philippines

1. Introduction

Financial inclusion has become a policy objective for developing countries aiming at inclusive economic growth and poverty reduction. Theoretical and empirical studies suggest that financial systems serving the low-income segment of society promote pro-poor growth (Hannig and Jansen, 2010). Access to finance allows the poor to accumulate assets like savings and insurance to protect them from potential risks and shocks, and invest in income generating activities. In this context, financial sector development in developing countries has increasingly

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focused on measures toward inclusive financial systems. In this regard, the Philippine policymakers have exerted efforts to improve financial inclusion, education and regulation (Llanto, 2017). The Philippines is considered a thought leader and model for its initiatives and best practices for financial inclusion (Rada 2016).

Notwithstanding present efforts at greater financial inclusion, the Bangko Sentral ng Pilipinas (BSP) finds that access to financial products and services remains a challenge.[2] Only about 43 percent of the adult population in the Philippines save while 68 percent keep their savings at home; a big portion of the population who borrow (72%) transacted with informal resources; and only about 30 percent of small and medium enterprises (SMEs) have formal lines of credit and/or bank loans. Twelve percent of local municipalities have no access to banks or other financial service providers. Moreover, while the Philippines is considered a leading pioneer in mobile financial services, only a small percentage of payments are transacted electronically. This was at 1% of PHP 2.5 billion retail payments in 2015.

The Philippine Development Plan (PDP) 2017-2022 sets out a strategic framework for a sound macroeconomic policy, including an inclusive monetary and financial sector that can support growth and improve access to economic opportunities. Strategies include strengthening the effectiveness of financial inclusion and encouraging efficiency and innovation in microfinance and micro-insurance. Some of the measures to reduce inequality include providing easier access to finance and financial literacy for micro, small and medium enterprises, cooperatives, overseas Filipino workers, and their families. Over the period 2017-2022, the PDP targets increasing levels in financial inclusion indicators such as number of deposit accounts, number of access points per 10,000 adults, percentage of adults with formal account, microfinance service delivery, and micro-insurance penetration.[3]

Meanwhile, the government has issued a National Strategy for Financial Inclusion (NSFI) to map out and coordinate various efforts toward inclusive finance. It has identified four key areas for promoting financial inclusion, namely, (i) policy and regulation, (ii) financial education and consumer protection, (iii) advocacy programs, and (iv) data and measurement.

[2] Media Release. June 15, 2016. http://www.bsp.gov.ph/publications/media.asp?id=4087. Statistics were sourced by BSP from the BSP National Baseline Survey on Financial Inclusion 2015, World Bank Enterprise Survey 2009, BSP Report on the State of Financial Inclusion in the Philippines 2014, Better Than Cash Alliance Diagnostic (Philippines) 2015.

[3] By 2022, >50 million deposit accounts; >10 access points per 10,000 adults (deposit accounts and e-money accounts); >22% adults with formal account (as % of total adult population); >PHP10 billion microfinance services delivery (banking sector); and 35% micro-insurance penetration (as % of total population). Source: Philippine Development Plan 2017-2022.

These key areas will guide the formulation of evidence-based policies and regulations, the design and implementation of programs, and monitoring of progress in financial inclusion.

This study aims to provide empirical evidence on the breadth of financial access in the Philippines by focusing on the perspective of the actual and potential users of financial products and services. It aims to understand what influences individuals' decision to access or not financial products and services. Financial products and services may be accessible to a broad swathe of the population but they become useless if they are not used or tapped by the target users. This study contributes to the literature on financial inclusion in the Philippines by examining three key financial services namely, savings, credit and insurance and identifying factors that influence individuals' decision to access/use these financial services. The study identifies in particular the individual socioeconomic characteristics that are associated with access to savings, credit and insurance. An earlier study by Llanto (2015) using data from the Annual Poverty Indicators' Survey of households looked at access to credit as an indicator of financial inclusion. This study uses a more comprehensive data set on financial inclusion collected through the National Financial Inclusion Baseline Survey of the Bangko Sentral ng Pilipinas.

The paper is organized as follows: the next section provides a brief review of literature on the definition and determinants of financial inclusion. Section 3 discusses the status of financial services in the Philippines, including some information on regulations related to financial inclusion. Section 4 describes the data and methodology, and analyzes the estimation results. The final section concludes with some policy recommendations.

2. Brief Review of Literature on Determinants of Financial Inclusion

Defining financial inclusion

The United Nations and the World Bank define financial inclusion as access to a wide range of financial products and services that are affordable or provided at reasonable cost, useful and able to meet the needs of households and businesses and provided in a responsible and sustainable manner.[4] The World Bank classifies financial products and services as transactions, payments, savings, credit and insurance. In the same vein, the Bangko Sentral ng Pilipinas (BSP) describes financial inclusion as 'a state wherein there is effective access to a wide range of financial products and services by all.' BSP further explains that 'effective

[4] 'Inclusive Finance', www.un.org; 'Financial Inclusion', www.worldbank.org (Accessed- January 2017).

access' means that financial products are available, accessible, and appropriately designed, of good quality and relevant such that people will use and benefit from accessing those products and services (NSFI 2015). The National Strategy for Financial Inclusion (NSFI) indicates four components of financial inclusion, namely, (i) access, (ii) quality, (iii) usage and (iv) welfare (**Figure 1**).

Figure 1: Components of financial inclusion

Source: NSFI, 2015.

Hannig and Jansen (2010) identify these four components as broad measures of financial inclusion. The authors define access as the ability to use available financial products and services from formal institutions. Analysis of potential barriers to opening and using a bank account such as cost or proximity of service points (e.g. branches, ATMs) shows the level of access to financial products and services. Quality refers to the relevance of the financial product or service to the lifestyle needs of the consumers, who each may have different attitudes, opinions, level of knowledge and understanding based on their circumstances and experience in financial matters. Usage refers to adoption of banking services and the regularity, frequency and duration of use of the financial product or service. Impact or welfare measures the change in the lives of consumers that can be attributed to the usage of financial products and services.

An important aspect of the BSP's definition of financial inclusion, 'a wide range of financial products and services', refers to a set of financial products and services consisting of savings, credit, payments, remittance, insurance and investments for different market segments, particularly those that are traditionally un-served and underserved. NSFI (2015) lists some of these products and services:

- Savings: savings account, checking/current account, pension, youth savings, micro-deposit
- Credit: personal/consumer, credit card, mortgage, education, home improvement, microenterprise
- Payments: paper-based, electronic fund transfers, payment cards, innovative payment products
- Insurance: life, health, property, agriculture, domestic
- Investments: retail, debt, equity

There are several types of financial service providers in the Philippines: banks, pawnshops, remittance agents, money changers, foreign exchange dealers, non-stock savings and loan associations, cooperatives, lending companies, microfinance NGOs, insurance companies/agents, and lately fintech companies that offer financial products and services adjusted to the needs of their respective client base.

Determinants of financial inclusion

Studies looking at factors that matter for financial inclusion have been done at either the household or individual level. The likelihood of owning a bank account and using a bank account to save or borrow has been used by various studies as an indicator to measure access to financial products and services. Socioeconomic and locational characteristics have been identified as factors affecting financial inclusion.

A Peruvian study by Clamara et al. (2014) identified socioeconomic and locational factors that characterize households that use the formal financial system. Estimation findings indicated that characteristics such as gender (being female), low education level, low income, marital status (being single), wages as source of income, and residence in a rural area or small town reduce the likelihood of using financial products and services. Owning a house increases the likelihood of using banking services. Meanwhile, their findings also suggested that households with financial needs are more likely to use banks than those having capacity to save. Interestingly, having capacity to save is not a significant factor for financial inclusion in their study.

A similar study looking at determinants of inclusion was done for Mexico by Pena et al. (2014) using the country's 2012 National Financial Inclusion Survey. Using regression analysis, the authors established the correlation between usage of credit and savings products and socioeconomic variables. Similar to earlier findings of Clamara et al (2014), they found that employment, marital status and education were positively related to usage of financial products and services. Other variables found to be significant in financial inclusion are age, headship of the household and remittance. Being female appeared to be positively associated with saving.

The same socioeconomic factors as above (income, age, education, urbanization, employment, marital status) were found to be significantly associated with account ownership and use of banks to save based on the 2011 Gallup World Poll (GWP) survey of over 124,000 individuals in 123 countries (Allen et al 2014). At the country level, findings suggested that owning a bank account is lower in countries where costs of opening an account are higher. On the other hand, the likelihood of bank account ownership is higher with higher level of legal rights index, political stability rating and high level of branch/ATM penetration.

In addition to investigating the likelihood of access or usage of financial products and services, studies have also examined specifically the financially-excluded individuals in order to understand the reasons why people would rather use informal rather than formal services. Clamara et al (2014) analyzed barriers perceived by financially-excluded individuals in Peru (defined as individuals without account in a financial or microfinance institution) by investigating the correlation between individual characteristics and perceived barriers to using financial services. Their interesting findings are as follows: Lower level of education and low income are found to be associated with barrier related to distance of financial services; age is associated with barrier related to cost of financial service and documentation requirements; being male is associated with lack of trust in financial institutions; and having low income is associated with barrier related to lack of money.

Allen et al (2014) assessed barriers to financial inclusion and concluded that poor, less educated, and unemployed rural residents are likely to report barriers of access to or use of financial products and services. The lack of required documentation is likely to be reported by individuals with less education and those who live in the rural areas. Barrier related to distance is found to be associated with living in a rural area, having less education, being married and being poor. Trust in financial institutions is likely to be reported by males and wealthier adults. Not having enough money is likely to be reported by individuals who are poor, older, unemployed, and living in an urban area.

