PROGRAM IMPACT ASSESSMENT
INCLUSIVE FINANCE DEVELOPMENT PROGRAM SP1

I. Summary

1. The Bangko Sentral ng Pilipinas (BSP) has pursued the objective of financial inclusion since 2000. The BSP defines the financial inclusion agenda around a three-pronged framework: (i) access to financial products and services; (ii) financial education and literacy; and (iii) financial consumer protection. To advance the objective of increased financial inclusion, the government launched its first National Strategy for Financial Inclusion on 1 July 2015. The strategy forms part of the Philippine Development plan 2017-2022.

2. The Inclusive Finance Development Program (IFDP) has implemented reforms designed to increase financial inclusion in the Philippines through strengthening the institutional and policy environment, improving financial infrastructure and increasing financial service provider capacity. Financial inclusion aims to allow everyone access to a wide range of affordable, high quality financial products and services, including not just credit but also savings, insurance, payment services, and fund transfers. Such products and services must be appropriately designed, of good quality and relevant to benefit the person accessing them. Reforms proposed in the IFDP reflect government's strategy for financial inclusion. Subprogram 1 reforms were implemented from March 2016 to April 2018.

3. It is assumed that the reforms act to increase financial inclusion from 2018 to 2022 and that the benefits from this increased financial inclusion last for ten years. The benefits come from increasing the number of people with financial accounts and from reducing transactions costs. The benefits from the policies are sensitive to the target achieved, the counterfactual assumed and the social benefits from new accounts. If the reforms lift the proportion of adults with an account to the ASEAN average, the amount of new accounts created depends how many people would have had accounts without the policy change. Two estimates of the path of financial inclusion without the policy change are modelled: a growth scenario and stagnant scenario, with the average of the two being the preferred counter-factual. It is estimated that increased financial inclusion would give an 11% increase in savings, or $75 per new account and this (together with the other effects of extra financial inclusion) would be expected to boost GDP by $104.[1] This is the estimated social benefit per new account. Under these assumptions, the net present value of benefits under the growth scenario is $1.892 billion and under the stagnant scenario $5.003 billion. The average gives a net present value of the benefits of just under $US3.5 billion. But under the average scenario, the project would break even if the social benefit per account were only $35 per account.

4. Costs are generally front-loaded and represent a net present value of $382 million. Thus, the central estimate of the net present value benefits of the program (present value of benefits less present value of costs) is estimated to be just over $3 billion. In addition to the economic growth, the policy actions yield other social benefits such as reduction in poverty and some switching from the informal to the formal economy. These indirect benefits have not been valued in the assessment.

[1] *Accelerating Financial Inclusion in South-East Asia with Digital Finance* by Oliver Wyman (ADB, 2017).

II. Development problem and constraints

The lack of financial inclusion in the Philippines

Table 1: Percentage of the relevant population with an account

	2011	**2014**	**2017**
Account % age 15+	26.6	31.3	34.5
	2011	**2014**	**2017**
Account, rural (% age 15+)	19.5	28.8	27.4
Account, income, poorest 40% (% ages 15+)	9.9	18.0	18.0
Account, income, richest 60% (% ages 15+)	37.7	40.1	45.4

Source: Global Findex, World Bank

5. The lack of access to financial services is a problem for all target populations across the Philippines but is more severe for the poor and those in rural areas. As set out in Table 1, in 2017 only 34.5% of adults in the Philippines had an account, although the proportion has steadily increased over time. That is, almost two-thirds of adults (65.5%) in the Philippines did not have an account. The problem is worse in rural areas, where the proportion with an account actually fell from 2014 to 2017.

6. The BSP National Baseline Financial Inclusion Survey 2017 found only 18.8% of adult Filipinos have a savings account, and the members that are banked are mostly employees, either by private companies or by the government. Of those who save, 9% save with banks, 3% in cooperatives, 7% in Microfinance NGOs, and 4.3% in Non-stock Savings and Loan Associations and group savings. The remaining 32.7% save at home.

7. Lower income households suffer more from low financial inclusion. For example, only 18% of the adults from the bottom 40% of the income quintiles hold an account in a formal financial institution, with the proportion doubling from 2011 to 2014 but then flattening out. The proportion with an account in the richest 60% (45.4%) is more than double the proportion of the poorest, but still less than half have an account. Also, there are substantial regional disparities as banks are concentrated in high population density areas, and microfinance NGOs only partially cover excluded areas. Hence many adults and micro, small and medium-sized enterprises (MSMEs) have limited or no access to various financial services in rural areas.

8. Some local government units remain underserved by financial institutions. As of June 2017, 571 LGUs were unbanked or 34.9% of the total. As income class decreases, the percentage share of unbanked municipalities increases. Only 12% of 1st class municipalities were unbanked, while 100% of 6th class municipalities were unbanked.[2]

Why people don’t have accounts

9. According to the Global Findex data, in 2017, of those without an account, 68.9% said it was because of insufficient funds. That still leaves over 14 million who consider they have sufficient funds but do not open an account for other reasons. For example, 40.5% said they did not have an account because financial institutions were too far away, over half (52.9%) said

[2] Bangko Sentral ng Pilipinas (BSP). 2017. *Financial Inclusion in the Philippines: Dashboard as of Second Quarter 2017.* Manila.

financial services were too expensive, 44.9% said they lacked the necessary documents. All these barriers can be ameliorated through recent policy changes. Only 1.2% said they had no account because they had no need for financial services.

10. Further, 82% of the poorest 40% do not hold an account. That is 32.8% of the adult population. But 44.6% (= 68.2% of the 65.5% of the population without accounts) of the total population thinks they have insufficient funds to hold an account. Even if all those in the poorest 40% without an account think they have insufficient funds to hold an account, that leaves a further 11.8% (= 44.6% - 32.8%) of adults who also believe it. That is, at least 26.5% (= 11.8%/44.6%) of those who believe they have insufficient funds must be in the richest 60% of the population.

