

Tia, Jonas; Kuunibe, Naasegnibe; Nkegbe, Paul Kwame

## Article

# Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region

Cogent Economics & Finance

## Provided in Cooperation with:

Taylor & Francis Group

*Suggested Citation:* Tia, Jonas; Kuunibe, Naasegnibe; Nkegbe, Paul Kwame (2023) : Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 11, Iss. 2, pp. 1-14,  
<https://doi.org/10.1080/23322039.2023.2267854>

This Version is available at:

<https://hdl.handle.net/10419/304235>

## Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

## Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>

# Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region

Jonas Tia, Naasegnibe Kuunibe & Paul Kwame Nkegbe

**To cite this article:** Jonas Tia, Naasegnibe Kuunibe & Paul Kwame Nkegbe (2023) Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region, Cogent Economics & Finance, 11:2, 2267854, DOI: [10.1080/23322039.2023.2267854](https://doi.org/10.1080/23322039.2023.2267854)

**To link to this article:** <https://doi.org/10.1080/23322039.2023.2267854>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 10 Oct 2023.



[Submit your article to this journal](#)



Article views: 984



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)



Received: 22 April 2023  
Accepted: 03 October 2023

\*Corresponding author: Jonas Tia,  
Galbridge Associates, Jostimo Group  
of Companies, Tumu, Ghana  
E-mail: [tiajonas@yahoo.com](mailto:tiajonas@yahoo.com)

Reviewing editor:  
Goodness Aye, Agricultural  
Economics, University of Agriculture,  
Makurdi Benue State, Nigeria

Additional information is available at  
the end of the article

## DEVELOPMENT ECONOMICS | RESEARCH ARTICLE

# Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region

Jonas Tia<sup>1\*</sup>, Naasegnibe Kuunibe<sup>2</sup> and Paul Kwame Nkegbe<sup>3</sup>

**Abstract:** Globally Financial inclusion provides an opportunity to promote equal access to resources for all. One of the crucial catalysts for microenterprises development is access to the financial market. However, the growth of many microenterprises has been truncated in Ghana due to limited access to financial opportunities. Despite this challenge, little is known about the drivers of financial inclusion in Wa Municipality of the Upper West Region of Ghana. This paper examines the drivers of financial inclusion of microentrepreneurs in the Wa Municipality of the Upper West Region of Ghana. Using a close ended questionnaire, this study employed an exploratory survey design to collect data from 200 engaged in trading, manufacturing, and services. The respondents were sampled using a simple random sampling technique. Given that the outcome variable is binary, the study used a binary probit regression model for the data analysis. The results predicted that religion, awareness of loan services, business registration, and preparation of financial statements drive financial inclusion in Wa Municipality. From the results, the study recommends that financial service providers should consider social networks, entrepreneurial practice, gender and religion as sensitive drivers of financial inclusion. In addition, financial education should be intensified as knowledge of the available financial products is a key driver of financial inclusion in the Municipality. While this study has contributed to the body of literature on financial inclusion in Ghana, further research is necessary to identify consumer financial needs to meet clients' expectations.

**Subjects:** Statistics for Business, Finance & Economics; Development Studies; Development Economics

**Keywords:** financial inclusion; microenterprise; probit regression; Ghana

## 1. Introduction

The availability, access and usage of financial products and services for participants in the financial market are at the center of global development. Financial inclusion, a multidimensional concept, varies according to context and its understanding requires the consideration of the variables that create equal financial options for all (Triki & Faye, 2013). The concept relates to global, continental, regional, and national development goals. For example, it is considered a strategic tool for achieving about seven of the SDGs (Goals; 1, 2,

3, 5, 8, 9 and 10) since access to financial services will grant economic agents investment resources. However, a World Bank report indicated that 1.7 billion adults are financially excluded (Efma, 2020) and women are the worse affected, even though their inclusion can positively transform the economy. The benefit of financial inclusion is not equally distributed across gender, as men tend to benefit extra from financial services in the financial market than women and most rural people (Ng'weno et al., 2018). Governments, NGOs, and private individuals worldwide are formulating and implementing strategies to take financial services to the masses. Financial inclusion has become a top policy agenda for Global organisations such as the Association of Southeast Asian Nations (ASEAN), Asia Pacific Economic Cooperation (APEC), and G20 due to its relevance to global development. Still, most of these interventions are not yet gender-neutral. The availability, access and usage gaps should be reduced to meet women's preferences (Shinozaki, 2012).