Aside from the usual socioeconomic factors, Martinex et al (2013) analyzed other variables to determine additional perspectives in examining barriers in accessing financial services in Mexico. Level of income and lack of interest or need, understood as self-exclusion were identified as the main barriers to financial access. The study found that barriers of insufficient or irregular income are not common for people who save and who can respond to shocks. Women are also found to be less likely to perceive low or variable income as barrier, compared to men. The unemployed, lower educated, and those living in smaller towns are found to be more likely to feel this barrier. Meanwhile, self-exclusion barriers, i.e., no interest/no need for saving and/or credit services (which also may indicate preference for informal market), are most common among those with money to spare, as well as those with lower income; however, this barrier is found to be less prevalent among women. Results of study also indicate that as a person gets older, he or she is less likely to report that they have no interest in financial products; though at some turning point (about 54 years old) this probability starts to increase.

Moreover, Martinex et al (2013) also found that barriers related to personal reasons – mistrust, fear at being rejected, refusal to be in debt or preference for informal saving, are less likely for individuals without income, but more likely for households with savings and capacity to deal with shocks. The authors link these findings to the fact that there is less probability for those without income to decide whether to save or avail of any type of loan. The findings are also considered consistent with the self-exclusion results and a possible indication of fear based on prior experience in the formal financial market.[5] Findings also indicate that access barriers, i.e., distance to the point of access, costs (fees, interest rates) and requirements (reasons for access), are most likely to be reported by individuals or households that live in small towns, and who have money to spare – the latter characteristic possibly capturing preference for the informal market according to the authors (Martinex et al 2013).

In the Philippines, Tan (2014) constructed an index of financial inclusion (IFI) at the regional level and through correlation analysis identified factors that are correlated with the index values. The index, classified as low, medium or high IFI, adopts the methodology by Sarma (2012) which incorporates three dimensions and their corresponding indicators in the calculation: bank penetration, availability of banking services, and usage. Tan found that

[5] Results of the survey used in Martinex et al (2013) indicated that a higher percentage of households with money to spare and have capacity to deal with shocks, compared to households without savings or that cannot deal with shocks, have reported that they have experienced rejection when they applied for a loan.

regional GDP per capita, average family income, urbanization, functional literacy rate, salary/wage as main source of income are positively correlated with the regional IFI values, while regional poverty incidence, share of agriculture in total employment, entrepreneurial activities as main source of income are negatively related with regional IFI values.

A household level analysis for the Philippines was done by Llanto (2015) to identify factors that affect household decision to participate in formal financial markets (defined as access to formal credit). Estimation results from a Heckman selection model, using the country's Annual Poverty Indicators Survey (APIS), indicated that age, marital status, household size, education of the household head, dependency ratio are significantly associated with access to formal credit. The author also looked at the impact of utilization of financial services on household incomes and found that that access to credit has significant and positive impact on household income.

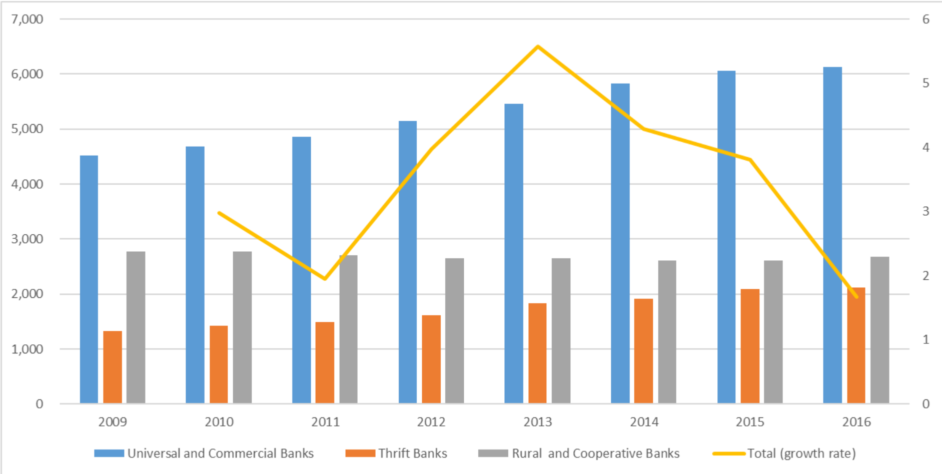
3. Financial Services and Inclusive Finance

This section summarizes the status of financial services in the Philippines, and lists down policies and programs aimed at promoting inclusive finance. The profile of the financial services presented here covers the physical network of banks, access, quality, usage and impact of financial products and services. This section used extensively data from the BSP's 2015 National Baseline Survey on Financial Inclusion.

Physical network of banks

The number of banks by bank type is summarized in **Figure 2**. Over this period, the number of banks grew at an average of 3.5 percent, with the highest increases experienced in 2012-2015. Universal and commercial banks account for a little over 50 percent of all bank types, followed by rural and cooperative banks. Of the three bank types, thrift banks have the highest growth rate, while rural and cooperative bank growth has been quite steady over the last seven years.

Figure 2: Number of banks by type of bank, 2009-2016

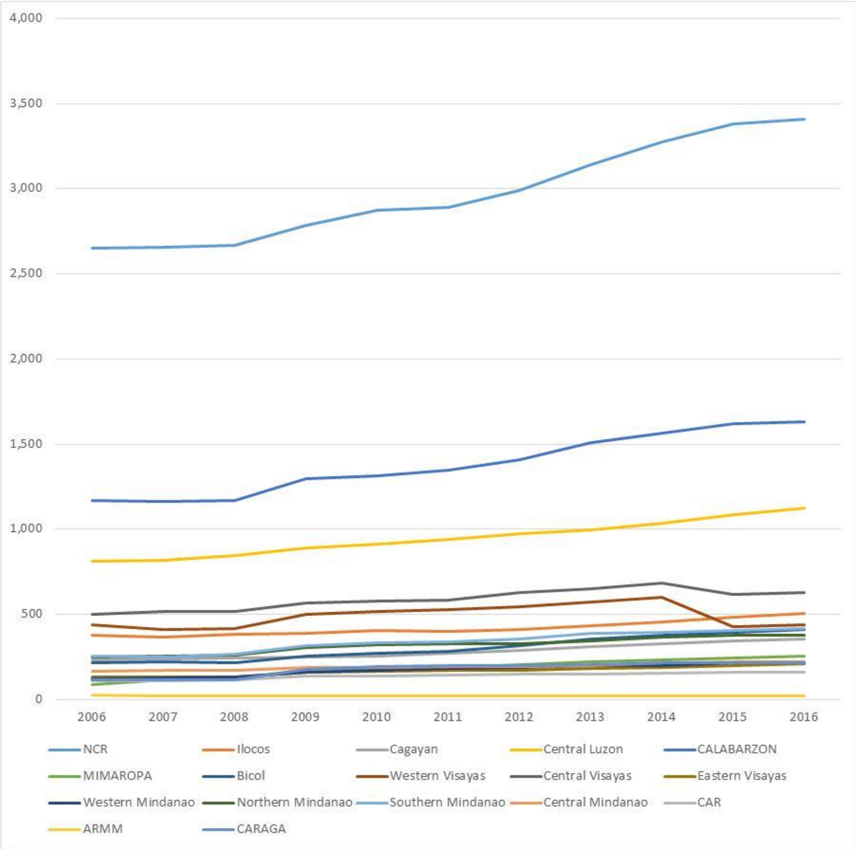


Note: The count includes head offices, branches and other offices of banks; 2016 figures are as of month of June.
Source: Bangko Sentral ng Pilipinas

The banking offices are concentrated in the more urbanized regions in the Philippines as indicated by the regional data on distribution of banking offices (**Figure 3**). The National Capital Region (NCR) or Metro Manila, the business center of the Philippines, holds about one third of the banking offices. CALABARZON and Central Luzon, which are regions contiguous to NCR, come in second and third regions respectively in terms of banking network. The NCR, CALABARZON and Central Luzon are the most populated regions in the Philippines.

Data on bank network vis-à-vis population on a regional level reveal the same pattern with NCR having the most number of banks available per 10,000 adults at an average of 3.6 in 2010 and 2015, which is higher than the national average (**Figure 4**). NCR is followed by CALABARZON and Central Luzon, which have an average of 1.6 and 1.4 banks per 10,000 adults, respectively, during the same period. On the other hand, ARMM, Eastern Visayas and SOCCSKARGEN, which are some of the highly rural regions in the Philippines, have the least number of banks per 10,000 adults. In ARMM, there is approximately one bank for 100,000 adults; while in the two latter regions, there is approximately 7 banks for 100,000 adults.