11. The data also shows that 54.6% of the richest 60% of the population have no account, which is 32.8% of the total adult population (54.6% of 60%). So half of adults without accounts are in the richest 60% of the population and more than one-third of them (36.0% = 11.8%/32.8%) believe they have insufficient funds for an account. Clearly such beliefs are mistaken, as financial education and better services can encourage even those with low incomes to use bank accounts and benefit from it.

12. These conclusions are consistent with the results of the National Baseline Survey on Financial Inclusion conducted by the BSP which found that: (i) only 5 out of 10 Filipinos save. Over one-third of adults (37%) have informal savings at home or through group savings. The remaining 52% who do not save cited lack of money (87%) and lack of work (12%) as the main reason for not saving.

Financial needs of poor people

13. Poverty incidence among Filipinos in 2015 was estimated at 21.6% and 8.1% were living in extreme or subsistence poverty.[3] The poor produce, consume, earn income, save, and borrow in very small amounts. The effect of this is that transaction costs (both direct and indirect) tend to be high as the 'unit' of transaction is generally minuscule. This has important implications for the use of formal sector institutions where the charging of any standardized administrative cost will commonly make transactions unattractive to the poor, whose savings are often tiny temporary surpluses that accrue with high frequency and seasonality.[4]

14. The poor face high levels of insecurity and risk, because flows of income and expenditure usually do not coincide. Being unable to offer adequate collateral, moreover, means that the poor are usually unable to secure loans from commercial banks. Together, these factors also mean that the poor are least well positioned to take advantage of new entrepreneurial opportunities as and when they present themselves.

15. Vulnerability to risk and the lack of instruments to cope with external shocks adequately make it difficult for poor people to escape poverty. Shocks may be household specific, such as severe illness, urgent medical expenses injury, theft, job loss, livestock death, or business failure. Or they may affect a whole community, such as natural disaster, harvest failure due to flooding or drought, national economic crisis, which makes it difficult for the community to provide support.[5]

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[3] Philippine Statistic Authority. "2015 Full Year Poverty Statistics" 2015.

[4] Matin, Imran, David Hulme And Stuart Rutherford . 2002. 'Finance for The Poor: From Microcredit To Microfinancial Services' Journal of International Development, vol.14, pp. 273–294.

[5] Cull, Robert, Tilman Ehrbeck, and Nina Holle. 2014. "Financial Inclusion and Development: Recent Impact Evidence" CGAP Focus note No. 92, April 2014, pp.4.

Further, the poor find it difficult to meet lifecycle needs such as weddings, funerals, childbirth, education, home building, widowhood and old age.

16. For those living on a dollar a day or less, often their income does not arrive in a smooth flow of a dollar a day. They save and borrow constantly in informal ways. Financial services are needed for them to sustain their livelihoods, manage risks and build assets. Thus, without access to formal financial services, poor families rely much more on informal mechanisms for credit and insurance: family and friends, rotating savings schemes, the pawn-broker, the moneylender, money under the mattress. At times, these informal mechanisms represent important and viable value propositions. Often, however, they are insufficient and unreliable, and they can be very expensive.[6] Informal mechanisms have an advantage in enforcing contract performance when there is a lack of collateral and informal lenders often have better information on the borrower's credit-worthiness than formal lenders.[7]

17. Providing poor people with effective financial services helps them deal with vulnerability and can thereby help reduce poverty. Financial inclusion is not a panacea that converts the poor into the non-poor. Rather, it can be a platform that raises the likelihood of success of the strategies to escape poverty that poor households pursue (footnote 2). For example, in 2017 almost half of adults in the Philippines say it is not possible for them to come up with emergency funds, and 60% of those in the poorest 40% and 52% of those in rural areas, numbers almost unchanged from 2014 (and the proportion has increased in rural areas).[8]

18. Of those able to raise emergency funds, the main source was family or friends for 35% (down from 38.5% in 2014), 40% for those in rural areas (about the same as in 2014). For only 5.7% was a bank loan the main source of emergency funds, about the same as those whose main source was from selling assets. Money from working was the main source of emergency funds for 34% of adults who could raise funds, but that was only true for 30% in rural areas and 29% of those from the poorest 40%. Savings was the main source of emergency funds for only 18.4%, up from 4.9% in 2014. But only 6.5% of those in rural areas could use savings to fund emergencies.

III. Policy actions

19. The policy actions to increase financial inclusion, summarised in Table 2, were implemented from March 2016 to April 2018. They are structured around three main outputs: (i) strengthening the institutional and policy environment; (ii) improving financial infrastructure; and (iii) increasing financial service provider capacity.

Table 2: Policy actions to alleviate constraints

	Policy Actions
Output 1	**Institutional and policy environment for financial inclusion**
NIS	Legislation establishing a single national identification system submitted to Congress
Financial products	Agricultural value chain lending framework issued Regulatory framework for microinsurance revised to reach a broader range of clients.

6 Footnote 4, pp.2.
7 Karlen, Dean and Jonathan Morduch. "2010. Access to Finance" ch.71. *Handbook of Development Economics,* Volume 5 Dani Rodrik and Mark Rosenzweig, eds.
8 Global Findex

	Policy Actions
Financial literacy	Legislation enacted for annual Economic and Financial Literacy Week to increase financial literacy awareness among public and policymakers
Output 2	**Infrastructure for financial inclusion**
Payments	Upgrade the National Retail Payments System (NRPS) to enhance digitalization and introduce innovative technology-based solutions.
Credit information	National credit information registry launched.
Collateral registry	Legislation establishing a national secured transactions registry submitted to Congress
Credit enhancement	Government submitted draft Executive Order to consolidate government guarantee schemes under one governing body
Output 3	**Enhance financial service provider capacity**
Microfinance NGOs	Microfinance NGO Regulatory Council (MNRC) established adopting financial, social, and governance performance standards for microfinance NGOs
Rural banks	BSP issues rules and regulations to allow cloud-based banking.
Islamic finance	Legislation establishing a legal and policy framework for Islamic finance submitted to Congress

How can the reforms generate benefits?