Despite its importance, some conceptualisation has unfortunately narrowed the concept. For example, it is sometimes restricted to only using financial products and services (Singh & Roy, 2015). Other scholars see it as the capability of a specific group of persons to have access and ability to use primary financial products (Ibor et al., 2017). The broader concept includes banking the unbanked and enabling people with low incomes to increase their financial ranking (Datta & Singh, 2019). Ultimately financial inclusion involves increasing people's access to formal bank accounts (Allen et al., 2016; Ozili, 2018). It is further seen as extending the formal financial services beyond people of higher-income earnings to the low-income group at an affordable cost (Diniz et al., 2011). While financial inclusion is a strategy for building the capacity of people and microenterprises to perform, access to such services in Africa remains a challenge (Triki & Faye, 2013). The funding gap is particularly acute for small firms with less than nine employees, women owned firms and informal businesses. This financial gap could threaten the performance of microenterprises in most African countries (Trombetta et al., 2017).

In Ghana, Oppong et al. (2014) observed that the growth of microenterprises had been truncated due to limited access to financial services. This suggests that such firms have not been effectively included in the Ghanaian financial markets. On their part, Trombetta et al. (2017) opined that microenterprises in Ghana are not adequately served by the prevailing financial service providers, invariably limiting their performance. The National Financial Inclusion and Development Strategy (2018–2023) in 2015 revealed that 58 percent of adults in Ghana had access to formal financial services. The banking sector contributed 36 percent out of 58 percent, with a point rise of 2 percent in access since 2010. Mobile money and Nonbanks Financial Institutions (NBFIs) accounted for 7 percentage point rise, while the regulated insurance companies, microfinance institutions (MFIs), and others accounted for 8 percentage-point increase. However, access to financial services differed across regions, with the five (Northern, Upper West, Brong Ahafo, Volta, and Upper East) poorest regions in Ghana mostly excluded. Similarly, males and urban residents have more access to banks than women and rural folk. Women, rural residents, the poor and marginalised rely more heavily on mobile money, informal and NBFIs financial sectors than non-poor, men, and urban residents.

Credit constraints of small enterprises dominated the results of noted empirical studies in the Wa Municipality (see Kulah, 2016; Sekyi et al., 2014). These financially constrained firms can be considered vulnerable, further limiting their growth. Besides, firms in the Municipality lack the recommended standards of operations, such as keeping financial records, financial education (Kulah, 2016) and preparedness against risk (Kulah, 2016; Sekyi et al., 2014), suggesting that their performance might have been hampered. From previous studies conducted in Wa Municipality of the Upper West, the drivers of financial inclusion for microentrepreneurs are unknown. This study, therefore, seeks to explore the drivers of financial inclusion of microentrepreneurs in the Wa Municipality in the Upper West Region of Ghana.

## 2. Theoretical and empirical literature review

### 2.1. Financial inclusion

Financial inclusion enhances economic growth in developed and developing countries across the globe. Ozili (2021), in a review of the literature on financial inclusion studies, established that differences influence financial inclusion in poverty level, financial innovation, government policy, financial sector stability, the economy, regulatory system and financial literacy across countries. Financial inclusion contributes to achieving sustainable development goals because it helps addresses the challenges of poverty, climate change, inequality, environmental degradation, prosperity, food security, peace and justice (Dikshit & Pandey, 2021). According to Sakyi-Nyarko et al. (2022), financial inclusion can improve school attendance, food security, health services, and cash income. However, Kumar and Pathak (2022) concluded that financial education through financial awareness increases the rate of financial inclusion. Kumar and Pathak (2022) observed that the level of financial awareness highly affects financial inclusion through financial literacy. Similarly, Pahlevan Sharif et al. (2022) observed that financial education has the potential to reduce the gender gap and enhances financial inclusion.

Triki and Faye (2013) argued that financial inclusion encompasses access, usage and quality. Usage indicators should measure the consumption of financial services from supply and demand (Datta & Singh, 2019). The usage indicator emphasises frequency, duration and regularity. It highlights the consistency and depth of usage of financial products and services (Kane, 2019). Nonusage cannot be linked to a lack of financial products and services in financial services. The inaccessibility to finance can be attributed to the absence of financial infrastructure and financial illiteracy. On the other hand, the none usage of financial services, according to Grohmann et al. (2018), could result from inadequate knowledge of the available financial services, implying that the arena of financial inclusion may consider several socioeconomic variables.