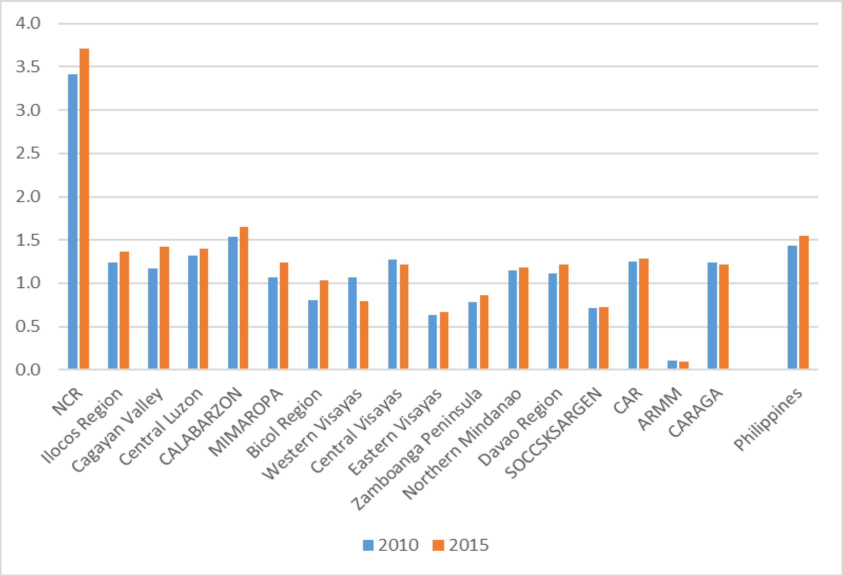
Figure 3: Regional distribution of banking offices, 2006-2016



Note: The count includes head offices, branches and other offices of banks; 2016 figures are as of month of June.
Source: Bangko Sentral ng Pilipinas

Based on a study by Tan (2014), NCR, CALABARZON and Central Luzon are among the regions with high indices of financial inclusion (IFI) while the more rural regions such as Eastern Visayas, Zamboanga Peninsula, and ARMM have low IFI. These regions also registered the lowest number of bank offices based on statistics from the BSP.

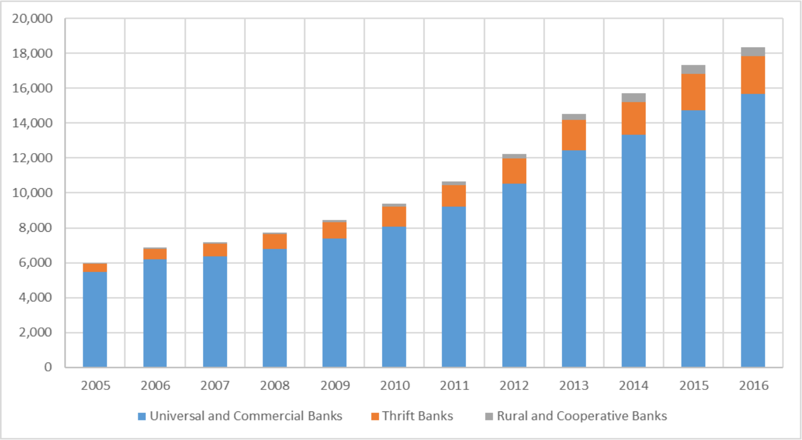
Figure 4: Number of banks per 10,000 adults by region



Source of data: PSA, 2010 Census of Population and Housing; BSP
Note: 2015 population used in the calculation is a projection based on 2010 census
Adult refers to person 15 years old and above

Automated teller machines (ATMs) form part of the banking system in the Philippines. As expected, the bigger banks (universal/commercial banks), have the largest network of ATMs among bank types (**Figure 5**). In the last decade, the Philippines ATM network has been growing quite steadily. In 2005 to 2016, the number of ATMs of universal/commercial banks almost tripled while those of thrift banks grew four times as much. The rural and cooperative banks registered the largest growth with their ATM network increasing 13 times as many from 2005 to 2016.

Figure 5: Number of automated teller machines by type of bank, 2005-2016



Note: Covers BSP supervised/regulated banks; Counts on-site and off-site;
2005 figure is as of month of September; 2016 figure is as of month of June.
Source: Bangko Sentral ng Pilipinas

In the future, electronic banking would be the more accessible means for financial transactions compared to ATMs but it will require suitable electronic devices and a strong and reliable internet connection. Philippine banks have recently introduced electronic banking to the market as a proper response to global innovations in banking and financial transactions and the growing demand for more accessibility to financial products and services.

The universal/commercial banks have spearheaded offering electronic banking. A good sign is the growing number of smaller banks such as rural and cooperative banks and thrift banks also offering e-banking services. (**Figure 6**).

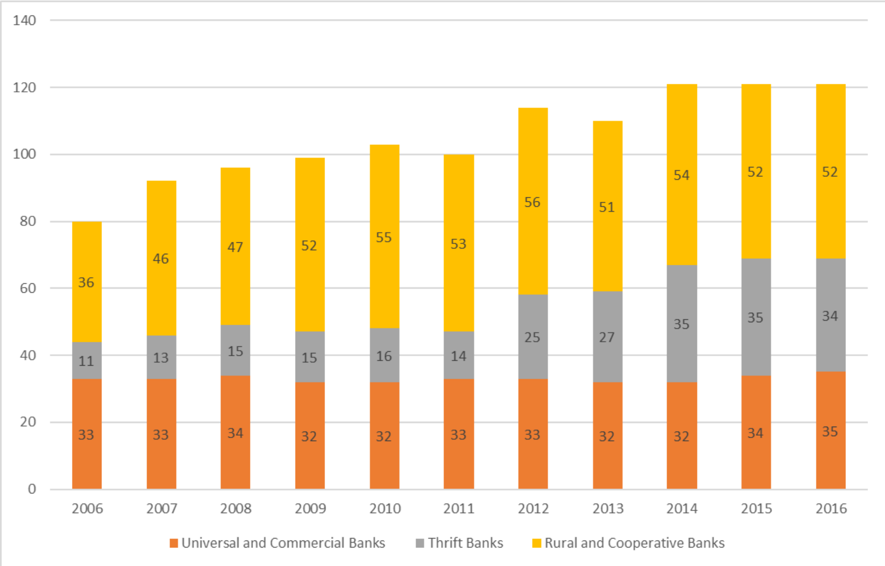
Mobile financial service is becoming a successful endeavor in the country and it has started to penetrate the so-called "unbanked markets". The Philippines is considered as 'one of the world's pioneers in developing mobile financial services for the unbanked' (Tovar et al 2014). The SMART Money, launched in 2001and G-Cash, in 2004 offered by two telecommunications companies in the country, are examples of the first mobile money systems in the world. The telecommunications companies have partnered with financial institutions (commercial and rural banks, microfinance institutions, non-bank institutions, NGOs, pawnshops, cooperatives) and international donors in marketing and offering mobile financial services domestically and overseas.

A study by the GSM Association[6] found that mobile financial services has been successful in the Philippines because of positive market characteristics, liberal regulations implemented by the BSP, and the participation of the two telecommunications companies (cited by Tovar et al 2014). There is a big domestic remittance market in the Philippines that can benefit from digital finance. The biggest pawnshop and remittance companies have tapped the huge remittance market by exploiting the potential of mobile payments systems. The BSP has kept an open mind on the development of innovative financial products and services delivered by both bank and non-bank providers. This policy stance by the BSP has been a contributing factor to the growth of mobile financial services in the country. It has issued regulations promoting efficiency in mobile financial services. Although mobile financial services have taken a foothold in the financial markets, the majority of retail transactions by individuals and businesses in the Philippines are still done in cash. A 2015 report by Better Than Cash Alliance

[6] GSM Association or GSMA is a trade association that represents the interests of mobile operators worldwide (http://www.gsma.com).

states that in the Philippines only 1 percent of the 2.5 billion retail payments per month were done electronically.[7]

Figure 6: Number of banks with electronic banking



Note: E-banking as approved by the BSP; 2005 figure is as of month of September;
2016 figure is as of month of June.
Source: Bangko Sentral ng Pilipinas

Access

Access is one of the key characteristics of financial inclusion. One way of understanding the level of access to financial products and services is to look at potential barriers to access such as cost or proximity to the service or access points, that is, financial services providers.

Based on the 2015 NBSFI survey, most adults (71.2% of survey respondents) find pawnshops as the nearest and easiest to reach among access points for financial products and services. Payment centers and ATMs constitute the next most important access point. Banks rank 6th among 12 access points listed in the survey (**Figure 7**). With respect to travel time to an access point, NSSLAs, payment centers, and remittance agents take the shortest time to reach at 17 to 18 minutes (**Figure 8**). Cost of a round-trip travel to the three access points are also the lowest, at PHP31 to PHP37 (roughly less than USD0.70 [USD1=PHP49.9]) (**Figure**

[7] https://www.betterthancash.org/tools-research/case-studies/country-diagnostic-the-philippines. Better Than Cash Alliance is a partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments in order to reduce poverty and drive inclusive growth. It is an implementing partner for the G20 Global Partnership for Financial Inclusion, and is based at the UN.

9). Lending/financing companies and banks rank as access points with the longest time to reach at around 26 to 27 minutes; and round-trip travel costing around to PHP51 to PHP 62 (roughly USD1-1.50).

