

Barriers to the Use of Formal Financial Services and Implications for Public Policy

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National Convention on Statistics

1 October 2019

I. Motivation

Financial inclusion is a current policy priority. Basic and affordable payments, savings and insurance services have been demonstrated to benefit the poor. Access to finance by firms, especially small and young enterprises, has been linked to innovation, job creation and growth.

The Philippines faces important and persistent challenges in this regard. Global Findex data indicates that between 2011 and 2017, the fraction of adults (15 years and above) with accounts in regulated financial institutions – rose from 26.6 percent to 31.8 percent – about 5.2 percentage points – with slightly larger increases observed for the poorest 40% (Table 1). While these are important gains, our levels and changes are substantially lower than the average for both lower-middle income and East Asia & Pacific developing economies.

Table 1 Account penetration as a % of population 15 years and older

Account penetration	Philippines			Lower Middle Income			EAP (developing)		
	2011	2014	2017	2011	2014	2017	2011	2014	2017
Account at regulated FI	26.6	28.1	31.79	28.7	41.8	56.1	55.1	68.8	73.45
poorest 40%	10.7	14.9	17.5	20	32.4	49.29	39	60.7	63.36
richest 60%	37.1	37.1	41.2	34.4	48.1	60.63	65.8	74.2	80.33
primary education or less	12.3	15.2	16.1	23.4	30.2	48.01	49.9	63.6	63.62
secondary education or more	33.1	33.5	38.32	39.5	53.7	64.5	65.3	76.3	84.18
Female	33.7	33.9	35.46	23.1	35.5	51.7	52.3	66.7	71.24
Male	19	22	28.02	34.2	48.1	60.57	58	70.8	75.69
young adults (15-24)	18.3	13.9	19.45	21.7	33.4	46.89	50.2	60.3	68.38

Source: Global Findex 2017

(https://globalfindex.worldbank.org/#data_sec_focus)

Why are levels low and growth slow? Are fundamental issues on the supply side, for instance, absence of providers, or on the demand side, i.e. due to weak or ineffective demand? What failures are at play: market, individual or government? These questions matter to policy design.

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For this purpose, we carry out an econometric analysis of the use of financial services in general, and of savings in particular, using the 2015 National Baseline Survey on Financial Inclusion (NBSFI). We model the probability of use of financial services in the overall and by specific service provider regulated by government, also called “touchpoints” – Banks, ATMs, Non-Stock Saving and Loan Associations (NSSLA), Cooperatives (Coop), Microfinance Institutions (MFIs), Lending Investor/Financing Company (Lending), Pawnshop, Remittance agent, e-Money agent, Payment Center and Insurance agent. We also model the probability of saving and saving formally. For each, exercise we estimate marginal effects of significant correlates.

We focus on general usage and saving for practical reasons. We want to understand the simple dynamics underlying headline indicators of financial inclusion; having transacted with at least one regulated touchpoint gives a measure of broad participation and inclusion. A narrower headline indicator is having an account in a formal financial institution or a mobile money provider (for as long as this account does not require a link to the financial institution). This is a marker of financial inclusion since owning an account provides an entry point into the formal financial system for most people:

“... An account makes it easier and often more affordable to pay bills, to receive payments, and to send or receive remittances. It also offers a safe place to store money and so can encourage saving. And it can open access to credit from a financial institution. In short, having an account is a marker of financial inclusion.” [Demirguc-Kunt et. al. 2015]

We will use a proxy indicator for account ownership however because the NBSFI does not ask pose the direct question of account ownership unless the respondent first indicates that he/she is currently saving money.

In the next section, we describe the data and methodology employed. In the third section we discuss findings. In the fourth section, we highlight implications for financial inclusion policy.

II. Data and methods

A. The Survey

The 2015 NBSFI is a survey that was designed by the Inclusive Finance Advocacy Staff (IFAS), peer-reviewed by the World Bank and by others that have implemented national financial inclusion surveys, and approved by the Philippine Statistics Authority (PSA). Multi-stage probability sampling was employed in selecting the 1,200 adult respondents. Respondents came from NCR and areas outside NCR (Balance Luzon, Visayas and Mindanao.)

The survey features six modules, including ‘General Access Situation’, ‘Financial Transactions’, ‘Savings’, ‘Loans’, ‘Sending money to and receiving money from persons/government/business’, and ‘Insurance’. Responses to the first three modules are employed in this analysis.

Specifically, from the General Access and Financial Transactions modules, respondents are asked if they are aware of each of twelve specific touchpoints (e.g. the eleven listed above plus Money Changer) – and also invite them to specify additional ones not listed. If aware, they are asked whether the specific access point is accessible (i.e. “near and easy to reach” from home or work; henceforth ‘near’), and, if near, whether they have ever transacted with the access point. If they have transacted, they are asked how often and whether they are satisfied with their transactions. If they haven’t transacted, they are asked to choose from a list of reasons why not, or specify something else.

From the Saving module, respondents are asked about their saving behavior, e.g. whether they put aside money and, if so, where (banks, NSSLA, Coop, group, home, others) and for what purpose (food, education, etc.). If they do not save, or if they no longer save, they are asked why. Multiple responses are allowed.

B. Models

We implement three sets of models. The first is a series of probit models of **broad inclusion** – specifically, whether or not the respondent transacted with any of the touchpoints of interest as well as with each access point.² Having transacted is a proxy indicator for having used a service. Covariates are demographic and socio-economic variables; nearness or proximity is controlled for in each case.

The second is a set of probit models focusing on a subset of touchpoints which create formal accounts, specifically Banks, ATMs, NSSLA, Coops, MFIs and contractual saving institutions³ (GSIS, SSS, Pagibig), and whether or not the respondent has transacted with any of these. We first look for correlates of being **‘unbanked’**, defined as not having transacted with any of these touchpoints. We then examine correlates of having a binding demand constraint for not transacting. This is implemented by coding self-reported reasons of not transacting into either ‘demand’ side- or ‘supply’ side- related reasons and categorizing respondents into having either demand reasons alone, supply reasons alone, or both. If either demand or supply side reasons are cited exclusively, then these are binding.