20. The services performed by the financial system include:

- Providing payment services: clearing and settling payments for the exchange of goods and services and financial assets to help individuals and firms fulfil transactions

- Matching savers and investors: Financial intermediaries take in money as deposits from those who wish to save, and then lend it to borrowers, who use it to finance investment or consumption.

- Generating and distributing information: The financial system communicates information about borrowers' creditworthiness and provide signals that assist managers in making investment decisions and households in making savings decisions, helping to ensure that funds are efficiently allocated.

- Allocating credit efficiently: Channelling investment funds to uses yielding the highest rate of return allows increases in specialization and the division of labour. The pooling of savings, which makes it easier for firms to finance long-term investment and still allow savers to hold their assets in liquid form.

- Pricing, pooling, and trading risks: Insurance markets provide protection against risk

- Increasing asset liquidity.[9]

21. Cull et al (2014) present evidence from randomised evaluations that suggests "financial services do have a positive impact on a variety of microeconomic indicators, including self-

[9] Todaro, Michael and Stephen Smith.2012 *Economic Development* 11th ed. Pp.;730-31.

employment business activities, household consumption, and well-being" (footnote 3). For example, small business benefits from access to credit, which can help them invest in assets to start or grow their business. There is evidence that microcredit both spurred new business creation and benefitted existing microbusinesses in Mongolia and Bosnia, although another study in the Philippines didn't find such effects. Studies found positive effects on a variety of indicators, including the income of existing businesses (India, the Philippines, and Mongolia), business size (Mexico), and the scale of agricultural activities and the diversification of livestock (Morocco). In addition, access to microcredit increased the ability of microentrepreneurs to cope with risk (the Philippines and Mexico). Most of these studies only investigate the effects of credit simply being offered to the treatment group, rather than the effects of actual credit uptake and usage.[10] A survey concludes "microcredit has earned its rightful place as one of the key instruments in the fight against poverty (footnote 3)." The reforms increase financial inclusion and promote all these benefits. They increase the number of people with accounts and savings by reducing costs and encouraging providers to supply finance services and people to take them up. By acting as a channel through which savings can finance productive investment, the financial system helps to spur growth.

22. There are substantial gains from extending the scope of financial intermediation beyond local areas because of the covariance among farmers' risks. Weather fluctuations and changes in commodity prices may affect a whole group of farmers in a particular location, which may imply that a large fraction of borrowers is unable to repay their loans at a point in time, thus threatening the integrity of segmented informal credit and insurance arrangements. This would not be a problem if lenders were able to hold a portfolio of loans that are not highly correlated. Such considerations mean there is a large benefit from a spatially diversified financial intermediation, such as through a nationwide bank (footnote 2).

23. There is mixed evidence on whether access to finance increases consumption or income of poor households. However, greater access to financial services directly increases the well-being of households, even if it doesn't increase output or income. Households use financial markets to smooth the flow of consumption over time and increase the ability to cope with shocks. Savings help households manage cash flow spikes and smooth consumption, as well as build working capital. According to researchers, for poor households without access to a savings mechanism, it is more difficult to resist immediate spending temptations (footnote 3). Even those who consider they have insufficient funds for an account can benefit from high-frequency, low-balance deposit services. Further, households are able to rely less on savings as a buffer against income fluctuation when formal credit becomes available. Access to credit can increase the household's risk bearing capacity. Just the knowledge that credit will be available to cushion consumption against an income shortfall if a potentially profitable, but risky investment should turn out badly, can make the household more willing to adopt riskier 'technologies' (footnote 2).

24. Therefore, one can conclude that financial access improves local economic activity, through lowering transactions costs and increasing financial intermediation – improving the distribution of capital and risk – especially if institutional frameworks are strong.[11] The evidence is that the Philippines framework is strong. The Economist Intelligence unit ranks the Philippines institutional framework for financial inclusion very highly. For the most recent three years (2014–2016), the Philippines has been consistently rated as the top country in Asia and third in the world with the most conducive environment for financial inclusion.

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[10] Footnote 4, pp. 3.
[11] Footnote 4, pp. 6.

25. Since 2015, the Brooking Institute has been releasing its annual Financial and Digital Inclusion Report which examines financial inclusion efforts of various countries (26 in 2017). The Brookings report features a scorecard that assessed the countries across four "dimensions" of financial inclusion: country commitment, mobile capacity, regulatory environment, and the adoption of traditional and digital financial services. In 2016 and 2017, the Philippines placed 4th in the overall score, garnering a perfect 100% in country commitment and regulatory environment. Based on this report, the Philippines needs to focus its efforts on improving adoption which gained a rating of 42%, the lowest among the 9 countries in the top 5.[12]

26. Moreover, many of the reforms are targeted at problems faced by the poor, such as lack of proof of identity and lack of collateral. Opportunities for opening savings accounts and deposit services are especially important for the poor. The advantages that deposit facilities show over informal savings include accessibility to cash, security, return and divisibility. Savings deposit and withdrawal behaviour can be a useful proxy for debt capacity (footnote 2).

Output 1: Institutional and policy environment for financial inclusion

27. A National Identification System will make it easier for Filipinos establish their identity in order to open an account. Almost half of those without an account lack the necessary documentation to open one.

