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The New Paradigm:Definition and Measurement of Financial Inclusion

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Abstract
To date, various scholars and promoters has defined and measured financial inclusion in different ways; but conceptually with no difference with inclusive financial system. Most of the definitions and measures previously given for financial inclusion are definitions for inclusive financial system ((Sarma (2008), Hameedu.M.Sh, (2014), Sophastienphong and Kulathunga (2008) and Arora (2010)), but not definitions for financial inclusion. However, for the researcher inclusive financial system and financial inclusion is different; that is, the former is cause to the later or the later is effect of the former. Therefore, this paper has reviewed existing literatures on definition and measurement of financial inclusion and proposed new definition and measurement with corresponding conceptual framework. Accordingly, financial inclusion is the function of inclusive financial system, consumer protection, and financial and academic literacy.
Keywords: Financial Inclusion, Inclusive Financial System, Access

1. Introduction

The whole world is embarking to have inclusive financial system so as to reduce vulnerability of the poor and other deprived groups, and at the end of the day inclusive and sustainable development to be achieved. Policymakers including central banks, academicians, and international communities; including international finance organizations like International Monetary Fund (IMF) and World Bank, are more and more persuaded of the role of financial inclusion on economic growth, poverty alleviation as well as in narrowing income disparity. New international bodies with the main objective to advance financial inclusion for the poor, such as the Alliance for Financial Inclusion (AFI) and Consultative Group to Assist the Poor (CGAP) have been organized, Group of Twenty (G-20) increasingly give emphasis to the importance of financial inclusion, and the IMF has launched a new database on financial inclusion. Policy makers and regulators are increasingly giving priority for financial inclusion throughout the world. According to the Global Findex Database (2014)[1], among bank regulators in 143 jurisdictions[2], 67 percent have a mandate to promote financial inclusion. Most recently, the United Nations (UN) adopted Addis Ababa Action Agenda and Sustainable Development Goals that put financial inclusion as key objective for all UN member countries.

It is also widely accepted that access to credit, savings, insurance and various payment mechanisms increases economic efficiency, enhances productive investment and, thus, employment, and empowers women and the poor. By doing so, financial inclusion helps reduce income inequality, accelerates economic growth, and enhances social and political participation of women and the poor. The other important, but indirect benefit of financial inclusion is the documentation of economic activity by bringing the unbanked segments into the formal economy; that is, channeling most transactions through bank accounts and other formal and semi-formal financial mechanisms. This makes tax assessment more easy and objective, and increases tax revenue, reduces tax collection cost, and promotes overall fiscal accountability. Moreover, the resulting benefits in the form of increased public spending and development improves the income generating potential of the poorest segments of the economy (Majid Kazmi, 2015).

However, the definition and measurement of financial inclusion often remains ambiguous as underlying explanation have not ever been understandable and convincing. It was focused on availability of data rather than how should financial inclusion best be defined and measured theoretically; so that empirical data capturing will be conducted in that manner. Policy makers cannot design policy objective for financial inclusion without having precise definition and measurement of financial inclusion. Hence, such a definition and measurement is not only important for academicians but also vital for policy makers and financial inclusion promoters.

2. Literature Review

2.1. Definition of Financial inclusion

To date various scholars defined financial inclusion in different ways; but conceptually with no difference with inclusive financial system. Hameedu. M.Sh, (2014) defines financial inclusion as the delivery of financial services at affordable costs to sections of disadvantaged and low-income segments of society. According to

[1] The most recent Database of World Bank.
[2] 143 countries are selected from 193 countries throughout the world.

Sarma (2008) financial inclusion is the ease of access, availability and usage of the formal financial system by all members of an economy. This definition emphasizes three dimension of financial inclusion and Sarma believes these dimensions together build an inclusive financial system. Committee on Financial Inclusion in India defines financial inclusion as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as the weaker sections and low income groups at an affordable cost.

According to Reserve Bank of India (2008), financial Inclusion is the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players. Financial inclusion is the proportion of individuals and firms that use financial services GFDR [1](2014).

Financial inclusion is access and usage of a broad range of affordable, quality financial services and products, in a manner convenient to the financially excluded, unbanked and under-banked; in an appropriate but simple and dignified manner with the requisite consideration to client protection. Accessibility should be accompanied by usage which should be supported through the financial education of clients. The "underserved" are those who currently have access to some financial services, but in a very limited manner. For example, someone may have access to a money or value transfer service provider, but not to a bank. "Underserved" may also mean that an individual or group technically has access, but is not using it because of other barriers, such as problems in meeting the documentary or other requirements, non-awareness, incorrect perceptions, limited knowledge, high cost, etc.