The third set of models are multinomial logit models⁴ of **active saving** (whether a respondent saves, has stopped saving, or does not save) and **mode of saving** (whether respondent saves in a formal institution, saves only informally, or a combination of both.)

² Probit models are binary response models, where the dependent variable is binary – 0 or 1 – the latter signifying a positive or successful response.

³ GSIS, SSS and Pagibig, which may be cited under “others”.

⁴ A multinomial logit model allows for multiple outcomes (more than two), and quantifies the probability that one or another is selected. Both probit and multinomial logit models are estimated by Maximum Likelihood

III. Findings

On broad inclusion, physical access

Finding 1: Descriptive statistics indicate that there does not seem to be a very alarming financial exclusion problem. Based on the broad definition only 14.8 percent are financially excluded. Specifically, almost 100 percent of adults are aware of at least one access point (Table 2) and of those aware, about 85.2 percent have transacted with at least one touchpoint (Table 3).

Table 2 Awareness of at least one access point*

	Aware	
No	175	0.00
Yes	69105	1.00

Base data: NBSFI

* Question A1: "Are you aware of..."

Table 3 Transaction with, and proximity to, at least one access point*

Transacted with at least one	At least one near/easy to reach					
	Frequency			Proportion		
	No	Yes	Total	No	Yes	Total
No	3313	6918	10231	0.048	0.100	0.148
Yes	5589	53461	59049	0.081	0.772	0.852
Total	8,902	60,378	69,280	0.128	0.872	1.000

Base data: NBSFI.

* Question A2: "Is ___ accessible to you, meaning is it near and easy to reach, whether you are coming from your home or work?"; A3: "Have you ever transacted with ___?"

Finding 2: There does not seem to be a physical access constraint since 87.2 percent report that a touchpoint is 'near and easy to reach'. Moreover, among those who do *not* report being 'near' any touchpoint, a relatively greater proportion transacts with one nonetheless (62.8 percent) than does not transact at all (37.2 percent).

Finding 3: The generous definition of inclusion hides great variation in awareness and 'conversion' (i.e. being aware, an individual also transacts) across touchpoints (Table 4.) Awareness ranges from a low 14 percent and 26 percent for NSSLAs and e-money agents, to a high 98 percent and 96 percent for pawnshops and banks. The rate by which awareness is converted into a transaction also varies from a low of 4 and 18 percent for NSSLAs and Coops, to a high of 67 percent and 59 percent for payment centers and remittance agents. With a conversion rate of 49 percent, banks fall in ranking from 1st to 4th; coops fall from 4th to 10th.

Whether or not relatively low conversion rates are a public policy concern is not clear however.

Table 4 Relative awareness, transaction and frequency of transaction among touchpoints

Access point	Awareness			Transact		Transact 1x/year or more		Transact less than 1x/year			
	N	As prop to total	Rank	As prop of aware	rank	As prop of transact	rank	As prop of transact	rank	Proportion dissatisfied	rank
1 Bank*	68118	0.98	1	0.49	4	0.66	7	0.34	6	0.06	6
2 ATM*	64809	0.94	3	0.48	5	0.76	3	0.24	9	0.02	11
3 NSSLA*	9426	0.14	11	0.04	11	0.66	6	0.34	7	0.23	1
4 Coop	48248	0.70	4	0.18	10	0.72	5	0.27	5	0.08	4
5 MFI	21077	0.30	9	0.23	8	0.83	2	0.16	10	0.04	9
6 Lending co	43762	0.63	7	0.23	9	0.74	4	0.26	8	0.21	2
7 Pawnshop*	66366	0.96	2	0.52	3	0.42	11	0.55	1	0.06	7
8 Remitt Ag*	47861	0.69	5	0.59	2	0.50	9	0.45	3	0.04	10
9 e-money Ag*	17709	0.26	10	0.25	7	0.46	10	0.53	2	0.05	8
10 Payment C	45410	0.66	6	0.67	1	0.84	1	0.14	11	0.07	5
11 Insurance Ag	35288	0.51	8	0.29	6	0.60	8	0.38	4	0.12	3

Base data: NBSFI. Questions A1, A3, B2 and B4.

*Supervised by the BSP. Others are supervised by the SEC (MFI, Lending Co), CDA (Coop), and the Insurance Commission (Insurance A). Payment Centers are not supervised.

Finding 4: Demand-side issues, rather than supply side issues, may be more significant in explaining why the below-average-use of financial services among adults. This is inferred from Table 4 which also presents the frequency of transactions, indicating the proportion who report transacting once a year or more, or who transact less than once a year.⁵ From among the latter, the proportion who are dissatisfied (either ‘somewhat’ or ‘very’ dissatisfied) with their transactions is then reported. We note that except for NSSLA, Lending Companies and Insurance Agents, the proportion of those who *also* report being dissatisfied with their transactions is eight percent or less. Thus to the extent that ‘dissatisfaction’ is more closely associated with supply-side issues, this is one indication that demand-side issues may matter more.

A. Correlates of broad inclusion: correlates and average marginal effects

Tables 5a, 5b and 5c⁶ report probit estimates of having transacted in the overall (column 1) and by touchpoint (columns 2 to 5, 6 to 9, and 10 and 11). Average marginal effects are reported, i.e. the average increase or decrease in the predicted probability of transacting, assuming a unit change in

⁵ By the way, there should be no presumption that a greater frequency of transacting is optimal (e.g. it may not be a good thing that a relatively large proportion of pawnshop patrons transact more than once a year), although not transacting for more than a year may indicate a dormant formal account in some access points (e.g. for instance in banks).

⁶ A sample selection model was necessary for modelling transaction with coops and payment centers but was not necessary for modelling transaction with other access points; selection equations available upon request. Data for NSSLA could not support a regression.

variable of interest, holding all other factors fixed.⁷ For example, in the overall case, being female (from being male) increases the predicted probability of transacting by 8.4 percent, *ceteris paribus* (c.p.) The average marginal effect of being in rural or urban Visayas relative to being in NCR is an 11.2 percent and 7.7 percent decrease in the predicted probability of transacting respectively, c.p.