28. The framework to develop agricultural finance focused on the value chain improves access in rural areas. The encouragement of microinsurance provides protection against risk and can boost the incomes of subsistence farmers. Randomized evaluations in India and Ghana of weather-based index insurance showed strong positive impact on farmers because the assurance of better returns encouraged farmers to shift from subsistence to riskier cash crops (footnote 3). Formal insurance can substitute for informal risk reducing methods, such as growing crops with a lower average, but less variable, yield.

29. Increased financial literacy awareness encourages people to save and use the financial system to better manage their affairs for present and future needs.

Output 2: Infrastructure for financial inclusion

30. Upgrading the National Retail Payments system cuts transactions costs for households, businesses and donors and improve risk sharing by reducing the cost of transferring money between networks of friends and family. It can reduce the cost of giving and receiving cash transfers from government and donors to households and allows firms to reduce payroll costs (electronic transfers into accounts are cheaper than paying in cash).

31. In 2014, 92.6% of those who paid school fees paid in cash only. In 2017, 95% of utility bills were paid in cash only, the same as in 2014. Of government payment recipients, 51.7% received them in cash only, down from 60.8% in 2014. In 2017 57.2% of government transfer payment recipients got them in cash only, slightly more than in 2014. 98.2% of those who received payments for agricultural products were paid in cash only, up from 95.1% in 2014 and 93.1% of the self-employed were paid in cash only. Of those receiving private sector wages, 77.4% were paid in cash only, down from 79.5% in 2014. In 2014, 71.7% of public sector employees were paid in cash only.

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[12] Bangko Sentral ng Pilipinas. 2017. Financial Inclusion Initiatives 2017. http://www.bsp.gov.ph/downloads/Publications/2017/ microfinance_2017.pdf

32. A collateral registry allows borrowers to use a wider range of collateral, reducing lenders' costs and making it easier and cheaper to borrow, expanding access to credit. Consolidating government guarantees has the same effect.

Output 3: Enhance financial service provider capacity

33. Digital technology can significantly reduce transaction costs and expand reach – making it possible and even compelling for banks and other financial institutions to serve the hugely untapped low–income market. Registered e-money accounts currently stand at 11.4 million. Adopting accreditation standards and technical innovations, such as allowing cloud-based banking, reduces transactions costs and makes it more likely that providers will establish suitable offerings in rural and underserved areas. Alternative platforms, such as mobile phones and digital platforms, enable last-mile access. These will be able to reach the financially excluded and people in rural areas without the need for physical bank branches.

34. Empirical studies show increased use of credit when microfinance providers enter the market – not a just a substitution from one source of credit to another.[13] Prudentially regulated and supervised microfinance providers combine the advantages of the formal and informal sectors. These providers give the poor access to a safe deposit-holder willing to accept frequent and tiny amounts. Clients could then choose to remain savers, building up short-call capital in their regular account and keeping a proportion in a fixed-term better-rewarded instrument. Or they could become borrowers, at times, in amounts related to their capacity to save and with repayment schedules, of their own choice. It can replace more expensive ways of managing finances – such as asset sales at low prices.[14]

35. Microfinance produces many benefits for poverty stricken and low-income households. One of the benefits is that it is very accessible. Banks today simply won't extend loans to those with little to no assets, and generally don't engage in small size loans typically associated with microfinance. Through microfinance, small loans are produced and accessible. Microfinance is based on the philosophy that even small amounts of credit can help end the cycle of poverty. Families using microfinance are less likely to pull their children out of school for economic reasons.[15] Microfinance can increase income through providing loans to increase productive physical capital, raising productivity. Borrowing may also allow the household to take advantage of potentially profitable investment opportunities that are too large to finance out of its own resources. Furthermore, easing capital constraints through credit can reduce the opportunity costs of capital-intensive assets relative to family labour, thus encouraging labour-saving technologies and raising productivity, a crucial factor for development (footnote 3).

36. A facilitating regulatory framework encourages the establishment of suitable microfinance institutions. Microfinance allows the poor to manage their finances more effectively and take advantage of economic opportunities while managing risks. Microfinance organizations help the poor respond to these risks and opportunities by enabling greater smoothing of consumption over time, by diversifying income streams and asset portfolios, and by securing access to a broader

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[13] Karlan, Dean and Jonathan Zinman. 2010. Expanding Credit Access: Using Randomized Supply Decisions to Estimate the Impacts. *The Review of Financial Studies*. Volume 23 Number 1.

[14] Rutherford, Stuart. 1998. 'The savings of the poor: improving financial services in Bangladesh' Journal of International Development: Vol. 10, No. 1, pp.1-15.

[15] Rutherford, Stuart; Arora, Sukhwinder. 2009. The poor and their money: micro finance from a twenty-first century consumer's perspective.

range of ‘competitive’ credit markets (which thereby lessens the dependence on local moneylenders, whose interest rates are often usurious).[16]

Table 3 Potential benefits from policy actions

	Target group	
	Individuals	**MSMEs**
Output 1		
NIS	Reduced costs of opening an account.	
Financial products	Reduced reliance on expensive informal mechanisms, increased access to insurance. Increased participation in the formal sector.	Reduced reliance on expensive informal mechanisms, increased access to insurance. Increased participation in the formal sector. Incentive to switch to risker, higher yield crops.
Financial literacy	Benefits from better management of finances including increased investment in education and long-term financial planning.	
Output 2		
Payments	Reduced costs of making payments and making and receiving transfers. Increased participation in the formal sector.	Reduced costs of accepting payments and payroll systems. Increased participation in the formal sector.
Credit information	Increased ability to borrow from formal financial institutions at lower rates.	Increased ability to borrow from formal financial institutions at lower rates. Improving the allocation of capital to higher return investments.
Collateral registry	Increased ability to provide collateral making it easier and cheaper to borrow from formal financial institutions.	Increased ability to provide collateral making it easier and cheaper to borrow from formal financial institutions.
Credit enhancement	Increased ability to borrow, smooth consumption, raise emergency funds, increase risk bearing capacity and take advantage of entrepreneurial opportunities.	Increased borrowing and ability to take advantage of entrepreneurial opportunities.
Output 3		
Microfinance NGOs	Increased incentives to save and to build assets, reduced insecurity and risk. Increased access to credit for poor households.	Increased credit, borrowing opportunities for micro businesses.
Rural banks	Increased incentives to save and build assets, reduced insecurity and risk.	Increased credit, borrowing opportunities. Regional diversification of lending portfolios gives national risk spreading.
Islamic finance	Increased incentives to save and build assets, reduced insecurity and risk.	Increased credit for Islamic businesses.

