Financial literacy theory of financial inclusion

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Abstract

This article proposes a financial literacy theory of financial inclusion. It also presents the different possible scenarios of the relationship between financial literacy, financial illiteracy, financial inclusion and financial exclusion using a grid. The theory argues that financial literacy can influence the level of financial inclusion, and it projects low level of financial literacy as a potential cause of low level of financial inclusion. It showed that people who are financially illiterate and are financially included may not be able to maximise their welfare in the formal financial system because they lack financial literacy. By providing financial literacy programs and other incentives to join the formal financial system, many financially illiterate people will be willing to join the formal financial system and use existing formal financial services to meet their needs. The theory is significant because it explains a major reason why the level of financial inclusion in low in some countries.

Keywords: theory, financial literacy, financial inclusion, financial education, access to finance, financial literacy theory of financial inclusion.

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1. Introduction

The purpose of this article is to propose a financial literacy theory of financial inclusion. It explains how financial literacy affects financial inclusion, the sources of financial literacy, and proposes a grid analysis which shows the possible scenarios of the relationship between financial literacy, financial illiteracy, financial inclusion, and financial exclusion. This study contributes to the existing theories of financial inclusion by analyzing how financial literacy enables an individual to transition from being unbanked (or financially excluded) to becoming banked (or financially included).

Financial inclusion is defined as access and use of formal financial services to improve the welfare of individuals and businesses (Cámara and Tuesta, 2014; Ozili, 2021). Financial literacy, on the other hand, refers to the ability to use knowledge and skills to manage financial resources effectively for a lifetime to improve one's financial well-being (Hung, Parker, Yoong, 2009). Financial literacy – or the opposite of it, financial illiteracy – is a determinant of financial inclusion. For instance, Grohmann, Klühs and Menkhoff (2018) showed that financial literacy has positive benefits for financial inclusion across diverse income levels. Morgan and Long (2020) examined the impact of financial literacy on financial inclusion and savings behavior in Laos and found that high level of financial literacy has a detrimental impact on both financial inclusion and savings. They also found that individuals with high financial literacy rating were more likely to have savings in both formal and informal forms than those who have low financial literacy ratings, irrespective of income level or level of education. Fanta and Mutsonziwa (2021) document evidence from 6,029 individuals in Kenya and Tanzania and found that financial illiteracy (or literacy) is a significant determinant of financial inclusion in the two countries. Mutamimah and Indriastuti (2023) observed that financial literacy moderates the effect of fintech on financial inclusion for 202 small and medium scale enterprises (SMEs) in Indonesia. Although the empirical literature links financial literacy to financial inclusion, there is insufficient theoretical understanding of the mechanisms through which financial literacy affects financial inclusion.

There is a need to understand financial literacy in the context of a theory that explains how financial literacy affects the level of financial inclusion. Establishing a theory is important because such theory can demonstrate the mechanisms through which financial literacy influences financial inclusion, and it can advertise the need to consider financial illiteracy as a potential cause of financial exclusion, and present financial literacy as an immediate solution for financial inclusion. This study is not the first attempt to develop a theory of financial inclusion. Many theories of financial inclusion exist in the literature, such as the institutional theory and the vulnerable group theory of financial inclusion (Ozili, 2020). But the existing theories have not considered the effect of financial literacy on financial inclusion outcomes. Therefore, it is important to understand the unique approach which the financial literacy theory of financial inclusion offers. This study addresses this issue by exploring how financial literacy affects financial inclusion, identifying the sources of financial literacy, and proposing a financial literacy-inclusion grid.

This study contributes to the literature in several ways. First, the study contributes to existing theories of financial inclusion by analyzing how financial literacy enables an individual to transition from being unbanked (or financially excluded) to becoming banked (or financially included). Second, the study contributes to the literature that examines the determinants of access to formal financial services. Third, the study contributes to the literature that examines the determinants of financial inclusion by identifying financial literacy as a factor that enables financial inclusion. This is an important contribution to the literature because it proposes that policymakers and financial institutions need to invest in financial literacy programs for prospective and existing users of formal financial services.

The rest of the article is structured as follows. Section 2 presents the financial literacy theory of financial inclusion. Section 3 presents a grid analysis. Section 4 presents the implications of the theory and suggests some directions for further research. Section 5 presents the conclusion.