Table 5a Probit estimates of transacting in the overall and with banks, ATMs, MFIs and Lending Companies separately: Average marginal effects

Transact	(1)	(2)	(3)	(4)	(5)
	Transact: Overall (n=1189) dy/dx	Transact: Bank (n=1170) dy/dx	Transact: ATM (n=1115) dy/dx	Transact: MFI (n=346) dy/dx	Transact: Lending Co (n=752) dy/dx
NEAR/Easy to reach	0.050 **	0.120 ***	0.215 ***	0.193 ***	0.199 ***
AREA					
NCR (base)					
balance luzon, rural	0.004	0.058		0.169 **	
balance luzon, urban	-0.004	0.020		-0.039	
visayas, rural	-0.112 ***	-0.101 **		0.038	
visayas, urban	-0.077 **	-0.048		0.026	
mindanao, rural	-0.081 ***	-0.024		0.171 **	
mindanao, urban	-0.016	0.032		0.214 **	
FEMALE	0.084 ***	0.050 *	0.091 ***	0.178 ***	0.131***
AGE	0.002 ***(a)	0.005 ***	-0.001	0.004 *	0.003***(a)
EDUCATION^(b)					
no education (base)				(base)	(base)
some elementary	0.267 **	0.092	-0.034		
elementary grad	0.337 ***	0.204 **	-0.046	-0.140	0.057
some high school	0.428 ***	0.215 **	-0.044		
high school grad	0.520 ***	0.325 ***	0.104	-0.002	0.108**
some vocational	0.530 ***	0.316 *	0.289 *		
vocational	0.556 ***	0.427 ***	0.348 **		
some college	0.549 ***	0.526 ***	0.333 **		
college grad or more	0.568 ***	0.598 ***	0.388 ***	-0.222 **	0.119*
CLASS					
ABC (base)				0.081	
D1	-0.098 ***	-0.118 *		-0.060	

⁷ An average marginal effect is an estimate of a population-averaged marginal effect. For age, it is the population-averaged incremental change in the probability of transact with a 1 year change in age. For the other variables, it is the population-averaged effect of a discrete change from the base level.

D2	-0.084 **	-0.125 *		0.101 *	
E	-0.110 ***	-0.188 **		(base)	
MARITAL STATUS					
single (base)					
Married	0.060 **	0.075 *	0.108 ***		
Widowed	0.092 **	0.058	0.195 ***		
separated/divorced	0.098 *	0.065	0.219 **		
with partner	0.098 ***	0.050	0.068		
OCCUPATION					
formally employed (base)					
informally employed	-0.024	-0.076	-0.150 ***		
self-employed	-0.017	-0.062	-0.142 ***		
seasonally employed	-0.087 *	-0.220 ***	-0.132 **		
Student	0.006	-0.227 **	-0.154		
Retired	0.094 **	0.130	0.200 **		
unemp-sick/disabled	-0.104	-0.023	-0.253		
unemp-housework	0.002	-0.187 ***	-0.112		
Unemployed	0.030	-0.128 *	-0.007		
PERSONAL INCOME					
quartile 1 (base)					
quartile 2	0.082	0.003	0.068	0.045	0.026
quartile 3	0.133 **	-0.054	0.130 *	0.101 *	0.051
quartile 4	0.088	0.075	0.210 ***	0.116 **	0.082*

Base data: NBSFI

Notes: (a) age is increasing at a decreasing rate

(b) For the probit estimation of transaction with MFI and Lending company, Education is specified as four factors: 1. less than elementary graduate, 2. elementary graduate or more; 3. HS graduate or more, and 4. college graduate or more, with category 1 as the base.

Table 5b Probit estimates of transacting with pawnshops, e-money agents, remittance agents: Average marginal effects

	(6)	(7)	(8)	(9)
	Transact: Pawnshop (n=1147)	Transact: e- money agent (n=308)	Transact: Remittance Agent (n=808)	Transact: Insurance Agent (n=619)
	dy/dx	dy/dx	dy/dx	dy/dx
NEAR/Easy to reach	0.217 ***	0.201 ***	0.127 ***	0.208 ***
AREA				
NCR (base)				
balance luzon, rural	0.018	0.14 **	0.066	-0.057
balance luzon, urban	0.046	-0.01	0.058	0.043

visayas, rural	0.090 *	0.06	-0.069	0.062
visayas, urban	0.161 ***	0.00	-0.081	0.174 **
mindanao, rural	0.098 **	-0.12 *	-0.024	0.010
mindanao, urban	-0.010	-0.20 ***	0.133 **	0.066
FEMALE	0.093 ***	0.183 ***	0.048	0.027
AGE	0.004 ***(a)	0.002	0.001	0.006 ***
EDUCATION ^(b)				
no education (base)		(base)		(base)
some elementary	0.084		0.198	
elementary grad	0.118	-0.024	0.198	0.173 ***
some high school	0.156	0.153	0.307	
high school grad	0.257 **	0.026	0.326	0.222 ***
some vocational	0.028	0.297 *	0.343	
vocational	0.327 **	0.255 *	0.365 *	
some college	0.362 ***	0.143	0.425 **	
college grad or more	0.265 **	0.112	0.448 **	0.406 ***
CLASS				
ABC (base)				
D1		-0.108	-0.166 **	
D2		0.044	-0.116	
E		-0.152	-0.105	
MARITAL STATUS				
single (base)				
married	-0.017			0.103 **
widowed	0.093			0.113
separated/divorced	-0.138			-0.092
with partner	0.027			0.066
OCCUPATION ^(c)				
formally employed (base)		0.114		
informally employed	-0.173 ***	0.082		-0.094
self-employed	-0.066	-0.101		-0.125 **
seasonally employed	-0.234 ***	0.066		-0.196 **
student	-0.253 ***	-0.174 **		-0.106
retired	-0.012	-0.135		-0.142
unemp-sick/disabled	-0.415 ***			-0.305 ***
unemp-housework	-0.180 ***	(base)		-0.144 *
unemployed	-0.068	0.204 **		-0.270 ***
PERSONAL INCOME				

quartile 1 (base)				-0.073
quartile 2			0.090	-0.071
quartile 3			0.133 ***	-0.108 **
quartile 4			0.112 **	(base)

Base data: NBSFI

Notes: (a) age is increasing at a decreasing rate

(b) For the probit estimation of transaction with Insurance Agent, Education is specified as four factors: 1. less than elementary graduate, 2. elementary graduate or more; 3. HS graduate or more, and 4. college graduate or more, with category 1 as the base.