Analysis of benefits

37. Greater financial inclusion increases the number of people using financial products, such as financial institution accounts, electronic payments and insurance. The benefits from greater financial inclusion include:

[16] Woolcock, Michael. 2006. ‘Microfinance’ in David Clarke ed *The Elgar Companion to Development Studies*.

- Increasing savings and channelling of savings to more productive investments increases the amount and improves the distribution of capital.
- Generating and distributing better information improves the allocation of capital to higher return investments.
- Better protection against risks benefits households directly and encourages investment
- Lower transactions costs.

38. Some of these benefits will boost economic activity and GDP. Empirically there is a strong link between financial development and economic growth. Further, the evidence is that increased financial inclusion directly increases household well-being in ways additional to the increase in GDP.[17] Several academic studies show that substantial indirect benefits also arise from financial inclusion, including poverty reduction, lowering of income inequality, decrease in the informal economy and greater financial stability. Such benefits have neither been quantified or included in benefit calculations.

39. Controlling for other relevant variables, almost 30 percent of the variation across countries in rates of poverty reduction can be attributed to cross-country variation in financial development (Beck, Demirgüç-Kunt, and Levine 2007). Financial inclusion seems to reduce inequality by disproportionally relaxing the credit constraints on poor people, who lack collateral, credit history, and connections.[18] Two recent ADB studies use a measure of financial inclusion and find a robust and significant correlation between higher financial inclusion and lower poverty and income inequality in developing Asia and in middle-high income countries.[19] To the extent that the reforms help households in poverty and reduces inequality, extra equity benefits accrue. Although the efficiency effects of improved financial inclusion of the poor are likely to be small, as their income and saving balances are relatively small, the effect on their well-being is large, reducing poverty and inequality.

40. Financial inclusion brings people into the formal sector. For example, not having a bank account excludes someone from working for firms that pay electronically. Increasing the relative size of the formal sector is beneficial because informal firms typically do not pay official taxes, and this restricts the government's ability to provide support for public goods and services. Second, the coexistence of formal and informal firms means that firms competing in the same industry could face different marginal production costs. This may lead to an inefficient allocation of resources in the economy. Third, the cost advantage for informal firms leads to unfair competition with law-abiding formal-sector firms, which could restrict economic growth. Finally, informal firms may not be able to legally obtain credit from formal financial sources, access government programs, or export products. This could put informal firms at a disadvantage relative to other firms, limiting growth opportunities. They may operate at a suboptimal scale. A substantial empirical literature also argues that the size of the informal sector is inversely related to economic growth, GDP per capita, tax revenues, and public goods provision.[20] A larger formal sector also makes the tax base broader and less distorting. However, this benefit is not estimated.

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[17] See the summaries of the evidence in Footnote 4 and in Jonathan Bauchet, Cristobal Marshall, Laura Starita, Jeanette Thomas, and Anna Yalouris. 2011. 'Latest Findings from Randomized Evaluations of Microfinance' Consultative Group to Assist the Poor, The World Bank Report No. 2, December.

[18] Footnote 4, pp. 6.

[19] Cyn-Young Park and Rogelio V. Mercado, Jr. 2015. 'Financial Inclusion, Poverty, and Income Inequality in Developing Asia' ADB Economics Working Paper Series no.426 and 2018 'Financial Inclusion: New Measurement and Cross-Country Impact Assessment' *ADB Economics Working Paper Series* no.539.

[20] See the summary in Rafael La Porta and Andrei Shleifer. 2014. 'Informality and Development' *Journal of Economic Perspectives*, vol. 28, no. 3, Summer 2014, pp. 109–126.

Methodology

41. The reforms provide a comprehensive strategy to increase to financial services, covering both the institutional and policy environment, the types and accessibility of products and services offered, the infrastructure and payment system, and the capacity of financial service providers. Most of the policy interventions are interlinked and interrelated, hence it is impossible to separate the effects of each measure. Therefore, the PIA first assesses the total effect of all the reforms on financial inclusion.

42. It is assumed that the reforms act to increase financial inclusion from 2018 to 2022 and that the benefits from this increased financial inclusion last for ten years. The benefits come from increasing the number of people with financial accounts and from reducing transactions costs. The reforms were implemented from March 2016 to April 2018. Many of the reforms involved enacting enabling legislation and have not yet been fully applied. Moreover, the regulatory approach is to provide an enabling role, facilitating financial inclusion, but leaving it to the market to determine how much will be provided. Market driven provision is more likely to be sustainable, but it is difficult to predict the demand for financial services.

43. The benefit estimates, therefore, examine the benefits if the policy achieves specified targets. The benefits are examined from increasing the proportion of the population with accounts. In particular, what if the policy raises the proportion of adults with an account to the ASEAN average of 44.75%. Sensitivity analysis is conducted to show how the benefits will vary with the amount of financial inclusion produced. It is assumed the SP1 policies have an effect until 2022, smoothly increasing the number of adults with accounts from 2018 to 2022. The current policy actions are assumed to have no further effect on the number account holders. Then the cost of each policy intervention is estimated, adding them to obtain the total cost of intervention. The present value of benefits and costs are then calculated by discounting them using the ADB discount rate of 9%.