Financial inclusion, or broad access to financial services, is defined here as an absence of price or non price barriers in the use of financial services.

2.1. Measurement of Financial Inclusion

Sophastienphong and Kulathunga (2008)[2] argued that access to finance should be measured in three dimensions; that are, demographic, geographic, and use of financial services, and identified two micro indicators for each dimension. These are branch penetration (branches per 100,000 people) and ATM penetration (automated teller machines per 100,000 people) for demographic dimension, deposit accounts per 1,000 people and loan accounts per 1,000 people for usege dimension, and branch penetration (branches per 1,000 km^2) and ATM penetration (ATM per 1,000 km2) for geographic dimension. Similarly, Sarma (2008) identified three dimensions of an inclusive financial system, but constructed a single financial inclusion index based on the three dimensions; that are, banking penetration (number of bank accounts as proportion of total population); availability of banking services (number of bank branches per 1000 population); usage (bank credit and bank deposit as percentage of GDP).

Arora (2010) builds on the work of Sarma (2008), and makes an improvement on two respects; first, he applied multiple indicator approach to each dimension in contrast to single indicator of Sarma, second, he considers ease of transactions (the time taken and transaction costs into account). He identified three pillared approach to cover the inclusiveness of the financial system in its various possible dimensions; physical access or outreach dimension; that is, how many people does it cover- geographically and demographically, ease dimension; how easy is it to undertake transactions and cost dimension; that is, how much does it cost.

The following table summarizes previous theoretical works on measurement of financial inclusion.

[1] See Global Financial Development Report (GFDR) (financial inclusion), 2014, The World Bank.

[2] Kiatchai Sophastienphong is Senior Financial Sector Specialist at the World Bank, South Asia Region, and Anoma Kulathunga is a consultant at the World Bank and PhD student at the G.Washington University in Washington, D.C.

Table: 1.1. Summary of previous works

Author/s	Dimensions	Indicators	Measurement
Sophastienphong and Kulathunga (2008)	Demographic dimension	Branch penetration	Branches per 100,000 people
		ATM penetration	ATM per 100,000 people
	Usage dimension	Saving	Deposit accounts per 1,000 people
		Loan	Loan accounts per 1,000 people
	Geographic dimension	Branch penetration	Branches per 1,000 km^2
		ATM penetration	ATM per 1,000 km^2
Sarma (2008)	Banking penetration	No. of bank deposit accounts	As proportion of total population
	Availability of the banking	No. of deposit taking bank branches	Bank branches/outlets per 1000 people
		Number of ATM	ATM per 1000 people
	Usage of the banking system	Deposit	As proportion of the country's GDP
		Credit	As proportion of the country's GDP
Arora (2010)	Outreach dimension	Geographic branch penetration	Number of branches per 1000 sq km
		Geographic ATM penetration	Number of ATMs per 1000 sq km
		Demographic ATM penetration	Number of ATMs per 100,000 people
	Ease dimension	Minimum amount to open savings account	Minimum balance to open an account.
		Minimum amount to be maintained in savings account	Minimum balance to maintain in an account.
		Locations to open deposit an account.	1 if an account can be opened at headquarters only; 2 if at headquarters or branch; and 3 if at headquarters, branches or a non-bank outlet.
		Minimum amount of consumer loan	The smallest amount of loan banks make
		Locations to submit loan applications.	1 if an account can be opened at headquarters only; 2 if at headquarters or branch; and 3 if at headquarters, branches or a non-bank outlet.
	Cost dimension	Fees consumer loan	As % of minimum loan
		Cost to transfer funds	Internationally as % of $250, but locally N/A
		Annual Fees checking account	As % of minimum loan
		Fees mortgage loan	As % of minimum loan
		Fees of using ATM cards	As % of $100