Figure 7: Percent of adults who stated that access point is near and easy to reach

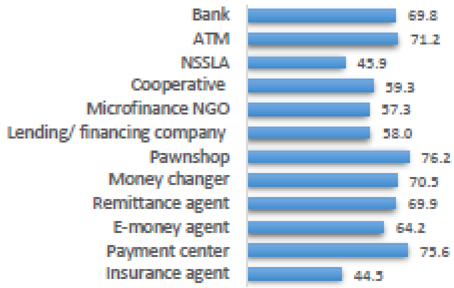


Figure 8: Average length of time (in minutes) to go to the nearest access point

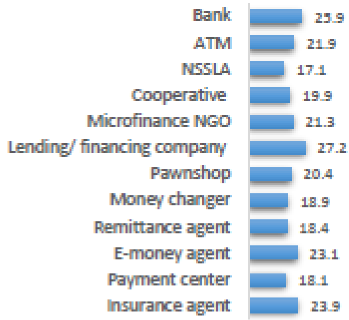
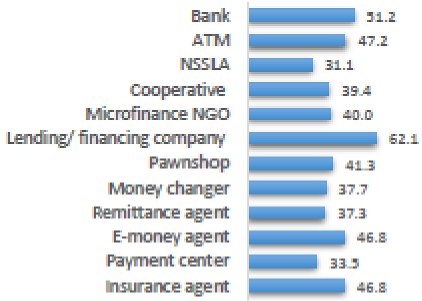


Figure 9: Average cost (in PhP) of round-trip travel to go to the nearest access point

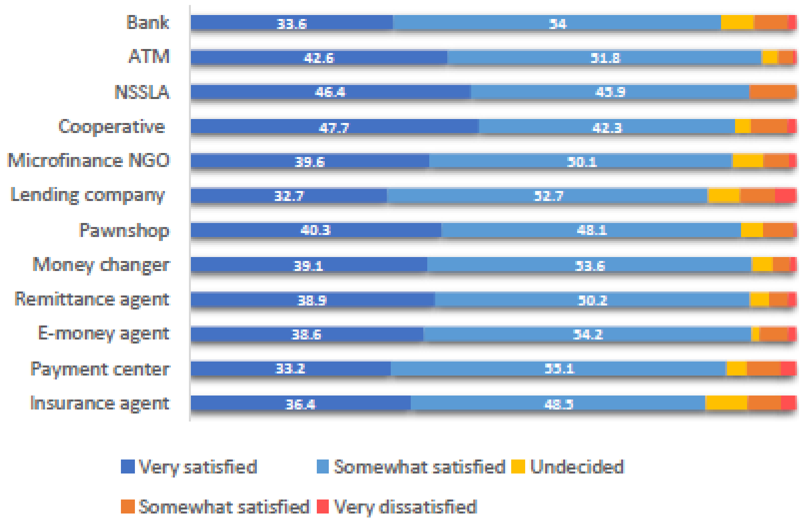


Source: NBSFI Report, 2015, p.14,18.

Quality

The relevance of the financial product or service to the needs of the consumers is an important characteristic of financial inclusion. In the 2015 NBSFI report, results indicate that most adults, about 85 to 95 percent, are satisfied with their transactions at different access points (**Figure 10**). Transactions with cooperatives, national savings and loans associations (NSSLAs), microfinance NGOs and pawnshops brought the highest satisfaction to respondents. Respondents were mostly dissatisfied with transactions with lending companies, insurance agents and payment centers.

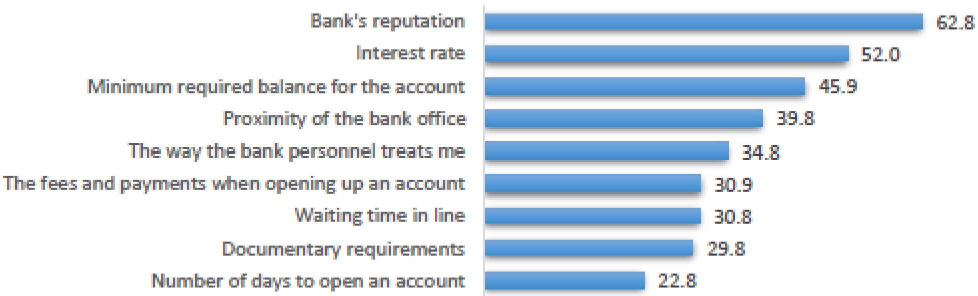
Figure 10: Satisfaction with transactions in financial access points



Source: NBSFI Report, 2015, p.20

In opening bank accounts, 63% of respondents consider as foremost consideration the bank's reputation, followed by deposit interest rate (52% of respondents) and the required minimum balance for the savings account (46%) (**Figure 11**). On the other hand, when borrowing from a bank (figure not presented here), the 2015 NBSFI results indicate that the level of interest rate is the prime consideration, followed by loan payment terms such as the amount of loan amortization and loan maturity period, and the reputation of the bank.

Figure 11: Main considerations in opening a bank account



Source: NBSFI Report, 2015, p.27

Usage

Table 1 presents selected indicators related to usage of financial products and services. From 2011 to 2014, data on the selected indicators suggest that usage has improved. There has been an increase in percentage of ownership of financial accounts by females, males, and poorest 40% income group. A greater proportion of females than males have an account at a financial institution. The greater proportion of financial account owners consists of adults with higher educational attainment (at least secondary education) compared with those with lower educational attainment (primary education or less). However, the increase in the accounts at a financial institution of those with primary education or less from 12.3% to 15.2% is notable.

Table 1: Selected indicators on access to financial services

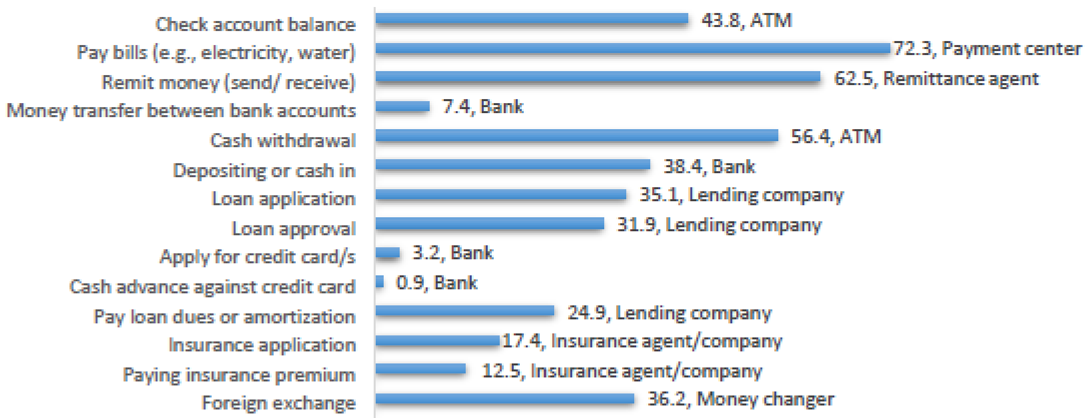
Percentage of adults with:	**2011**	**2014**
Account at a financial institution	26.6	28.1
Account at a financial institution, female	33.7	33.9
Account at a financial institution, male	19.0	22.0
Account at a financial institution, income, poorest 40%	10.7	14.9
Account at a financial institution, income, richest 60%	37.1	37.1
Account at a financial institution, primary education or less	12.3	15.2
Account at a financial institution, secondary education or more	33.1	33.5
Account at a financial institution, young adults (ages 15-24)	18.3	13.9
Account at a financial institution, rural	18.8	..
Borrowed any money in the past year	..	69.7
Borrowed any money in the past year, female	..	70.7
Borrowed any money in the past year, male	..	68.6
Borrowed any money in the past year, income, poorest 40%	..	68.9
Borrowed any money in the past year, income, richest 60%	..	70.2

Note: Adult is defined as a person aged 15 years old and above
Source: Global Financial Inclusion Database (Global Findex).

As for other types of transactions, the 2015 NBSFI survey revealed that payment of bills, money remittance and cash withdrawal are the three most frequent financial transactions of Filipino adults (**Figure 12**). Credit card related transactions have the least number of transactions among adults. As for access points, banks are mostly used for money transfer between bank accounts, deposit or cash in, and credit card related transactions. Loan related transactions are mostly done in lending companies. The other access points, such as ATMs, payment centers, insurance companies and money changers, are most frequently used for the main financial products and services that they offer (e.g. payment of bills in payment centers, insurance application and premium payment in insurance companies/agents).

The 2015 NBSFI report also revealed that certain financial transactions are done on a monthly, semi-annual, annual or occasional basis. The most frequent transactions, done usually every month, are checking of account balance, payment of bills, money remittance (send/receive), cash deposit and withdrawal, and payment of loan amortization and insurance premium. Loan applications/approvals usually happen every 6 months, cash advance against credit card once a year, and occasionally, money transfer between bank accounts, application for credit card, insurance application and foreign currency exchange.

Figure 12: Percentage of adults who have tried a financial transaction and the most frequently used channel



Source: NBSFI Report, 2015, p.21

Impact/Welfare

The impact on the welfare of consumers of financial products or services is an important dimension of financial inclusion. The 2015 NBSFI survey indicates that most Filipino adults recognize the importance and benefits of access to financial services (**Figure 13a**). About 86 percent of adults feel that it is important to them on a personal level; 88 percent of adults believe that it is beneficial to their family and about 86 percent expressed a desire to access financial products and services from formal financial institutions.[8] Llanto (2015b) for instance, found that financial inclusion (defined as access to credit) has a positive and significant impact on household income. Access and use of financial services are an important tool of households

[8] Based on the 2015 NBSFI, formal financial institutions include bank, government entity, lending investors, financing company, pawnshop, cooperative or microfinance NGO.

for consumption smoothing, making productive investments, and coping with catastrophic risks (page 188).

As for specific services, the majority of adults find savings, borrowings and insurance to be important and beneficial to their families (**Figures 13b-d**). Particularly, keeping money for a specific purpose is important (according to 97% of adults) and having ways and means to do so are likewise important (97% of adults). As for insurance, about 8 out of 10 adults believe that insurance will provide financial aid when unexpected circumstances happen, and disagree that insurance are for the rich. About 80 percent of adults expressed desire to access to save and acquire insurance; while a lower proportion, about 56 percent, desire to avail of credit in formal financial institutions.