Table 4: Number of adults with and without accounts

Accounts	**2011**	**2014**	**2017**
Account % age 15+	26.6	31.3	34.5
Population aged 15+	62,205,554	65,959,109	69,441,082
Number with accounts	16,519,261	20,635,858	23,956,069
Number without accounts	45,686,294	45,323,251	45,485,013

Source: Population estimates are from the 2010 and 2015 Philippine Statistics Authority National Census of the Population figures and the 2017 CIA estimate, https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html.
Note: 2011-14 figures use the average growth rates from the 2010 census to the 2015 census.
2017 figures assume a constant growth rate from 2015 to 2017 (and so that the 15+ share of the population is the same as in the 2015 census, as the CIA does).

44. Table 4 uses population numbers to convert the estimates of the proportion of adults with accounts into number of account holders. The numbers of adults with accounts grew at 7.7% per year from 2011 to 2014 and at 5.1% from 2014 to 2017, faster than the rate of adult population growth (which was 2.0 and 1.7%), which could reflect the effect of financial inclusion policies and income growth. The number of adults without accounts is estimated to have been stable at over 45 million for the past 6 years.

Value of benefits

Table 5: Projections of financial inclusion without a policy change

Accounts	2018	2019	2020	2021	2022
Population aged 15+	70,558,021	71,692,926	72,846,086	74,017,794	75,208,348
GROWTH SCENARIO					
Number with accounts (if grows at 2014-17 annual growth rate)	25,177,536	26,461,283	27,810,485	29,228,480	30,718,776
Number without accounts (if grows at 2014-17 annual growth rate)	45,380,486	45,231,644	45,035,601	44,789,313	44,489,572
Account % age 15+	35.7	36.9	38.2	39.5	40.8
STAGNANT SCENARIO					
Number with accounts if 2017 proportion	24,341,395	24,732,919	25,130,741	25,534,961	25,945,684
Number without accounts if 2017 proportion	46,216,626	46,960,007	47,715,345	48,482,832	49,262,664
Account % age 15+	34.5	34.5	34.5	34.5	34.5

Source: Global Findex.
Note: The population projections assume that the population (and each sub-segment) grows at 1.6% (as the CIA does).

45. Table 5 then sets out projections of the number of account holders through to 2022 in the absence of any change in policy (the counter-factual). Two estimates of the path of financial inclusion are made. The first approach (the growth scenario) assumes the number of account holders grows at the average rate from 2014–2017 (5.1%). The second approach (the stagnant scenario) assumes the number of account holders remains at the 2017 proportion of the adult population (34.5%).

46. The growth scenario probably overstates the number of account holders in the future under previous policies because the policies to boost financial inclusion from 2014–2016 would temporarily raise the growth in the number of accounts as they took effect. Under the growth scenario the estimated number of those without account is around 45 million from 2018 to 2022, the same as it has been for the past six years. It projects the proportion of adults with an account to rise to 40.8%. Further, to the extent the reforms implemented in 2016 had started to take effect by 2017, that would boost growth rate from 2014–2017, yet that would be attributed to the previous policies, further overstating the number of account holders in the future under previous policies and understating the effect of the reforms.

47. The stagnant scenario probably understates the number of account holders, because the proportion of the population with accounts is likely to grow over time, even with fixed policies, as real incomes rise with economic growth. Richer people are more likely to have a bank account. Further, older adults (aged 25+) were 15 percentage points more likely to have an account than young adults (38.8% v 23.5%), so an aging population would tend to increase the proportion with a bank account. On the other hand, to the extent the reforms implemented in 2016 had started to take effect, that would have boosted the proportion with an account in 2017, yet the increase would not be attributed to those policies, understating their effect (and overstating the number of account holders under previous policies).

48. The stagnant scenario predicts the number of adults without an account rises to over 49 million by 2022, tracking population growth. The path of number of account holders over time under existing policies would have likely lay somewhere between the two scenarios, and the preferred counterfactual will be the average of the two approaches.

Table 6: Total and extra number of accounts created by policies under various assumptions

Counter-factual	**Target in 2022**	**2018**	**2019**	**2020**	**2021**	**2022**	**% adults with account in 2022**
	Total accounts with 37% target	24,684,594	25,435,275	26,208,785	27,005,818	27,827,089	37%
	Total accounts with 44.75% target	25,641,549	27,445,615	29,376,610	31,443,464	33,655,736	44.75%
	Total accounts with 50% target	26,216,798	28,690,872	31,398,424	34,361,487	37,604,174	50%
Growth scenario	Extra accounts with 37% target	- 492,941	- 1,026,008	- 1,601,700	- 2,222,663	- 2,891,687	37%
	Extra accounts with 44.75% target	464,013	984,332	1,566,125	2,214,983	2,936,960	44.75%
	Extra accounts with 50% target	1,039,262	2,229,589	3,587,939	5,133,007	6,885,398	50%
Average scenario	Extra accounts with 37% target	- 74,871	- 161,826	- 261,828	- 375,903	- 505,141	37%
	Extra accounts with 44.75% target	882,084	1,848,514	2,905,997	4,061,743	5,323,506	44.75%
	Extra accounts with 50% target	1,457,333	3,093,771	4,927,811	6,979,766	9,271,944	50%
Stagnant scenario	Extra accounts with 37% target	343,199	702,356	1,078,044	1,470,856	1,881,405	37%

	Extra accounts with 44.75% target	1,300,154	2,712,696	4,245,869	5,908,502	7,710,052	44.75%
	Extra accounts with 50% target	1,875,403	3,957,953	6,267,683	8,826,526	11,658,490	50%

49. Table 6 shows the total number of accounts and the number of extra accounts (compared with the three counterfactual scenarios) created by policies that boost the number of account holders to 44.75% in 2020 (which gives an average growth rate of 7.0% from 2018 to 2022, below what was achieved from 2011 to 2014). The estimates then use a sensitivity test for targets of 37% and 50% in 2022. Note that the 37% target is below what the counterfactual growth and average scenarios predict, implying that the policies would not have any benefits (37% under the old policies). It implies the number of accounts grows at an annual rate of 3%. The 50% target implies a growth rate of 9.4%.