2. Understanding the financial literacy theory of financial inclusion

The theory draws on numerous already accepted ideas in the financial literacy literature. It consolidates these ideas into a general explanatory model of financial inclusion which is based on financial literacy. The first generally accepted idea, which the theory builds on, is that financial inclusion works on the basis of demand and supply of formal financial services (Yangdol and Sarma, 2019; Mukhopadhyay, 2016; Singh, 2021; Fahmy and Ghoneim, 2023). The second generally accepted idea is that the demand for formal financial services is significantly affected by the level of financial literacy (Raina, 2014; Ramakrishnan, 2011). This means that if people are unaware of existing financial services and do not know how to use available financial services to improve their welfare, they will not demand for formal financial services. As a result, financial inclusion will not take place.

These two widely accepted ideas in the literature are the two foundations guiding the theoretical model developed in this article.

The financial literacy theory of financial inclusion states that financial literacy is a necessary condition for people to access and use formal financial services in a meaningful way and in a way that improves their welfare (Ozili, 2020). This is because financial literacy will increase people's readiness to join the formal financial sector by giving them knowledge about basic financial services, knowledge about basic financial management concepts, knowledge on how to use digital technology to access financial services, and increase their awareness of available financial products and services which will enable them to access and use credit and other financial resources to start a business and generate income to improve their welfare and livelihoods (Ozili, 2020). When financially excluded people become financially literate, they will be willing to join the formal financial system, and they will seek formal financial services wherever they can find it. This suggests that high level of financial literacy will lead to greater demand for formal financial services and lead to high level of financial inclusion. Conversely, low level of financial literacy can lead to low demand for formal financial services, and lead to a decrease in the level of financial inclusion. There are six assumptions underlying the financial literacy theory of financial inclusion.

1. Every country has a segment of the population that is financially excluded, and the majority of them are financially illiterate.

2. The financially illiterate unbanked adults are unaware of available formal financial products, services, and digital technologies that exist.

3. Even when they become aware of it, financially illiterate unbanked adults will be less interested in financial products, services, and digital technology if they do not understand how to use it – they will not use what they do not understand.

4. Financially illiterate individuals can only transition to become financially literate through financial literacy programs of any type[1].

5. Financially illiterate unbanked adults have a "*what's in it for me*" attitude. They are self-interested just as everyone else. Therefore, an incentive or benefit must be provided to motivate them to be formally included. The incentive should be so good to entice financially illiterate unbanked people to join the formal financial sector and to remain in the formal financial sector. The incentive can be anything ranging from the need to pay utilities through a bank account, the need to receive frequent government-to-person (G2P) social welfare transfers, access to non-interest overdraft, high interest paid on savings deposit, free debit cards, etc.

6. Financial literacy programs, together with an incentive, will provide a strong motivation for them to join the formal financial system, and it will increase the level of financial inclusion. The provision of financial literacy programs without an incentive may not provide a strong motivation for them to join the formal financial system.

These assumptions are intuitive and emphasize that financially excluded people who are financially illiterate will be motivated to join the formal financial system if they have financial literacy and are given an incentive. When they become financially literate and are aware of available financial products, services, digital technologies, and are given

[1] 'Financial literacy refers to the ability to understand and effectively use various financial skills to make informed decisions regarding money. The skills include personal financial management, budgeting, and investing. Financial literacy, financial education and financial knowledge are used interchangeably.

an incentive to join the formal financial system, they will seek formal financial services wherever they can find it (Ozili, 2020), thereby increasing the demand for formal financial services and increasing the level of financial inclusion through increase in formal account opening and increase in the use of payment, credit, savings and insurance products. Several empirical studies have used the financial literacy theory of financial inclusion, initially developed in Ozili (2020), to explain financial inclusion in different contexts. These studies include Bashiru et al (2023), Kobugabe and Rwakihembo (2022), Okeke et al (2023) and Al-Smadi (2023).