Figure 13a: Perception on importance of access to financial services

Figure 13b: Perception on importance of savings

Figure 13c: Perception on importance of borrowing

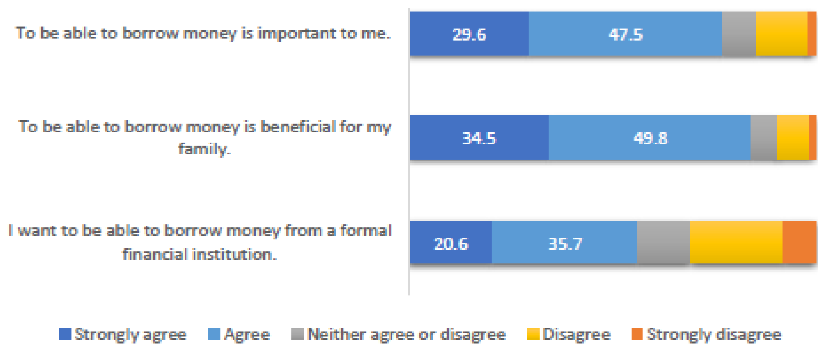
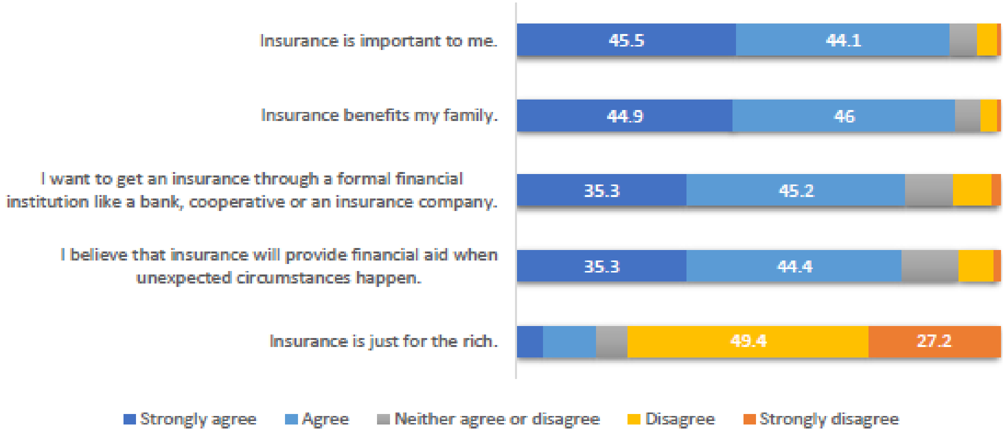


Figure 13d: Perception on importance of insurance



Source: NBSFI Report, 2015, p.18,30,35,47

Regulatory environment for inclusive finance

The government and the BSP have worked together to provide a policy and regulatory environment to advance inclusive finance. This is evident in the Philippine Development Plan and BSP's regulatory stance on the activities of banks geared toward financial inclusion. The BSP has created a full-time Inclusive Finance Staff to lead efforts at financial education and advocacy. The government, on the other hand, has issued the National Strategy for Financial Inclusion (NSFI) as the framework for inclusive finance programs and policies, and Executive Order No. 208 (2016) that created the Financial Inclusion Steering Committee to oversee and provide strategic direction and guidance to the implementation of the NSFI and give advice to stakeholders in meeting their objectives. A consultative process among various stakeholders composed of financial service providers, clients/users of financial services, government institutions, interest groups, and development partners and international organizations has also been installed to provide inputs and feedback, share knowledge, use services and give support to initiatives and activities.

Four key areas towards inclusive financial systems were established, namely, (1) policy and regulation which also covers products and services and financial infrastructure, (2) financial education and consumer protection, (3) advocacy programs, and (4) data and measurement. These key areas will guide the strategies and framework for the formulation of evidence-based policies, design and implementation of programs, and monitoring of progress in financial inclusion.

Policy and regulation focuses on promoting broader access to responsive and responsible financial products and services, especially among the un-served and under-served publics such as low-income groups, micro-small-and-medium enterprises, agriculture and agrarian reform sectors, and the youth, among others. Promoting innovative financial products and services, fostering competition, ensuring consumer protection, strengthening financial education, ensuring consistent policies and regulations, and establishing efficient financial intermediation are areas requiring attention by the stakeholders.

Data and measurement will promote and support evidence-based policymaking and enable monitoring of progress and evaluation of initiatives. Strategies include institutionalizing measurement and reporting of financial inclusion indicators/metrics; engaging stakeholders to share and address data requirements; encouraging conduct of research and case studies (including review of existing literature/studies); reviewing data and measurement framework for relevance, cohesiveness and effectiveness of policies; having relevant data made available to stakeholders for accountability, monitoring and evaluation.

BSP Circular 649 (2009) provides guidelines governing the issuance of electronic money (e-money) and the operations of electronic money issuers (EMI) in the Philippines. BSP issued this circular to promote 'the availability and acceptance of e-money as a retail payment medium by providing the necessary safeguards and controls to mitigate the risks associated in an e-money business.' E-money is defined as monetary value that is electronically stored in an instrument or device, accepted as a means of payment by persons or entities other than the issuer, and could be withdrawn in cash or cash equivalent. Electronic instruments or devices refer to cash cards, e-wallets accessible via mobile phones or other access device, stored value cards, and other similar products. Meanwhile, EMIs are classified as banks, non-bank financial institutions supervised by the BSP, and non-bank institutions registered with the BSP as a money transfer agent.

The issuance of this circular is an important contribution of the BSP to the success of mobile banking in the Philippines (Tovar et al. 2014). Furthermore, the collaborative relationship between the Philippine central bank and the telecommunication companies adds to this success. The BSP has encouraged mobile phone companies to develop innovative financial services and business models in delivering financial services.[9] The BSP's regulatory

[9] This initiative resulted in the creation of innovative financial services such as SMART Money and G-Cash (Tovar et al 2014).

stance has enabled non-bank institutions to offer competitive, convenient and commercially viable financial services (Tovar et al (2014) citing a GSMA study).

Republic Act No. 10693, a law intending to strengthen nongovernment organizations (NGOs) engaged in microfinance operations for the poor, was enacted in 2015. This law called the "Microfinance NGOs Act" defines the basic features and purposes of microfinance NGOs which include the following: providing the poor direct access to reasonable and affordable credit and related products and services, e.g. microfinance, micro-insurance, health care, micro-housing; providing capacity building opportunities; maintaining a comprehensive and transparent management information system; publishing/disclosing audited financial accounts; and other operations-specific features.

The creation of a Microfinance NGO Regulatory Council as mandated by this Act is a step toward providing an appropriate regulatory framework for these financial service providers. The Council to be established by the Securities and Exchange Commission will be an accrediting body composed of government and microfinance NGO representatives. Apart from accreditation responsibilities, the Council will establish parameters in assessing financial and social performance, and adherence to standards and principles for good corporate governance of microfinance NGOs.

3. Data, Methodology and Empirical Results

National Baseline Survey on Financial Inclusion (NBSFI)

We used data from the NBSFI a national representative survey of Filipino adults on financial inclusion (NBSFI 2015). The survey was conducted in NCR, balanced Luzon, Visayas and Mindanao, with a sample size of 1,200 adults – defined as individuals aged 15 years old and above. The survey used multi-stage probability sampling in the selection of respondents and was done through face-to-face interviews guided by a structured questionnaire. The survey instrument was designed by the Inclusive Finance Advocacy Staff of the BSP and implemented by a well-known private survey firm. The questionnaire was peer-reviewed by organizations that have implemented national financial inclusion surveys, namely Comisión Nacional Bancaria y de Valores (CNBV) of Mexico, Bank of Tanzania and the World Bank, and was approved by the Philippine Statistics Authority (PSA).

Methodology

To analyze the correlation between financial inclusion and the hypothesized determinants, we estimated probit models. In such models, the dependent variable is binary, taking the value of 1 or 0. Binary classification models such as probit models quantify the probability of an individual belonging to the group that is being studied.

The probit model employed here assumes that the decision to use/transact with formal financial institutions depends on a latent variable $y*$ which is determined by a set of exogenous/explanatory variables included in the vector *x'*, as follows:[10]

$$y_i^* = x_i'\beta + u_i$$

$$y_i = 1 \; if \; y_i^* > 0 \; ; \; y_i = 0 \; if \; y_i^* \leq 0$$

where *i* represents individuals and β is a vector of parameters. *u* is a normally distributed error term with mean 0 and variance 1. There is a critical threshold, y_i, such that if y_i^* exceeds y_i then an individual transacted with formal financial institutions. y_i is not observable either, and is assumed to be normally distributed with the same mean and variance.

We estimated this equation with the variables listed in Table 2. In this study, access to savings, credit and insurance are used to represent financial inclusion.

Table 2: List of variables

Variable	Description
Transacted in formal financial institution	Dummy: 1 if the respondent has financial transaction with formal financial institutions, 0 otherwise. Financial transaction may be in the form of depositing, paying bills, getting a loan or insurance, sending or receiving money and investing. Formal financial institutions referred to are bank, government entity (e.g. GSIS, SSS, Pag-ibig), lending investors, financing company, pawnshop, cooperative or microfinance NGO.
Accessed credit products and services	Dummy: 1 if the respondent applied for loan with a formal financial institution, 0 otherwise
Accessed insurance products/services	Dummy: 1 if the respondent availed of insurance, 0 otherwise
Ownership of savings account	Dummy: 1 if the respondent saves in a formal financial institution, 0 otherwise

[10] Adopts Tuesta et al (2015).