50. All this demonstrates how difficult it is to work out the incremental effects of a policy – as both the path of the relevant variables under the policy and the counter-factual must be calculated, as well as the path without the policy. It is difficult to estimate the effects of a policy even if the outcomes could be observed, as there will always be disagreement about the counterfactual, which is never observed.

51. To work out the benefit from the policy, the social benefit per account created needs to be determined. That is extremely difficult – as it would depend on the behavioural changes induced by the policy. For example, it would depend on the type of account opened – are they savings or insurance accounts? How does the increased financial inclusion change behaviour? For example, how much extra is saved? How much extra insurance is taken out? How much substitutes for informal saving and insurance and what is the gain from switching from one to the other? What are the benefits from extra savings and insurance? If extra formal savings boosts lending, or pushes it into more productive uses, then GDP will increase. Insurance may increase GDP through encouraging farmers to plant riskier crops with higher average yields. All these are difficult to measure, much less predict. But both increased savings and insurance can provide direct benefits to households, through risk reduction, in ways that are not reflected in GDP.

52. But there is evidence of social benefits from increased financial inclusion. For example, one study tested whether commitment devices can reduce self- control problems and cash demands from social networks. Farmers were randomly assigned to receive either assistance to open an ordinary savings account, or to open an ordinary account with a commitment device. The commitment treatment had a large positive effect on the amounts of deposits and withdrawals made immediately prior to the planting season and a positive effect on rural Malawi agricultural input use, leading to a 22 percent increase in the value of the crop output, and a 17 percent increase in total household expenditure. Farmers who had access only to the ordinary account showed lower or nonsignificant impacts on the same outcomes.[21] Another found that having access to insurance caused farmers to shift toward riskier, rain-sensitive crops, which typically

[21] Brune, Lasse, Xavier Giné, Jessica Goldberg, and Dean Yang. 2011. "Commitments to Save: A Field Experiment in Rural Malawi." World Bank Policy Research Working Paper, No. 5748.Washington, D.C.: World Bank.

provided higher profits.[22] Access to formal savings accounts for market stallholders led to increased business investment and personal income growth. Four to six months after account opening, women in the treatment group had a 4.5 percent higher daily investment in their Kenya businesses than women in the comparison group.[23] Savers eligible to open parallel accounts saved 31 percent more on average than those in the comparison group, with the greatest effect seen for the accounts labelled "Education."[24] Reminders increased average savings balances overall by 6 percent. This impact increased substantially, to 16 percent, for the Peruvian savers when the reminder referred to a purchase goal.

Table 7: Average savings of families in 2017 prices by per capita decile

Decile	000s PHP	$US
1	-3	- 60
2	4	80
3	11	219
4	17	318
5	23	438
6	30	577
7	44	836
8	62	1,194
9	92	1,771
10	262	5,014
Total	54	1,039

Note: The numbers are converted into 2017 dollars using the GDP deflator. The exchange rate into US dollars is 52.22. The total number of families is 21,426,000.

53. An estimated figure will give an idea of the kind of benefits that can result from the policies (if the relevant target is met). As the estimated benefits are just the benefit per extra account times the number of extra accounts, the benefit estimate will vary proportionately with the assumed benefit per account (for example, if the estimate is halved, the net present value of benefits will halve). The estimates will focus on savings behaviour, as there is data on savings from the Philippine Statistics Authority's 2015 Family Income and Expenditure Survey, which is set out in Table 7.

54. These numbers are consistent with BSP data on deposits: in the third quarter of 2017, there were 44.8 million depositors in the Philippines (much higher than the number of individual estimated to hold an account – so it must include companies and other organisations). Total deposit balances were PHP11.3 trillion.[25] The average level of deposits per account is PHP252,200 ($US4,830).

55. Who opens new accounts? They will not be limited to the poor: over half of the richest 60% of Filipino adults do not have an account and they are half of all adults without an account. And the rich may be more likely to open an account. How much are new account holders likely to

[22] Cole, Shawn, Xavier Giné, Jeremy Tobacman, Petia Topalova, Robert Townsend, and James Vickery. 2011. "Barriers to Household Risk Management: Evidence from India." Harvard Business School Finance Working Paper No. 09-116. Cambridge, Mass.: Harvard University.

[23] Dupas, Pascaline, and Jonathan Robinson. 2011. "Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya." NBER Working Paper No. 14693. Cambridge, Mass.: National Bureau of Economic Research.

[24] Karlan, Dean, and Jonathan Morduch. 2009. "Access to Finance: Ideas and Evidence. Risk Management and Insurance." Financial Access Initiative Note. New York: Financial Access Initiative.

[25] BSP Financial Inclusion in the Philippines, Dashboard as of Quarter 3, 2017.

save? If the extra accounts are evenly spread across the deciles, then one would base it on household savings? Which decile are the new accounts likely to come from? The richer are more likely to have an account, but half don't. They are also more likely to open an account, for example when availability and access in rural areas increases. For example, those who don't believe they have enough money to open an account are more likely to be in the poorer income groups.