(c) For the probit estimation of transaction with e-money agent, the specification of Occupation is adjusted by merging 'unemployed-sick/disabled' with 'unemployed' to form one category.

Table 5c Probit estimates of transacting with coops and payment centers:
Average marginal effects

Transact	(10) Transact: Coop (n=1193; uncensored =816)	(11) Transact: Payment Center (n=1193; uncensored =783)
	dy/dx	dy/dx
NEAR/Easy to reach	0.139 ***	0.119 ***
AREA		
NCR (base)	(d)	
balance luzon, rural		-0.008
balance luzon, urban		-0.011
visayas, rural		-0.502 ***
visayas, urban		-0.312 ***
mindanao, rural		-0.151 **
mindanao, urban		-0.118
FEMALE	0.062	0.035
AGE	0.002	0.004 ***(a)
EDUCATION^(b)		
no education (base)	(base)	0.166
some elementary		0.261
elementary grad	-0.165 **	0.312
some high school		0.331
high school grad	-0.082	0.235
some vocational		0.292
vocational		0.285
some college		0.349 *
college grad or more	-0.004	
CLASS		
ABC (base)	-0.055	(d)

D1	-0.040	
D2	0.041	
E	(base)	
MARITAL STATUS		(d)
single (base)		
Married		
Widowed		
separated/divorced with partner		
OCCUPATION		
formally employed (base)		
informally employed		
self-employed		
seasonally employed		
Student		
Retired		
unemp-sick/disabled		
unemp-housework		
Unemployed		
PERSONAL INCOME		(d)
quartile 1 (base)		
quartile 2	0.025	
quartile 3	-0.002	
quartile 4	0.043	

Base data: NBSFI

Notes. (a) Age is increasing at a decreasing rate

(b) For the probit estimation of transaction with Coop, Education is specified as four factors: 1. less than elementary graduate, 2. elementary graduate or more; 3. HS graduate or more, and 4. college graduate or more, with category 1 as the base. These are highly significant in the selection equation.

(d) Exclusion restriction, significant in the selection equation. Results upon request.

Other estimates in the overall case are as expected. The average predicted probability of transacting increases with a change in educational attainment relative to having no education; with a change in marital status from being single; and with age, although the latter effect may not be of practical importance (e.g. a 10-year increase in age changes the predicted probability of transacting by about 2 percent). Average predicted probability decreases with a change in socio-economic class away from class ABC.

The result on the *proximity* variable supports the earlier observation that physical access may not be a binding constraint: a change in perception from far to near increases the predicted probability of transacting by only 5 percent. More interestingly however, we find that a change in proximity matters more for the probability of transacting with ATM, MFI, insurance agent, lending companies, pawnshops and e-money agents, increasing the predicted probability by 19 to 22 percent, and less for

banks, coops, remittance agents and payment centers, where there is an increase in predicted probability of 11.9 to 13.9 percent.

In fact, the effect of *education* on probability of transacting is not uniform across touchpoints. The completion of an elementary education or better (relative to not completing elementary) increases the probability of transacting with banks and insurance agents; the completion of high school increases the probability of transacting with lending companies and pawnshops; and the completion of even higher levels of education increases the probability of transacting with ATMs, e-money agents, remittance centers and payment centers. However, being an elementary graduate (relative to not being one) has a negative effect on the probability of transacting with coops, and being a college graduate (relative to the same base) has a negative effect on the probability of transacting with MFIs.

Other examples are *socio-economic class*, which figures strongly only for the predicted probability of transacting with banks – specifically, relative to being in class ABC, being in class D1, D2 and E decreases the probability of transacting by 11.8, 12.5 and 18.8 percent respectively - but not for the probability of transacting with four other touchpoints (ATMs, insurance agents, lending companies and pawnshops.) Being in class D1 (from class ABC) also decreases the probability of transacting with remittance agents by 16.6 percent, while being in class D2 (from class E) increases the predicted probability of transacting with MFIs;

Sex, i.e. the effect of being female (relative to being male), which is statistically significant and positive for five touchpoints, and is particularly sharp in three of those five – lending companies, MFIs and e-money agents - where the increase in predicted probability is 13.3, 17.8 and 18.3 percent respectively. But it is marginally significant for the probability of transacting with banks, and is not significant for the probability of transacting with coops, insurance agents, remittance agents or payment centers, and

Occupation, which has no effect on predicted probabilities of transacting with five touchpoints (coops, MFIs, lending companies, remittance agents and payment centers) but does have an effect for four others (ATMs, banks, insurance agents, and pawnshops). In the latter cases, the average marginal effects of being other than formally employed are relatively strong and negative, although being retired (relative to being formally employed) has a positive effect for ATMs. Being retired or a student decreases the predicted probability of transacting with e-money agents.

More examples are listed in Annex A.

Finding 5: The main take-away from the above discussion is that covariates matter to the probability of transacting across touchpoints, but in different degrees - and sometimes do not matter, c.p.

B. Correlates of being “unbanked” and being so due to binding demand-side constraints

A sharper definition of financial inclusion is having an account with a financial institution. Since NBSFI does not identify this directly except in relation to those who currently save money, we assume that **not** ever having transacted with a Bank, ATM, NSSLA, Coop, MFI or CSI – which are ‘account-creating’ touchpoints - indicates non-ownership of a formal account and, therefore, the state of being unbanked.