Moving on to the model formulation, the propositions of the theory lead to the formulation of a model that encapsulates the idea of the financial literacy theory of financial inclusion. In the model, financial inclusion is a function of financial literacy and some control variables, as shown in equation 1. The variables in the model include the size of the unbanked population, the number of unbanked adults who are financially illiterate, the nature and type of financial literacy program, the incentive provided to unbanked adults, and supply of formal financial services.

$$\begin{aligned} &Financial\ inclusion \\ &\qquad = f\ (financial\ literacy;\ control\ variables) \ -----\ Equation\ 1 \end{aligned}$$

Expanding equation 1, the financial inclusion variable is any indicator of access and usage of formal financial services. The financial literacy variable refers to any formal or informal financial literacy program of any type. The control variables are the number of unbanked adults in the population[2]; the number of unbanked adults who are financially illiterate, the incentive provided to unbanked adults; and the level of supply of formal financial services.

The expanded functional model is specified below:

Financial inclusion = f (provision of financial literacy programs of any type; number of unbanked adults in the population; number of unbanked adults who are financially illiterate; the incentive provided to unbanked adults; level of supply of formal financial services.) --------- Equation 2

The model proposes a linear relationship between financial literacy and financial inclusion. However, the relationship may be non-linear if the assumptions underlying

[2] This is a simple proxy for the number of financially illiterate people.

the financial literacy theory of financial inclusion are violated or if we take into account the exceptions of the theory. For instance, there could be cases where financially illiterate people can become financially included even without receiving any incentive and without having good knowledge of how to use existing financial services to maximise their welfare. There are also cases where financial literate people may choose to stay outside the formal financial system for personal reasons. This demonstrates that the relationship between fina6ncial literacy and financial inclusion may not be linear. In the next section, I use a grid to identify the exceptions that could introduce non-linearities into the relationship between financial literacy and financial inclusion.

3. Grid analysis

The grid in table 1 presents a good depiction of the different possible scenarios of the relationship between financial literacy, financial illiteracy, financial inclusion and financial exclusion

The grid '***Row A x Column A***' describes financially excluded people who are financially illiterate. This category of people will not join the formal financial system because, one, they lack the basic financial literacy that is needed to know how to access and use available formal financial products, services, and digital technology; and two, no incentive is given to them to motivate them to learn about financial services or to join the formal financial system. Therefore, this category of people will likely remain financially excluded.

The grid '***Row A x Column B'*** describes the case where financially excluded and financially illiterate people are given incentives to join the financial system. The provision of incentives could make them consider joining the formal financial system if the incentive is attractive, but they still lack knowledge on how to use formal financial services to maximize their welfare. Therefore, this category of people may remain financially excluded despite being offered an incentive to join the formal financial system.

The grid '***Row B x Column A'*** describes the case where people who are financial literate voluntarily do not want to be financially included until they receive an incentive or see a tangible benefit of financial inclusion. Without an incentive, they will not join the formal financial system. This category of people will remain financially excluded.

The grid '***Row B x Column B'*** describes the case where people who are financially literate voluntarily do not want to be financially included for different reasons. They will not join the formal financial system even if they are offered an incentive to join the formal financial system. This category of people will remain financially excluded.

The grid '***Row A x Column C***' describes financially illiterate people who become financially included even without receiving an incentive and without having knowledge of how to use formal financial services to maximise their welfare. People in this category include newly banked adults who open a formal account and do not perform any financial transaction on the formal account until the formal account becomes dormant and closed due to account inactivity. With the account becoming dormant, they may exit the formal financial system.

The grid '***Row A x Column D***' describes people who are financially illiterate but are financially included people and are incentivized. This category of people will join the formal financial system but knowledge of how to use formal financial services to maximise their welfare despite receiving incentives to join the formal financial system.

The grid '***Row B x Column C***' describes financial literate people who are financially included but did not receive an incentive to join the formal financial system. After being financially included, and in the absence of any incentive, people in this category may exit the formal system at any time if they do not see a clear benefit of joining the formal financial system.

The grid '***Row B x Column D***' describes people who are financial literate, financially included people and are incentivized. This category of people will remain in the formal system for as long as they can due to the incentives they have received and their sound knowledge of how to use formal financial services to maximise their welfare.