Age	Age in years
Age squared	Age squared
Women	Dummy: 1 if respondent is female, 0 if male
Single	Dummy: 1 if the respondent is single, 0 otherwise
Married	Dummy: 1 if the respondent is married, 0 otherwise
Prev_married	Dummy: 1 if the respondent is widowed, divorced or separated, 0 otherwise
Employed	Dummy: 1 if the respondent is employed in the formal or informal sector – full time or part-time, 0 otherwise
Self-employed	Dummy: 1 if the respondent is self-employed/has business, 0 otherwise
Unemployed	Dummy: 1 if the respondent is unemployed, 0 otherwise
Elem	Dummy: 1 if the respondent completed elementary or less, 0 otherwise
High school	Dummy: 1 if the respondent reached or completed high school, 0 otherwise
Voc-college	Dummy: 1 if the respondent reached vocational, college and post college, 0 otherwise
Rural	Dummy: 1 if the respondent lives in a rural area, 0 otherwise
NCR	Dummy: 1 if the respondent lives in the National Capital Region (NCR) area, 0 otherwise
Luzon	Dummy: 1 if the respondent lives in the Luzon area, 0 otherwise
Visayas	Dummy: 1 if the respondent lives in Visayas area, 0 otherwise
Mindanao	Dummy: 1 if the respondent lives in the Mindanao area, 0 otherwise
Quintile1	Dummy: 1 if the respondent falls in the lowest income quintile, 0 otherwise
Quintile2	Dummy: 1 if the respondent falls in the second lowest income quintile, 0 otherwise
Quintile3	Dummy: 1 if the respondent falls in the middle income quintile, 0 otherwise

Quintile4	Dummy: 1 if the respondent falls in the second highest income quintile, 0 otherwise
Quintile5	Dummy: 1 if the respondent falls in the highest income quintile, 0 otherwise

Overall estimation results

This section presents our estimation results. Model 1 was estimated using the location variable 'rural'. Model 2 used four geographic divisions (NCR, balanced Luzon, Visayas, Mindanao). Estimation results from Model 1 and Model 2 indicate that age, sex, marital status, employment, level of education and level of income significantly affect the likelihood of transacting with formal financial institutions (FFIs) (**Table 3**). The same factors, except employment, significantly affect likelihood of accessing credit and insurance products and services. These results are consistent with the findings of Llanto (2015) on Filipino households' decision to borrow from formal financial institutions. Meanwhile, for the likelihood of owning savings account, sex, level of education, location (rural or urban), and level of income are significant factors.

Age shows a positive relationship with the likelihood of transacting with FFIs, and accessing credit and insurance products and services, but becomes negative at a certain age level (represented by age^2). This is consistent with the findings of other researchers like Pena et al. (2014) who pointed out that financial inclusion increases with age until it reaches a tipping point, at which age the use of financial products and services (e.g. savings and credit) lessens.

The variable 'women' having a significant positive sign indicate there is a difference between male and female behavior with the latter more likely to engage in financial transactions, specifically owning a savings account or accessing credit and insurance services. Allen et al (2012) assumes a negative relationship for being female, in the assumption that it is harder for women to own bank accounts. However, the positive sign in our estimates may indicate that women in the Philippines are increasingly participating in finance-related activities, consistent with efforts of women to have a greater role in the marketplace.

As for civil status, with 'married' as base category, the results suggest that single adults are less likely to make transactions in FFIs or apply for loan compared to married adults, and there appears to be no difference between married and adults who are divorced, separated or widowed.

As for employment, self-employed adults are more likely to transact in FFIs than unemployed or employed adults. However, specific actions such as owning a savings account, or accessing credit or insurance products and services are more likely for employed adults. Other studies also found employment as a significant factor as they are expected to at least have their own bank account for transactions such as receiving or paying salaries (Allen et al 2012).

The level of education is a significant factor in financial inclusion based on the results. Adults who have reached only the elementary and high school level are less likely to transact with FFIs, own a savings account, or access credit and insurance products and services compared to adults who have attained vocational school or college education or higher. Education can be a measure of knowledge, skillset and capacity to make decisions, hence it is often used as a proxy for financial literacy and measure of financial knowledge and capability to participate in formal financial markets. Financial knowledge allows individuals to decide whether to save, apply for a loan, or get insurance depending on their needs and preferences (Martinez et al 2013).

Model 1 uses 'rural' as the location variable, which is found to be significant only in predicting the likelihood of an adult owning a savings account. The negative sign indicates that adults from rural areas are less likely to own a savings account compared to adults in urbanized areas. Generally, there is limited presence of financial institutions in rural areas, leading to expectation that there is less probability of usage of financial services (Allen et al 2012). In addition, the remote location of rural areas can hinder consumers from accessing banks or other formal financial institutions and opening an account just to save. They usually would keep their money at home or join informal group savings in the community, e.g., rotating savings and credit associations locally called "paluwagan."

Using geographic divisions as location variable (Model 2), a signification association is found in transacting with FFIs, ownership of savings account and access to credit. Findings indicate that adults living Visayas and Mindanao have less probability of transacting in FFIs compared to adults living in NCR (base category); while there seem to be no difference between adults living in balanced Luzon and NCR (which is located in the Luzon island). Owning a savings account is most likely for adults living in NCR than in the rest of the country.

While, applying for a loan (accessing credit products and services) is more likely for adults living in balanced Luzon and Mindanao than NCR.

As for the level of income, estimation results generally suggest that adults belonging to the high-income group (quantile 4 and 5) are more likely to transact with FFIs, open a savings account, or apply for a loan or insurance. Moreover, the middle-income adults are also more likely to access credit than the lowest-income adults; and the highest income group are most likely to get insured that the rest of the income groups.

Table 3: Estimation results: Models 1 and 2

	Transaction with formal financial institutions		Ownership of savings account		Access to credit products/services		Access to insurance products/services	
Variables	Model 1 /Coefficient	Model 2 /Coefficient	Model 1 /Coefficient	Model 2 /Coefficient	Model 1 /Coefficient	Model 2 /Coefficient	Model 1 /Coefficient	Model 2 /Coefficient
age	0.0604 ***	0.0596 ***	0.0265	0.0280	0.0944 ***	0.0977 ***	0.0649 ***	0.0643 ***
	(0.0158)	*(0.0160)*	*(0.0209)*	*(0.0213)*	*(0.0178)*	*(0.0179)*	*(0.0189)*	*(0.0189)*
age^2	-0.0005 ***	-0.0005 ***	-0.0003	-0.0003	-0.0009 ***	-0.0009 ***	-0.0005 **	-0.0005 **
	(0.0002)	*(0.0002)*	*(0.0002)*	*(0.0002)*	*(0.0002)*	*(0.0002)*	*(0.0002)*	*(0.0002)*
women	0.3926 ***	0.4018 ***	0.3625 ***	0.3907 ***	0.5675 ***	0.5774 ***	0.2447 **	0.2379 *
	(0.1032)	*(0.1031)*	*(0.1132)*	*(0.1147)*	*(0.0991)*	*(0.1002)*	*(0.1206)*	*(0.1218)*
single	-0.2768 **	-0.2677 **	0.0314	0.0711	-0.3158 **	-0.2992 **	-0.1199	-0.1264
	(0.1274)	*(0.1259)*	*(0.1547)*	*(0.1585)*	*(0.1421)*	*(0.1424)*	*(0.1628)*	*(0.1644)*
prev_married	0.0906	0.1016	-0.1259	-0.1119	-0.1701	-0.1592	-0.0511	-0.0545
	(0.2131)	*(0.2187)*	*(0.2085)*	*(0.2210)*	*(0.1704)*	*(0.1737)*	*(0.1971)*	*(0.1956)*
employed	0.2167	0.1653	0.3026 **	0.2139	0.1919	0.2464 *	0.3146 **	0.3206 **
	(0.1522)	*(0.1555)*	*(0.1467)*	*(0.1470)*	*(0.1333)*	*(0.1351)*	*(0.1568)*	*(0.1552)*
selfemployed	0.2503 *	0.1969	0.1355	0.0740	0.1078	0.1567	-0.1313	-0.1145
	(0.1393)	*(0.1417)*	*(0.1647)*	*(0.1669)*	*(0.1299)*	*(0.1310)*	*(0.1551)*	*(0.1541)*
elem	-1.3261 ***	-1.3191 ***	-1.0553 ***	-1.0259 ***	-0.5050 ***	-0.5208 ***	-1.0242 ***	-1.0600 ***
	(0.1527)	*(0.1548)*	*(0.1659)*	*(0.1646)*	*(0.1304)*	*(0.1315)*	*(0.1647)*	*(0.1658)*
highschool	-0.7364 ***	-0.7874 ***	-0.5115 ***	-0.5448 ***	-0.2442 **	-0.2443 **	-0.5922 ***	-0.5935 ***
	(0.1378)	*(0.1381)*	*(0.1205)*	*(0.1205)*	*(0.1097)*	*(0.1110)*	*(0.1299)*	*(0.1307)*
rural	-0.1452		-0.2710 **		0.0827		-0.0471	
	(0.0974)		*(0.1109)*		*(0.0951)*		*(0.1136)*	
bluzon		0.0678		-0.2220 *		0.4183 ***		0.0822
		(0.1304)		*(0.1259)*		*(0.1209)*		*(0.1432)*
visayas		-0.2308 *		-0.4702 ***		0.0477		0.2007
		(0.1289)		*(0.1402)*		*(0.1299)*		*(0.1483)*
mindanao		-0.3115 **		-0.4859 ***		0.5220 ***		0.1983
		(0.1268)		*(0.1403)*		*(0.1255)*		*(0.1481)*
quintile2	0.0085	0.0465	0.0098 ***	0.0689	0.1397	0.1121	0.0126	-0.0160
	(0.1606)	*(0.1647)*	*(0.2079)*	*(0.2109)*	*(0.1546)*	*(0.1558)*	*(0.2050)*	*(0.2017)*
quintile3	0.2081	0.2638	0.1341	0.2222	0.4623 ***	0.4394 ***	0.2029	0.1748
	(0.1645)	*(0.1650)*	*(0.1811)*	*(0.1813)*	*(0.1469)*	*(0.1493)*	*(0.1695)*	*(0.1690)*
quintile4	0.3857 *	0.4574 **	0.2816	0.4069 **	0.3380 **	0.2782 *	0.0946	0.0721
	(0.2015)	*(0.2070)*	*(0.1844)*	*(0.1832)*	*(0.1628)*	*(0.1637)*	*(0.1885)*	*(0.1896)*
quintile5	0.4463 *	0.4926 **	0.9575	1.0187 ***	0.4972 ***	0.4794 ***	0.5241 ***	0.5314 ***
	(0.2345)	*(0.2295)*	*(0.1834)*	*(0.1829)*	*(0.1721)*	*(0.1732)*	*0.1862*	*(0.1845)*
_cons	-0.2173	-0.1500	-1.5237	-1.4013	-3.0692	-3.4446	-2.7693	-2.8992
	(0.3507)	*(0.3561)*	*(0.4464)*	*(0.4606)*	*(0.4132)*	*(0.4200)*	*(0.4349)*	*(0.4516)*