Finding 6: Using this narrower definition, 34.9 percent may be described to be financially excluded. Also, perception of proximity seems to matter more for transacting.

This is inferred from Tables 6 and 7 which show that there is near universal awareness of at least one account-creating touchpoint, but among those aware, only 65.1 percent transact with at least one (which is significantly lower than the 85.2 percent who transact in the general case.) Also, among those who report that no access point is ‘near’, 56.4 percent also do not transact with any access point versus 43.6 percent who still do (which is less than the 62.8 percent who still did and 37.2 percent who did not in the general case presented earlier in Table 2).

Table 6 Awareness of at least one account-creating access point*

	Aware	
No	623	0.01
Yes	68657	0.99

Base data: NBSFI.

Question A1 but limited to Banks, ATM, NSSLA, Coop, MFI, and CSI

Table 7 Transaction with at least one account-creating access point, by proximity

Transacted with at least one	At least one access point near/easy to reach					
	Frequency			Proportion		
	No	Yes	total	No	Yes	Total
Yes	6,030	38,694	44,723	0.088	0.564	0.651
No	7,804	16,130	23,934	0.114	0.235	0.349
Total	13,834	54,823	68,657	0.201	0.799	1.000

Base data: NBSFI. Questions A2 and A3

Respondents who have not transacted with any of these account-creating touchpoints are asked why and multiple reasons are allowed. Reasons are classified as relating to effective demand or to responsive supply. After compiling all reasons per respondent, respondents are then classified as having demand side reasons exclusively, supply side reasons exclusively, or a combination of both.

Finding 7: The largest share of the population, at 49 percent, report demand side factors exclusively. That is, for 49 percent, binding constraints to inclusion are on the demand side only.

This is seen in Tables 8 and 9 which present population shares by demand and supply side barriers together with a more detailed breakdown of the same. Demand side reasons include having ‘no need’ for the products/service or that another member transacts – both of which can be interpreted as having no notional demand - which are reported by 28.2 percent and 1.4 percent exclusively. Not having enough money or no money/income/work to transact – interpreted as having no effective demand - is reported by 12.7 percent exclusively. The balance of 6.8 percent report a combination of the demand reasons.

Table 8 If no transaction with account-creating touchpoint, nature of barriers (population shares)*

Supply barriers	Demand factors		
	No	Yes	Total
No	0.04	0.49	0.53
Yes	0.24	0.23	0.47
total	0.28	0.72	1.00

Base data: NBSFI

* Question A4: “What is the main reason why you haven’t transacted with ___?”
A list is provided. Where other reasons are specified, these are recoded by author.

Table 9 If no transaction with account-creating touchpoint, breakdown of self-reported barriers (population shares)

	Rank	proportion who report it	proportion who report it exclusively
Demand-side			0.491
- <i>no need</i>	1	0.50	0.282
- <i>not enough or no money (or income, work)</i>	2	0.27	0.127
- <i>another member transacts</i>	7	0.06	0.014
- <i>Combination of demand-side reasons only</i>			0.068
Supply-side			0.244
<i>[Provider responsiveness, lack of info/knowledge]</i>			
- <i>products/services not suited to my needs, preferences</i>	3	0.17	0.045
- <i>don’t know about it/don’t know how</i>	6	0.06	0.011
<i>[Regulations]</i>			
- <i>Don’t have the necessary requirements</i>	4	0.17	0.064
- <i>I am not comfortable going</i>	5	0.07	0.017
- <i>I am still/too young</i>	8	0.05	0.024
- <i>I don’t trust access point</i>	9	0.03	0.005
<i>[Transaction costs]</i>			
- <i>long lines, long waiting time</i>	10	0.02	0.002
- <i>far, don’t want to walk</i>	11	0.02	0.003
- <i>products/services not cheap</i>	12	0.01	0.002
<i>Combination of supply-side reasons</i>			0.070
Both demand and supply side reasons			0.228

No reason		0.037
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Base data: NBSFI.

Another 24 percent report supply side factors exclusively, broken down roughly into those relating to provider responsiveness (5.6 percent), regulations (11 percent), transaction costs (.7 percent), or a combination of supply factors exclusively (7 percent).

Finally, 22.8 percent report both demand and supply side reasons, while 3.7 percent do not report any reason.

Thus, while there is ample opportunity for expanding inclusion by working on supply side issues alone – such as by incentivizing providers to innovate on products or, where relevant, by addressing barriers (among which, transaction costs, including shoe leather costs, seem to be relatively insignificant in this survey) through regulatory levers – the statistics indisputably show that constraints on the demand side dominate.

It is not clear what kind of demand side interventions are warranted, however. On the one hand, the choice not to transact may be privately optimal based on individual preferences or assessments of marginal benefits and costs of participating. In this case, encouraging transactions for their own sake could be inefficient. On the other hand, behavioral constraints and cognitive biases may be at play in a significant way. In which case, actions to address the cause of ‘individual failures’ may be warranted.

Unfortunately, the available data is not sufficient to identify and unpack cognitive biases and information failures, if they exist, more specifically. At best, we examine the socio-economic and demographic determinants of non-transaction with account-creating touchpoints. We also examine factors which may explain the probability that demand-side factors are binding.

These models are presented in Tables 10 and 11. Being near at least one of the touchpoints, decreases the predicted probability of non-transaction by 12.3 percent (Table 10). This is significantly larger than the 5 percent improvement reported in the general case. The effect of being female and of age are also negative, decreasing the predicted probability of non-transaction by 9.2 percent, if the former, and by 4 percent (for every 10 year increase in age) if the latter, as are the effects of a change in economic class from Class E to D2 or D1 (a discrete decrease of between 8.8 and 6.8 percent), and a change in educational attainment (i.e. from having no education, to being an elementary graduate and higher, with decreases in predicted probability ranging from 22.6 percent to 60.2 percent). However, the predicted probability of non-transaction increases with a change from married status to single status (by 8.8 percent), as well as from formal employment to any other type of occupation (with the exception of retired), e.g. relative to being formally employed, the largest discrete increase in predicted probability is the effect of being a student (29.7 percent) or being a housewife/husband (16.7 percent).