56. Further the income declines are a snapshot and households move between them over time. For example, the lowest decile dissaves – some are only temporarily in the lowest decile because they are having a bad year. Likewise, some in the top decile are having a good year and save a lot. The savings rate of most households over time is closer to the average than to the decile they are currently in. It is assumed that the average new account holder comes from the middle deciles (i.e. excluding the top decile from new account holders and exclude the bottom decile (who borrow rather than save), and so their annual savings would average $679. But the benefits from increased financial inclusion come from increased savings. An ADB study estimates that digital financial inclusion would increase savings by 11% or $7 billion. It further estimates that it would also boost lending and digital transactions and together increase GDP by 3% and increase the incomes of those earning less than $2 a day by 11%. As GDP is $325 billion, that is an annual benefit of $9.75 billion.[26] That is, an increase in savings of $7 billion, together with the other benefit of increased financial inclusion, increases GDP by $9.75 billion per year.

Table 8: Valuation of benefits

Counterfactual	Financial inclusion target	PV benefits USD million
Growth scenario	44.75% target	$1,892
	50% target	$4,413
Average scenario	44.75% target	$3,448
	50% target	$5,969
Stagnant scenario	37% target	$1,232
	44.75% target	$5,003
	50% target	$7,524

Note: Payments assumed to be received at the end of the period. The discount rate is 9%. Benefits assumed to last for five periods.

57. Using those figures to estimate the benefits of extra financial inclusion, which are proxied by increased number of financial accounts, the average savings of new account holders are expected to be $679. An 11% increase in savings would be $75 and this (together with the other effects of extra financial inclusion) would be expected to boost GDP by $104. This is the estimated social benefit per new account. The resulting net present value (NPV) of benefits is set out in Table 8. It assumes benefits will accrue for ten years (although most people will have their accounts for longer than that). That is, until 2032. If the policy manages to raise the proportion of the population with an account to the ASEAN average (44.75%), the net present value of benefits under the growth scenario is $1.892 billion and under the stagnant scenario $5.003 billion. The average gives a net present value of the benefits of just under $3.5 billion (see Table 8).

58. The benefits are sensitive to the target achieved, the counterfactual assumed and the social benefits from new accounts. But under the average scenario, the project would break even if the social benefit per account were only $35 per account.

[26] Footnote 1, pp. 42, 58.

Costs

59. Table 9 below shows costs (cross-referenced to policy actions described in Table 2) and a summary of how they were estimated. Actual costs have been used wherever possible. If costs were not available, proxies based on overseas experience or experience in similar organizations were used. If both were not available, then reasonable estimates were made.[27]

Table 9: Estimate of costs of policy actions (USD millions)

Policy Actions and basis of costs	2018	2019–2022
NIS – system design costs and initial card issue costs based on experience in Iraq and India. Ongoing costs assume take up of about 2 million people per year continuing. PIA notes that budget allocations in Philippines were lower.	250	10.0
Develop and implement a regulatory framework for agricultural finance (estimate based on similar organisations overseas).	0.5	1.0
BSP rolls out a financial literacy campaign-cost of ongoing campaign[28]	12.0	12.0
NRPS system design and operations[29]	10.0	2.0
CIC cost of designing the system by TIM ($3.89 million)[30] and establishing ($0.5 million, IFC estimate); and CIC operating cost ($2 million) and costs borne by institutions to supply information to CIC.	4.4	2.0
Establish and operationalize on-line national collateral (transactions) registry[31]. Registry operating costs (2 million) and costs borne by individuals submitting information	1.0	2.0
Establish a governing board to oversee multiple guarantee funds and recapitalize them if necessary.	0.5	2.0
Microfinance NGO Regulatory Council (MNRC) conducts training programs and accredits NGOs.	3.0	2.0
BSP issues rules and regulations to allow cloud-based banking.	21	2.0
BSP adopts prudential standards for Islamic financial services.	0.5	1.0
Total costs (over 5 years)	302.9	140 = 35 x 4
PV of costs over 5 years @ 9% discount rate	381.92	

Source: ADB estimates
IFC = International Finance Corporation
CF*–Institutions are required to submit credit information on their account holders to CIC. Cost to them is: number of customers (which is expected to increase) x cost of supplying information on each customer. Likewise, cost to individuals to submit information to collateral registry is also shown.

60. Net present value (NPV) is the difference between PV of benefits and PV costs. PV was calculated by discounting cash flows using the rate of 9%. By discounting, cash flows have been adjusted for time value of money.

[27] Details of computations may be made available upon request.
[28] Cost estimates based on experience in Indonesia and Malawi).
[29] https://www.kansascityfed.org/publicat/econrev/pdf/12q2Hayashi-Keeton.pdf accessed on 26 April 2018.
[30] http://www.timcorp.net/News/23/TIM-Won-The-Bid-For-CIC accessed on 26 April 2018.
[31] https://www.ifc.org/wps/wcm/connect/c5be2a0049586021a20ab719583b6d16/SecuredTransactionsSystems.pdf?MOD=AJPERES, Accessed on 6 March 2018.

61. Under the growth scenario, the net benefit of the reforms, if they raise financial inclusion to the ASEAN average, is

- NPV $1.510 billion = PV of benefits $1.892 billion – PV of costs $0.382 billion.

62. If account numbers would have been stagnant without policy change, the net benefit is

- NPV $4.621 billion = PV of benefits $5.003 billion – PV of costs $0.382 billion.

63. The average of the two is the preferred estimate of

- NPV $3.066 billion = PV of benefits $3.448 billion – PV of costs $0.382 billion.

IV. Conclusion

64. The policy actions undertaken have a net present value of benefits under the growth scenario is $1.5 billion and under the stagnant scenario $4.6 billion The average gives a net present value of the benefits of just under $3.5 billion, resulting from the estimated increase in the number of accounts. Compared to benefits the PV cost is about $0.382 billion. Hence the policy actions provide a positive net benefit of about $3 billion for the average scenario. The conclusions are robust to changes in assumptions. The PIA does not take into account benefits that are difficult to quantify and monetize such as reduction in poverty, decrease in income inequality, more financial stability and smaller informal economy. If such benefits were included the NPV of benefits would be higher.