Notes: Figures in parenthesis are standard errors; * Significant at 10% level of significance; ** Significant at 5%; *** Significant at 1%.
Source: Authors calculations using 2015 NBSFI data.

Estimation was also done for each geographic division to find out if there are differences in determinants among them.

Geographic division

In all four geographic divisions, sex and education are found to be significantly associated with transacting with FFIs (Table 4a). Estimates suggest that females are more likely to engage in transactions with FFIs than males, and a higher educational level also increases the likelihood of transacting with FFIs. Moreover, the findings on the importance of education signify the need improve the level of education of the population and devise ways to encourage them to access financial products and services.

In NCR, other factors that affect the likelihood of transacting with FFIs include age, marital status, and income. As in the previous models estimated, age increases the likelihood of using financial products and services from FFIs, but at a particular age level, this likelihood decreases. Furthermore, those who are single are less likely to make transactions in FFIs compared to married adults. Adults from the highest income quintile are likely to have more transactions with FFIs among income groups.

For balanced Luzon, the significant factors are similar to results from NCR except that marital status does not appear to influence the likelihood of transacting with FFIs. For adults living in Visayas age is not a significant factor and only sex, level of education and income are associated with transacting with FFIs.

For Mindanao, all variables except income are found to be significant. However, among the four geographic divisions, only in Mindanao was employment significant. Estimation results on the employment variables suggest that in Mindanao being employed or self-employed increases the probability of using FFI products and services. The regions in Mindanao relatively have the smallest network of financial access points, which leads to earnest concern about proximity as a determining factor in utilizing financial products and services. Hence, having enough resources to travel and reach access points would likely increase the usage of financial products and services.

Ownership of savings account

Level of education and income are associated with ownership of savings account in all four geographic divisions (Table 4a). In NCR, only these two factors are significant. This region is highly urbanized and has the largest network of banks based on statistics, which could probably explain why ownership of savings account does not have to discriminate in terms of age, sex marital status and employment.

For balanced Luzon, female, married and employed adults are more likely to own savings account. Compared to other geographic regions, in balanced Luzon adults who are separated, divorced or widowed are more likely to own savings account than married or single adults.

Characteristics of adults living in Visayas that are found to significantly affect the likelihood of savings account ownership is the same as those of balanced Luzon, except marital status. For Mindanao, sex, level of education and income predict the likelihood of owning a savings account. Our findings imply that female adults in this area have recognized the importance of saving money. Our empirical results also reveal the significance of level of education in predicting ownership of savings account consistently across all geographic divisions. Adults with a higher level of education are more inclined to open a savings account in a formal financial institution.

Table 4a: Estimation Results: by geographic divisions

	Transaction with formal financial institutions				Ownership of savings account			
Variables	NCR only /Coefficient	Balanced Luzon only /Coefficient	Visayas only /Coefficient	Mindanao only /Coefficient	NCR only /Coefficient	Balanced Luzon only /Coefficient	Visayas only /Coefficient	Mindanao only /Coefficient
age	0.0698 **	0.0819 **	0.0027	0.0683 **	0.0270	0.0752	0.0095	0.0401
	(0.0276)	*(0.0330)*	*(0.0291)*	*(0.0278)*	*(0.0303)*	*(0.0538)*	*(0.0389)*	*(0.0476)*
age^2	-0.0007 **	-0.0008 **	0.0000	-0.0006 *	-0.0002	-0.0010	-0.00002	-0.0004
	(0.0003)	*(0.0004)*	*(0.0003)*	*(0.0003)*	*(0.0003)*	*(0.0007)*	*(0.0004)*	*(0.0005)*
women	0.4643 **	0.3508 *	0.6324 ***	0.5434 ***	0.0623	0.5005 **	0.5565 **	0.4064 *
	(0.1960)	*(0.2029)*	*(0.1775)*	*(0.2049)*	*(0.1874)*	*(0.2331)*	*(0.2467)*	*(0.2269)*
single	-0.5990 **	-0.0690	-0.1410	-0.5020 **	0.0792	0.1979	0.0793	0.0305
	(0.2450)	*(0.2755)*	*(0.2257)*	*(0.2549)*	*(0.2429)*	*(0.3244)*	*(0.2629)*	*(0.3039)*
prev_married	-0.2845	0.0844	0.0182	0.2843	0.2503	-1.0702 *	0.2250	0.3025
	(0.3416)	*(0.4900)*	*(0.3060)*	*(0.3576)*	*(0.3192)*	*(0.5616)*	*(0.4251)*	*(0.4190)*
employed	0.0545	-0.0769	0.1609	0.7059 **	0.3320	0.6089 **	-0.5829 **	-0.2381
	(0.3332)	*(0.2989)*	*(0.2380)*	*(0.2842)*	*(0.3186)*	*(0.2536)*	*(0.2879)*	*(0.2980)*
selfemployed	0.1738	0.0606	0.2440	0.4354 *	0.1926	0.1316	-0.7166 **	0.2272
	(0.3438)	*(0.2776)*	*(0.2456)*	*(0.2335)*	*(0.2958)*	*(0.3011)*	*(0.3136)*	*(0.3266)*
elem	-0.9068 ***	-1.4310 ***	-1.4013 ***	-1.4751 ***	-1.8388 ***	-1.2041 ***	-0.6761 **	-1.1235 ***
	(0.2800)	*(0.3595)*	*(0.2901)*	*(0.2975)*	*(0.4815)*	*(0.3565)*	*(0.2997)*	*(0.2715)*
highschool	-0.4915 **	-0.9140 ***	-0.7356 ***	-0.9302 ***	-0.7792 ***	-0.5035 **	-0.5777 **	-0.5047 *
	(0.2282)	*(0.3096)*	*(0.2733)*	*(0.2695)*	*(0.1863)*	*(0.2206)*	*(0.2625)*	*(0.2709)*
quintile2	0.2813	-0.1541	0.1815	0.2563	-0.8634 *	0.1764	-0.1085	0.2947
	(0.4026)	*(0.3029)*	*(0.2576)*	*(0.2752)*	*(0.4797)*	*(0.3520)*	*(0.5022)*	*(0.4225)*
quintile3	-0.0334	0.5470	0.3443	0.0121	-0.2084	0.1219	1.1995 ***	-0.1182
	(0.3509)	*(0.3636)*	*(0.2755)*	*(0.2936)*	*(0.3308)*	*(0.3570)*	*(0.3452)*	*(0.4202)*
quintile4	0.4581	0.2887	0.7183 **	0.5130	-0.0318	0.3249	1.1049 ***	0.5534
	(0.3878)	*(0.3611)*	*(0.3643)*	*(0.3560)*	*(0.3835)*	*(0.3372)*	*(0.3821)*	*(0.3571)*
quintile5	0.8196 *	0.9769 *	0.3812	-0.2479	0.5728 *	0.9424 ***	1.5429 ***	1.3981 ***
	(0.4672)	*(0.5423)*	*(0.4259)*	*(0.3731)*	*(0.3127)*	*(0.3511)*	*(0.4077)*	*(0.3664)*
_cons	-0.3670	-0.4067	0.6455	-0.7439	-1.1096	-2.4780	-1.8201	-2.2601
	(0.6359)	*(0.7706)*	*(0.6638)*	*(0.6138)*	*(0.6589)*	*(1.1106)*	*(0.8081)*	*(1.0055)*

Notes: Figures in parenthesis are standard errors; * Significant at 10% level of significance; ** Significant at 5%; *** Significant at 1%.
Source: Authors calculations using 2015 NBSFI data.

Access to credit products and services

Estimation results for the four geographic divisions are generally similar, revealing that age, sex and level of education are significant factors associated with the likelihood of accessing credit products and services (applying for a loan in a formal financial institution)

(Figure 4b). Age is a requirement in applying for a loan as it as an indication of stability such as in terms of income and capacity to pay. At a certain age, however, it is less likely that an individual will apply for a loan. The capacity to repay the loan is not secured as a person ages, e.g. upon reaching the retirement age. In general, women are more likely to apply for a loan than men. A higher level of education increases the likelihood of borrowing from a formal financial institution. Educational attainment can be an indicator of the knowledge and level of understanding of credit options and opportunities, and confidence to apply for a loan.