Once excluded, it seems only variations in marital status and occupation further explain the probability of having demand-side binding constraints (Table 11). A change in status from single to any other type of marital status increases the probability of demand-side binding constraints by 16.1

percent (with partner) up to 39.7 percent (separated). A change in occupation from being formally employed to being unemployed or sick/disabled increases the predicted probability of demand-side binding constraints by 22.1 percent.

Table 10 Probit estimates of non-transaction with account-creating touchpoints: Correlates and average marginal effects

Non-transaction (n=1187)	dy/dx	
"NEAR/easy to reach"	-0.123	***
AREA		
NCR	(base)	
balance luzon, rural	-0.057	
balance luzon, urban	-0.020	
visayas, rural	0.100	**
visayas, urban	0.003	
mindanao, rural	0.002	
mindanao, urban	-0.015	
FEMALE	-0.092	***
AGE	-0.004	***
EDUCATION		
no education	(base)	
some elementary	-0.167	
elementary grad	-0.226	**
some high school	-0.260	**
high school grad	-0.402	***
some vocational	-0.546	***
vocational	-0.495	***
some college	-0.602	***
college grad or more	-0.590	***
MARITAL STATUS		
Single	0.088	**
Married	(base)	
Widowed	0.009	
separated/divorced	-0.012	
with partner	0.039	
CLASS		
ABC	-0.110	
D1	-0.068	*
D2	-0.088	**
E	(base)	
OCCUPATION		
formally employed (base)	(base)	

informally/seasonally employed	0.108	***
self-employed	0.069	*
Student	0.297	***
Retired	-0.040	
unemp-housework	0.167	***
unemployed/unemp sick/dis	0.126	***

Base data: NBSFI

Table 11 Probit model with sample selection: Self-reporting of demand side barriers only (Average marginal effects) *

Demand barriers	Probit (n=429) dy/dx	Probit with sample selection (n=1187; uncensored = 429) dy/dx
FEMALE	-0.085	-0.052
AGE	-0.001	0.000
MARITAL STATUS		
Single	(base)	(base)
Married	0.235 ***	0.255 ***
Widowed	0.350 ***	0.357 ***
separated/divorced	0.404 **	0.397 ***
with partner	0.164 *	0.161 *
CLASS		
ABC	(base)	(base)
D1	0.056	-0.002
D2	0.204	0.129
E	0.088	-0.016
OCCUPATION		
formally employed	(base)	(base)
informally/seasonally employed	0.160	0.096
self-employed	0.097	0.034
student	0.064	-0.039
retired	0.090	0.117
unemp-housework	0.196 *	0.121
unemployed/unemp sick/dis	0.328 ***	0.221 *

Base data: NBSFI

* The selection equation is the model in Table 10.

C. Multinomial logit models of active saving and having an active formal saving account

Finding 8: If inclusion is measured by having an active formal saving account, then just about 17.6 percent of the adults (that is, 41 percent of 43 percent) are included. 82.4 percent are excluded.

This is inferred from Tables 12 and 13. The former shows that forty-three (43) percent of the population currently save money, another 32 percent saved money in the past but no longer do so, and 25 percent do not save money. The latter shows that of the population which currently saves, 30 percent save their money formally only, i.e. in banks, NSSLAs, Coops and MFIs, and eleven (11) percent save their money both formally and informally – thus a total of 41 percent save formally. Fifty-nine (59) percent save their money informally only, i.e. at home or in informal groupings (*paluwagan*).

Table 12 Status of active saving: current, no longer, does not

Active saving	Freq.	Proportion
saves	29,932	0.43
no longer saves	22,345	0.32
does not save	17,003	0.25
Total	69,280	1.00

Base data: NBSFI. Question C1.

Table 13: Mode of saving

mode	Freq.	Proportion
only formal	8,890	0.30
only informal	17,633	0.59
both	3,314	0.11
Total	29,836	1.00

Base data: NBSFI. Question C7. "Others" are recoded by author.

Finding 9: For those who do not actively save, demand side factors again dominate as reasons. A whopping 91 percent report demand side factors exclusively, with 90 percent of this reporting having no or not enough money or work, exclusively (Table 14). The balance of 9 percent report both supply and demand side factors.

Table 14 Self-reported barriers for not saving (population shares)

	proportion who report it	proportion who report it exclusively	
<i>demand side</i>			0.91
No/not enough money/work	0.73	0.82	
No need	0.07	0.03	
Other member saves	0.01	0.00	
Others (cultural)	0.01	0.01	

More than 1 demand side factor		0.05	
<i>supply side</i>			0.00
Too many doc requirements	0.04	0.00	
Expensive	0.02	0.00	
Don't have knowledge	0.02	0.00	
Distance	0.01	0.00	
No trust	0.00	0.00	
<i>Both demand and supply side factors</i>			0.09

We are again unable to unpack whether cognitive biases or information failures are at play on the demand side. Instead we look at correlates of the choice to save or not or stop saving, and, if saving, correlates of mode of saving.

This is in Annex B which presents multinomial logit estimates of active saving. Only *sex* has a positive and significant effect on the probability of currently saving: the effect of female is to increase the predicted probability by 8.7 percent. In contrast, being *widowed or separated* (relative to single), being *Class E and D2* (from class ABC), being *seasonally employed, a student, a housewife/husband, or unemployed* (from formally employed), and being in *rural Visayas and rural Mindanao* (from NCR) all decrease the predicted probability of active saving by significant discrete amounts (i.e. by 16.3 percentage points if widowed; 17.6 if separated; 13.3 class E; 19.8 Class D2; 28.5 seasonally employed; 25.9 unemployed, and so forth).

In predicting the probability of no longer saving, the effects of occupation are more or less mirrored (in the opposite direction). However, the effects of location, sex, status and class factors are not. Moreover, *education attainment*, which was not significant to the probability of currently saving, now is: relative to having no education, having some education *increases* the probability of no longer saving by 23.3 percent, the same increase with having a college degree or more. Being an elementary school graduate or having some high school education has the greatest effect, increasing the predicted probability of no longer saving by 31.1 and 29.7 percent respectively.