Table 1. Grid showing the relationship between financial literacy and financial inclusion					
		Financially excluded people		Financially included people	
		Column A	Column B	Column C	Column D
	Levels of financial literacy	Without Incentives	With Incentives	Without Incentives	With Incentives
Row A	**People who are financially illiterate**	People in this category will not join the formal financial system because there is no incentive to join, and they lack basic financial literacy skills. This will lead to financial exclusion	Due to the provision of incentives, people in this category will consider joining the formal financial system even though they lack knowledge on how to use formal financial services to maximize their welfare	People in this category are already financially included and financially illiterate. This means that financially illiterate people can join the formal financial system even without receiving any incentive and without having knowledge of how to use formal financial services to maximise their welfare.	People in this category are already financially included and financially illiterate. This means that financially illiterate people can join the formal financial system after receiving an incentive even though they lack knowledge of how to use formal financial services to maximise their welfare.
Row B	**People who are financial literate**	People in this category will not join the formal financial system until they receive an incentive or see a tangible benefit for being formally included. Without an incentive, they will not join the formal financial system	Due to some reasons, people in this category will not join the formal financial system even if they receive an incentive to join the formal financial system.	People in this category are already financially included and financially literate. However, in the absence of incentives to remain in the financial system, they are willing to exit the formal financial system at any time if they do not see a benefit of joining the formal financial system	People in this category are already financially included and financially literate. Due to the provision of incentives, people in this category will remain in the formal system for as long as they can

4. Implication of the theory for research and areas for future research

The financial literacy theory of financial inclusion has some implications for research which are highlighted in this section. This section also suggests some areas for future research to expand the financial literacy theory of financial inclusion.

4.1. Implications for research

One implication of the theory is that it provides a framework to understand how financial literacy increases level of financial inclusion, and it projects low levels of financial literacy as a potential cause of low level of financial inclusion. The theory also used a grid to emphasize that people who are financially illiterate and are financially included will not be able to maximise their welfare in the formal financial system because they lack financial literacy. The financial literacy theory of financial inclusion can expand ongoing debates about the relationship between financial literacy and financial inclusion. The theory adds to the broad finance and development literature by introducing financial literacy as a factor that agents of financial inclusion should take into consideration when offering financial services to underserved customer segments. Researchers can use the financial literacy theory of financial inclusion to enrich the literature that examines how financial literacy affects the different dimensions of financial inclusion. Another important implication of the theory is that it can stimulate the need to empirically test whether financial literacy significantly affects the level of financial inclusion. This implies that the financial literacy theory of financial inclusion can be validated or refuted using existing data. Researchers can use existing data to validate or refute the propositions of the financial literacy theory of financial inclusion. Such evaluation will help to assess whether the propositions of the theory are supported by real world data. The theory should also be tested and re-tested using empirical data and qualitative data obtained from a single subject or multiple subjects across time, countries and regions. The outcome of such evaluation can lead researchers to accept the theory, refine the theory or refute the theory.

4.2. Directions for further research

This study offers several avenues for further research. Future studies can investigate whether gender-related financial literacy is important for financial inclusion. Such studies should investigate whether financial literacy programs for women are more effective in increasing financial inclusion than financial literacy programs for men. Such research is important because it can provide insights into whether gender differences affect the relationship between financial literacy and financial inclusion. It can also reveal whether financially illiterate women are more likely to be financially excluded than financially illiterate men. Another important area for future research is to examine the role of government intervention in increasing financial literacy in the population to promote financial inclusion. Such studies should examine whether government intervention can increase financial literacy in the population and increase unbanked people’s readiness to join the formal financial system. Future studies can also empirically investigate whether the level of financial inclusion is lower in countries that have a high number of financially illiterate population.

5. Conclusion

This study explored the financial literacy theory of financial inclusion. It provided an elaborate discussion of the relationship between financial literacy and financial inclusion using a grid. The study offered some important implications for further research. The study showed that financial literacy can influence the level of financial inclusion, and it projects low level of financial literacy as a potential cause of low level of financial inclusion. It showed that people who are financially illiterate and are financially included may not be able to maximise their welfare in the formal financial system because they lack financial literacy. Therefore, financial literacy is essential for financial inclusion. Consequently, all stakeholders should work together to ensure that agents of financial inclusion prioritize financial literacy when reaching the unbanked population. National strategies and policy efforts aimed at increasing the level of financial inclusion should consider the role of financial illiteracy and financial literacy in influencing the level of financial inclusion. Researchers also have a role to play by developing frameworks that show how financial literacy may influence the level of financial inclusion in different country contexts.

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