3. The New paradigm in Financial Inclusion

3.1. Definition and Conceptual Framework of Financial Inclusion

For the researcher inclusive financial system and financial inclusion is different. The former is cause to the later or the later is effect of the former. Inclusive financial system is about ensuring availability of financial service which can be consumed by all economic and social classes of an economy. Whereas, the financial inclusion is about the number of people included or using financial services already availed; which can primarily be measured by number of credit account, saving account and insurance policyholders. Thus, most of the definitions and measures previously given for financial inclusion are definitions for inclusive financial system ((Sarma (2008), Hameedu.M.Sh, (2014), Sophastienphong and Kulathunga (2008) and Arora (2010)), but not definitions for financial inclusion. Similarly, access to finance was taken as a dimension of financial inclusion by most researchers ((Sarma (2008), Hameedu.M.Sh, (2014), Sophastienphong and Kulathunga (2008) and Arora (2010)); however, it is a dimension of inclusive financial system. To ensure inclusive financial system, there is a need to make financial services accessible, affordable and need based. This implies that financial service in a given economy shall be geographically, economically and socially accessible; and, at the same time, it shall be affordable by all classes of the society, in terms of price. In geographical access it is meant that availability of financial service centers, both saving and credit (branch), and cash in and cash out service centers; it could be machine or human supported, in all geographic areas of an economy. In economic access it meant that financial services are available to the poor based on their capacity to save, borrow and pay insurance premium. In social access it is meant that financial services are availed to all social classes of an economy including those who were traditionally deprived by a society. In economic affordability it is meant that the price financial services availed shall be affordable to the poor, low income people; that mean it should not create additional burden on the repayment capacity of the poor. In need based it is meant that financial services shall be availed based on the needs of the people dwelling in a given geographic area of an economy; this implies that it shall consider religion, culture and other needs such as repayment terms, of the area. In general, inclusive financial system is about supply side factor.

Even if inclusive financial system is ensured, it is of no value if financial services availed are not used due to various demand side factors such inadequate financial literacy, illiteracy or low level of academic education, lack of trust on financial service providers and interest to use a financial service due to inadequate financial consumer protection. Therefore, financial inclusion is the function of inclusive financial system, consumer protection, and financial and academic literacy.

3.2. Measurement of Financial Inclusion

For the researcher, financial inclusion is about the number of people included or using financial services already availed; which can primarily be measured by number of credit account, saving account and insurance policyholders. From this definition any one can understand that financial inclusion is measured by the proportion of people who are using financial system. This can be done from three perspective; that are, number of credit account, saving account and insurance policyholders. Measures of financial inclusion are summarized below:

Dimensions	Indicators	Measurement
Banking/MFIs inclusion	Credit Account (CA)	Total number of CA/GDP
	Saving Account (SA)	Total number of SA /GDP
	Mobile Account (MA)	Total number of MA/total mobile subscribers[1]
Insurance inclusion	Policyholders (PH)	Total number of PH/GDP

3.2.1. Determinants of Financial Inclusion

First and foremost, financial inclusion is the function of inclusive financial system, consumer protection, and academic and financial literacy. Inclusive financial system is availability of accessible, affordable and need based financial services.

Accessibility implies that financial services are geographically accessible with least cost and least possible distance, economically accessible with least possible amount to save, borrow and transfer; socially accessible to classes of the society; affordable in terms interest rate and service charge; and need based in terms of religion and cash flow[2] of the target area. Accordingly, measures of inclusive financial systems are summarized below:

[1] MA cannot replace SA as its primary objective is to enable fund transfer
[2] Target area may need interest free loan and saving based on their religion; or term or installment loan based their cash flow

Dimensions	Indicators	Measurement
Geographic Access (GA)	Branch and sub-branch	Branches/sub-branch per 100,000 people and branches per 1,000 sq. km.
	cash in and cash out centers	Centers per 100,000 people and per 1,000 sq.km
	Number ATM	ATM per 100,000 people and ATM per 1,000 sq.KM
Economic Access (EA)	Minimum loan amount	Minimum loan amount as percentage of GDP per capita
	Minimum saving amount	Minimum saving amount as percentage of GDP per capita
	Minimum transfer amount	Minimum transfer amount as percentage of GDP per capita
Social Access (SoA)	Financial service providers with products and services for socially deprived classes	Number of financial service providers with products and services for socially deprived classes
Economic Affordability (EAF)	Cost of borrowing	Lending interest rate plus service charge
	Cost of saving	Price of passbook and others, if any
	Cost of money transfer	Charge per $10.00
Need Based (NB)	Financial service providers with interest free financial services	Number of financial service providers with interest free financial services
	Financial service providers with a policy to determine repayment term based on cash flow of target client.	Number of financial service providers with a policy to determine repayment term based on cash flow of target client.

The other important factor that determines financial inclusion is consumer protection. Financial inclusion can be ensured through embarking consumer protection instruments such as information disclosure, collateral registry and complaint handling mechanisms.

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