Area, sex, status and class also have positive and significant effects on the probability of not saving. Educational attainment, which had positive and significant effects on the predicted probability of no longer saving, has negative and significant effects on the predicted probability of not saving. Having some vocational training or more decreases the predicted probability of not saving by between 20.2 and 30.6 percent; being an elementary school and high school graduate each decrease the predicted probability of not saving by 20.3 and 18.7 percent respectively.

Age has a significant and negative effect on the probability of currently saving, i.e. a 10-year increase in age decreases the probability of currently saving by 5 percent. Consequently, it has a

significant and positive effect on the probability of no longer saving (3 percent) and of not saving (2 percent).

Personal income quartile is highlighted for the fact that it has no significant effect on the probability of any of the outcomes. That is, variations in personal income quartile do not explain variations in the choice to save, not save or stop saving.

Correlates of having an active formal saving account

Finding 10: Extending the reach of non-bank saving/risk management touchpoints has a better chance of pulling current informal savers into the formal system than extending the reach of banks.

This is shown in Table 15 presents the multinomial logit estimates of the mode of saving, with focus on column 2, the probability of savers not having an active account at a formal saving institution. The results indicate that changing the proximity of a bank from ‘far’ to ‘near’ does not have any effect on decreasing the probability of not having an active saving account. But changing the proximity of a formal non-bank saving/risk management access point (NSSLA, Coop, MFI, CSI, insurance) does: the predicted probability of exclusively saving informally decreases by 8.4 percent.

Table 15 Multinomial logit model of mode of saving: correlates and average marginal effects

Correlates	Formal only dy/dx	Informal only dy/dx	Both dy/dx
NEAR NON-BANK Saving/Risk Mgmt Access Point	0.027	-0.084 *	0.056 **
NEAR BANK	-0.013	-0.049	0.062 **
FEMALE	0.148 ***	-0.094 **	-0.054 *
AGE	0.005 ***	-0.006 ***	0.001
EDUCATION			
no/some elem (base)			
elementary grad	-0.114 *	0.132	-0.018
some high school	0.073	-0.036	-0.038
high school grad	0.136 *	-0.157 *	0.021
some vocational	0.007	0.095	-0.102
vocational	0.265 **	-0.238	-0.027
some college	0.219 ***	-0.293 ***	0.074
college grad or more	0.301 ***	-0.359 ***	0.058
OCCUPATION			
formally employed	0.129 **	-0.044	-0.086
informally employed (base)			

self-employed	0.129	**	-0.043		-0.086
seasonally employed	0.170		-0.119		-0.051
Student	0.194		-0.005		-0.189 **
Retired	-0.003		0.051		-0.048
unemp-sick/disabled	-0.181	***	0.062		0.118
unemp-housework	0.234	**	-0.064		-0.170 **
Unemployed	0.269	*	-0.082		-0.186 **
CLASS					
ABC (base)					
D1	-0.264	***	0.253	***	0.011
D2	-0.206	**	0.115		0.092 *
E	-0.164		0.179		-0.015
PERSONAL INCOME					
quartile 1	-0.300	***	0.197		0.103
quartile 2	-0.224	***	0.263	***	-0.039
quartile 3	-0.090		0.198	***	-0.108 ***
quartile 4 (base)					

Base data: NBSFI

Among savers, being female or being older, and having a high school degree, some college or a college degree or more, all decrease the predicted probability of not having an active saving account. On the other hand, being class D1 relative to class ABC and quartile 3 and 2, relative to quartile 4, all increase the probability of not having an active saving account.

IV. Key policy implications

We see three big takeaways from the above results. First, and most telling for current strategy, is that at this stage, financial ‘exclusion’ may have far less to do with the availability and responsiveness of supply (that is, touchpoints and their products) and more to do with impediments to, or the absence of, effective demand. Demand constraints have been noted in other global surveys. But here we have been able to isolate it and it looks binding.

Second, also important for current strategy, within the arena of supply, it seems to be far less about physical access or even the spatial distribution of access points – which are currently tracked as indicators of progress – and more about with suitability or compatibility of products and services offered.

Third, and more fundamentally, unless there is more clarity on the operational definition of financial inclusion, the exclusion problem does not seem to be all that compelling. Especially if compared to the ‘exclusion’ observed on other fronts, such as health, housing or education.

By clarity, we mean levelling-off on why financial inclusion is a public policy concern in the first place.⁸ Is financial inclusion necessary to increase overall economic efficiency (and spur development)?

⁸ This is discussed at length in Monsod 2017.

Or is it important for poverty reduction or promoting equity? Or is financial inclusion simply considered a merit good?

If to promote efficiency or reduce poverty, international evidence so far suggests that while expanding financial access may help low income households manage cash flows and cope with risks, it will probably **not** deliver on reducing poverty or spurring economic development in the transformative way anticipated (Karlan and Murdoch 2010). Helping households manage their day-to-day struggle is welfare-enhancing. But other social interventions may do the same thing and perhaps in a more direct, tangible way (e.g. transfers).

Additionally, realizing any welfare-enhancing effects, even if not exactly transformative, will depend heavily on how financial products and services are designed and how choices are presented to consumers.⁹ In other words, *behavioral* frictions, quite apart from market frictions, need to be taken into account.¹⁰ This is a demand side matter where research is badly needed.

Indeed, if financial inclusion efforts are to be pro-growth and pro-poor, international evidence suggests another route which has so far been overlooked. This route entails “mov[ing] up the firm ladder” toward very small, small and other enterprises “which might have more potential to be transformative and create jobs” (Beck 2015). That is, evidence suggests that the pro-growth, pro-poor effect of finance depends critically on whether expanded access to finance falls where it can be most efficiently and effectively used - specifically, on **transformational entrepreneurs** rather than on low income and marginalized households per se.