In addition, in all four areas, marital status does not appear to be a significant factor based on data estimation. This finding seems to be consistent with typical local applications, for instance in banks wherein there is no discrimination between married or unmarried individuals. Any individual regardless of marital status may apply for a loan, and marital status has no bearing on getting loan approval. Employment is significant only in NCR. The result suggests that being employed increases the likelihood of applying for a loan in NCR. A possible explanation for this is that consumers in this highly-urbanized region are most likely to access credit products and services from the many banks located in the cities. Employed persons can also more easily handle the paperwork required for loan applications because the necessary data or information have been submitted and kept in the employer's (a company, for instance) file records.

However, not all self-employed persons can easily submit business-related data or information and this is true of single proprietors or micro-entrepreneurs. On the other hand, in balanced Luzon, Visayas, and Mindanao, where there is a lesser presence of banks than NCR, cooperatives and lending companies, which generally have less stringent documentation requirements, have become the lending institution of choice for many consumers.

Access to insurance products and services

In all four geographic divisions, the level of education is a significant factor in predicting the likelihood of availing of insurance (e.g. life, health, property, agriculture products). The higher the education of a person is, the more knowledgeable he/she is on the importance of insurance and the more interested he/she is to know various options and opportunities for access. In NCR and balanced Luzon, aside from level of education, employment and age are also associated with a higher probability of accessing insurance. Employed people have resources to pay for insurance premiums. Insurance and protection from catastrophic losses becomes increasingly important as people get older.

Age is the only other significant factor in Mindanao while in Visayas employment and income are significant factors. Results for Mindanao seem to indicate that the level of experience and maturity of adults affect the decision whether to avail of insurance or not. In Visayas, having enough resources to pay for insurance appears to be an important consideration for adults in deciding to avail of insurance.

Table 4b: Estimation Results: by geographic divisions (cont'd)

	Access to credit products/services				Access to insurance products/services			
Variables	NCR only /Coefficient	Balanced Luzon only /Coefficient	Visayas only /Coefficient	Mindanao only /Coefficient	NCR only /Coefficient	Balanced Luzon only /Coefficient	Visayas only /Coefficient	Mindanao only /Coefficient
age	0.0626 **	0.1111 ***	0.1174 ***	0.0881 ***	0.0399	0.0790 **	0.0365	0.0986 ***
	(0.0252)	*(0.0327)*	*(0.0365)*	*(0.0306)*	*(0.0358)*	*(0.0397)*	*(0.0409)*	*(0.0346)*
age^2	-0.0006 **	-0.0010 ***	-0.0012 ***	-0.0008 **	-0.0001	-0.0006	-0.0002	-0.0010 **
	(0.0003)	*(0.0003)*	*(0.0004)*	*(0.0003)*	*(0.0004)*	*(0.0004)*	*(0.0004)*	*(0.0004)*
women	0.5559 ***	0.7367 ***	0.4627 **	0.5364 ***	0.2222	0.4131	-0.0043	0.2243
	(0.1835)	*(0.1846)*	*(0.1909)*	*(0.1866)*	*(0.2160)*	*(0.2555)*	*(0.2003)*	*(0.2265)*
single	-0.2255	-0.3249	-0.2892	-0.3152	0.0657	-0.3385	-0.1173	0.1128
	(0.2621)	*(0.2966)*	*(0.2481)*	*(0.2428)*	*(0.3248)*	*(0.4098)*	*(0.3391)*	*(0.2649)*
prev_married	0.3163	-0.3169	-0.4267	-0.1432	-0.0842	-0.4637	0.1465	0.4470
	(0.2972)	*(0.3301)*	*(0.4098)*	*(0.3022)*	*(0.3454)*	*(0.3743)*	*(0.3890)*	*(0.3831)*
employed	0.6644 **	0.3603	-0.1980	0.1131	1.0069 ***	0.5360 *	-0.4427	0.1084
	(0.3208)	*(0.2456)*	*(0.2441)*	*(0.2410)*	*(0.3868)*	*(0.2844)*	*(0.2807)*	*(0.2714)*
selfemployed	0.3514	0.1962	-0.0573	0.2848	0.6041 *	-0.2236	-0.6099 **	-0.0283
	(0.2970)	*(0.2439)*	*(0.2577)*	*(0.2347)*	*(0.3384)*	*(0.2970)*	*(0.2845)*	*(0.2852)*
elem	-0.4058	-0.4182 *	-0.7759 ***	-0.6351 ***	-1.1462 ***	-1.3658 ***	-0.8159 ***	-0.9586 ***
	(0.2727)	*(0.2436)*	*(0.2562)*	*(0.2365)*	*(0.4030)*	*(0.3345)*	*(0.3107)*	*(0.2734)*
highschool	-0.4546 **	-0.0460	-0.4409 *	-0.4260 **	-0.7637 ***	-0.7243 ***	-0.5461 **	-0.4292 *
	(0.1922)	*(0.2011)*	*(0.2260)*	*(0.2103)*	*(0.2442)*	*(0.2509)*	*(0.2610)*	*(0.2367)*
quintile2	0.0812	-0.2258	0.2683	0.6206 **	-1.2079 **	-0.3653	0.6013 *	0.3534
	(0.3813)	*(0.2971)*	*(0.2708)*	*(0.2777)*	*(0.5120)*	*(0.4202)*	*(0.3287)*	*(0.3823)*
quintile3	-0.3084	0.6176 **	0.7131 **	0.3780	-0.2958	0.3028	1.0031 ***	-0.2621
	(0.3606)	*(0.2785)*	*(0.2763)*	*(0.2596)*	*(0.4326)*	*(0.3035)*	*(0.3210)*	*(0.3402)*
quintile4	-0.1185	0.2073	0.3121	0.5320 *	-0.2732	-0.1533	0.8161 **	0.3021
	(0.3865)	*(0.2843)*	*(0.3132)*	*(0.2972)*	*(0.4830)*	*(0.3748)*	*(0.3715)*	*(0.3259)*
quintile5	0.1871	0.5683 *	0.5399	0.4330	0.2379	0.2468	1.6334 ***	0.5111
	(0.3222)	*(0.3123)*	*(0.3645)*	*(0.3457)*	*(0.3654)*	*(0.3575)*	*(0.3919)*	*(0.3602)*
_cons	-2.5739	-3.5966	-3.2708	-2.7422	-2.8573	-3.1408	-2.2772	-3.2783
	(0.6173)	*(0.7886)*	*(0.8032)*	*(0.6920)*	*(0.8567)*	*(0.9818)*	*(0.9250)*	*(0.7226)*

Notes: Figures in parenthesis are standard errors; * Significant at 10% level of significance; ** Significant at 5%; *** Significant at 1%.
Source: Authors calculations using 2015 NBSFI data.

4. Summary and Conclusion

We looked at financial inclusion from four perspectives: (i) transaction with formal financial institutions, (ii) ownership of savings account, (iii) access to credit, and (iv) access to insurance. In contrast other studies have used either one or two indicators of financial inclusion, e.g., access to credit. A richer dataset drawn from the national baseline survey of financial inclusion also enabled us to analyze financial inclusion in the context of four geographical areas, which provided more insights and a better understanding of financial inclusion.

Our investigation showed that socio-demographic characteristics such as age, sex, civil status, education, employment and income are associated significantly with accessing various financial products and services. The estimation results of the four geographical areas, NCR, balanced Luzon, Visayas and Mindanao, indicate that there are similarities in the socio-economic profiles of users and non-users of financial services. The difference appears to be related to the presence of banks and other formal financial institutions. For instance, an individual in NCR will not have difficulty opening a savings account given the large physical network of banks. While in balanced Luzon, Visayas and Mindanao, which has more limited bank network compared to NCR, distance and cost of travel to banks can be barriers to financial inclusion. In these areas, individuals turn to cooperatives and lending companies that are often available in areas that are un-served or underserved by banks. Consumers also resort to informal financial activities such as saving at home, forming informal group savings, or borrowing from moneylenders, to satisfy their consumption and productive activities' requirements, e.g. working capital for micro-enterprises. While informal financial activities provide some form of financial assistance, consumer protection issues may arise in the absence of regulation.

In areas that cannot be reached by bank networks, strengthening various financial access points like cooperatives, microfinance NGOs and NSSLAs may lead to better access and use of financial products and services. Our empirical results also indicate the importance of financial education. Adults who reached only elementary and high school are less likely to transact with formal financial institutions compared to adults who reached/finished vocational school or college. The National Strategy on Financial Inclusion has rightly identified financial education as one of the key strategies for attaining inclusive finance. Hence, the financial literacy program of BSP is a critical step in the right direction. The NBSFI survey results reveal a rather low level of utilization of insurance in the country. In all four geographic areas, only about 13 percent of adults have availed themselves of insurance products and services. The low take-up could be due to non-availability of insurance products, lack of information, or lack of suitable insurance products, and other factors. The situation in the insurance sector merits a serious study because insurance equips households with ability to cope with exogenous shocks, which could sometimes be catastrophic, and to develop resilience to such shocks. Insurance is particularly a potent instrument for inclusive finance especially for poor households. Finally, an interesting finding is the significant positive association of being female with the financial inclusion indicators, thereby implying that female adults are more likely to transact with formal financial institutions, own a savings account, or access credit or insurance, compared to male adults. This may be an indication of the positive results of government and private sector efforts to empower women with more meaningful participation in economic activities. This finding is encouraging. An earlier investigation showed that vulnerable groups, comprised of women, rural dwellers, and young people, find it most difficult to access loans (Llanto 2015).

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