How does this come about? The empirical literature on financial deepening suggests that the *growth* effect comes mostly through enterprise credit - there is no significant relationship between the importance of household credit and economic growth – and that the impact on firm performance and growth is stronger for small and medium-sized enterprises (Beck 2013). At the same time, the empirical literature has shown a negative long-term relationship between financial deepening and income inequality. Financial deepening is *pro-poor* and effects come through the labor and goods markets, i.e. by changing the structure of the economy and allowing more entry into the labor market for previously unemployed or underemployed segments of the population (Beck 2013, 2015, 2016). The effects of financial deepening on employment and poverty thus come through a more effective credit allocation within the economy, and not necessarily thru the “democratization of credit”, which is an implicit, if not explicit target of financial inclusion strategies.

The important implication is that a separate set of interventions under the NSFI, focused on transformative entrepreneurs, may be warranted; what is featured now - designed primarily for low-income households more generally - will not be appropriate for entrepreneurs engaged in, or moving up the ladder to, small and medium-sized enterprises (Monsod 2017).¹¹ For instance, low-income households require mechanisms to manage cash flows, tools for coping with risk, and devices for accumulating assets in both the short and long-term that will help them with basic tasks - e.g. pay for

⁹ That is, “*mechanisms* matter” (Karlan and Murdoch 2010).

¹⁰ See Monsod (2015) and references cited there.

¹¹ This is explored more fully in Monsod (2017).

food, pay for school, handle sickness and other shocks, take advantage of any investment opportunities as they arise – none of which is necessarily tied to running small businesses. But a diverse range of enterprises require an equally diverse range of both financial and non-financial services, to start, sustain and grow their business.

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Annex A. Other highlights from probit estimates of transaction per access point (Tables 5a-5c): correlates and average marginal effects

Location. After accounting for other factors, the predicted probability of transacting with banks, remittance agents or insurance agents, in locations other than NCR is not significantly different from that in NCR except in rural Visayas (where there is a decrease in the predicted probability of transacting with banks by 10.1 percent), urban Mindanao (increase in the probability of transacting with remittance by 13.3 percent) and urban Visayas (increase in probability of transacting with insurance agents by 17.4 percent). Location is not significant in predicting the probability of transacting with ATMs and lending companies, c.p. ¹²

Age. Controlling for other factors, effect of age is not significant in all cases, although where it is – banks, insurance agents, lending companies, pawnshops and payment centers -it is strongly so. Among these touchpoints, the predicted probability of transacting increases with age but - with the exception of banks - at a decreasing rate.

Marital Status. Marital status does not figure in the predicted probability of transacting with seven of the touchpoints. It has a significant effect only in the case of ATMs, insurance agents and banks, where, relative to being single, being married increases predicted probabilities by an average of 10.8, 10.3 and 7.5 percent respectively. Being widowed and separated likewise increases the predicted probability of transacting with ATMs by 19.5 and 21.9 percent respectively. ¹³

Personal income. Relative to quartile 1, the effect of a change to quartile 3, 4 or both is to increase the predicted probabilities of transacting with ATMs, MFIs, and remittance agencies, (anywhere from 10.1 to 21 percent), c. p. Relative to quartile 4, the effect of a change to quartile 3 is to decrease the predicted probability of transacting with insurance agents by 10.8 percent. ¹⁴

¹² Location is significant in predicting the probability of awareness of cooperatives. Being in rural Luzon, Visayas and Mindanao and urban Mindanao relative to NCR increase the predicted probability of awareness

¹³ Being married or widowed (from being single) increases the predicted probability of awareness of pawnshops by 2.8 and 9.8 percent respectively.

¹⁴ Relative to quartile 4, the effect of quartile 3, 2 and 1 is to decrease the predicted probability of awareness of pawnshops by 2.8, 10.4 and 11.4 percent respectively.

Annex B Multinomial logit estimates of active saving

Annex Table B.1: Multinomial logit estimates of active saving: correlates and average marginal effects

	Actively saving dy/dx	No longer actively saving dy/dx	Does not actively save dy/dx
AREA			
NCR (base)			
balance luzon, rural	-0.063	0.048	0.015
balance luzon, urban	-0.059	0.064	-0.005
visayas, rural	-0.124 ***	-0.064	0.188 ***
visayas, urban	-0.051	-0.009	0.059
mindanao, rural	-0.104 **	-0.004	0.107 **
mindanao, urban	-0.016	-0.048	0.065
FEMALE	0.087 **	-0.023	-0.064 **
AGE	-0.005 ***	0.003 **	0.002 **
EDUCATION			
no education (base)			
some elementary	-0.163	0.233 ***	-0.070
elementary grad	-0.108	0.311 ***	-0.203 *
some high school	-0.125	0.294 ***	-0.169
high school grad	-0.086	0.273 ***	-0.187 *
some vocational	0.022	0.155	-0.178
vocational	0.014	0.188 **	-0.202 *
some college	-0.040	0.286 ***	-0.246 **
college grad or more	0.068	0.238 ***	-0.306 ***
MARITAL STATUS			
single (base)			
married	0.024	-0.032	0.008
widowed	-0.163 **	0.013	0.150 **
separated/divorced	-0.176 *	0.057	0.119
with partner	-0.065	0.043	0.022
CLASS			
ABC (base)			
D1	-0.071	-0.051	0.122 **
D2	-0.198 ***	0.065	0.133 ***
E	-0.133 *	0.043	0.090 *
OCCUPATION			
formally employed (base)			

informally employed	-0.053		0.073		-0.020
self-employed	-0.022		0.105	**	-0.083
seasonally employed	-0.285	***	0.293	***	-0.008
student	-0.148	**	0.146	*	0.002
retired	-0.010		0.094		-0.084
unemp-sick/disabled	-0.334	**	0.475	***	-0.141
unemp-housework	-0.189	***	0.187	***	0.002
unemployed	-0.259	***	0.227	***	0.031
PERSONAL INCOME					
quartile 1 (base)					
quartile 2					
quartile 3					
quartile 4					

Base data: NBSFI