It is argued that financial inclusion should regard the quality of financial products in the market. Quality identifies whether products offered by financial institution satisfies the need of the masses (Kane, 2019). The experience and customer's reaction towards financial products speak much of the quality of the said product. The combination of accessibility, availability, quality and usage of financial services can be regarded as financial inclusion by all. Fundamentally, a lot of people in developing countries are financially excluded. A World Bank (2020) report indicated that 1.7 billion adults are not accessible to the financial market (Efma, 2020).

A relative number of developing countries have not had good standing in providing sufficient financial facilities to their population (Datta & Singh, 2019). Most countries with the lowest rank of financial inclusion are in the Caucasus and Central Asia (CCA) and the Middle East, North Africa, Afghanistan and Pakistan (MENAP) (Fouejieu et al., 2020). Sadly, women are the worse affected, even though their inclusion can positively transform the economy (Ng'weno et al., 2018; Nikaido et al., 2015). Nikaido et al. (2015) revealed that female entrepreneurs, especially capital intensive ones, are financially constrained. The wider gap in financial inclusion in Africa is particularly acute for female entrepreneurs (Triki & Faye, 2013).

Information communication technology has recently contributed a lot to financial inclusion in Africa (Ozili, 2018). According to the World Bank Group (2020), Fintech is a technological advancement that can transform the traditional method of providing financial services. It is seen as an innovation that helps reduce the pains people and SMEs go through in accessing bank credit, such as credit information or competition (IMF, 2019). Digitisation has become a tool to connect people and businesses to more excellent opportunities and larger global markets (Mastercard, 2020). Through innovative channels such as mobile money, mobile branches or banking services, Fintech has made financial access in Africa easy. Countries that have succeeded in recording higher financial inclusion could not have done so without using ICT base financing (Diniz et al., 2011). For example, the recent penetration of mobile technology and its coverage has significantly

improved financial inclusion in China. From the gender perspective, Ng'weno et al. (2018) stated that technology enables women to access finance more cheaply and effectively. This allows them to access financial products at their comfort through mobile phones and other technological channels. With the introduction of M-Pesa, mobile financial service has spread through most African countries, especially Kenya (Damodaran, 2013). M-pesa is a simple mobile banking application through which subscribers can do business transactions through their mobile phones. Financial institutions have become more creative, partnering with digital companies to reach customers (ILO, 2019). Fintech's capacity to provide larger loans to individuals and Small and Medium Enterprises has been widely acknowledged. Yang and Zhang (2020) observed that digital financial ecosystem development can enhance the growth of small businesses, high-technology industries and competitive markets.

Indicators such as complexity, access, quality and usage measure financial inclusion. Kane (2019) uses terms such as availability, regulation, proximity and affordability of financial services to describe access. This means that the term can be measured with a combination of variables, though different researchers rely on using some specific single variables. In the view of Efma (2020), financial inclusion connotes accessibility to financial products, which is linked to the availability of financial services in a given area. The strategic way of empowering the masses financially, is to ensure their financial inclusion. The availability of ATMs, bank branches and financial information are some variables that Diniz et al. (2011) used to measure access indicators.

Due to the multidimensional nature of this concept, it is recommended to use both supply-demand side indicators to measure the factors that influence financial inclusion. Some studies have examined the supply-demand factors that drive financial inclusion (Damodaran, 2013; Datta & Singh, 2019; Goel & Sharma, 2017; Triki & Faye, 2013). On the supply side, it is observed that the availability of information on formal financial services, such as payment services, loans, deposits, insurance and money transfer, can encourage demand for financial services (Triki & Faye, 2013). In that regard, Fouejieu et al. (2020) underscore the need to improve financial service information to help SMEs close the financial inclusion gap.

Furthermore, Goel and Sharma (2017), in examining the financial inclusion index for India, observed that the availability of banking services, usage of the banking system, bank penetration, access to insurance and savings influence financial inclusion. Goel and Sharma (2017) and Datta and Singh (2019) both used the financial inclusion index (FII) to estimate financial inclusion. In comparing the FII of 34 countries between 2011 and 2014, Datta and Singh (2019) found that only seven countries recorded increased financial inclusion. Between 2011 and 2014, Datta and Singh recorded a decline among countries in the high income group, such as Canada, Cyprus, Croatia, Japan, Italy and Israel. Goel and Sharma (2017) described India as a low financial inclusion economy in their study. From the FII computation, Goel and Sharma (2017) realised that from 2005 to 2012, most of the Indian population had not been mainstreamed into the formal financial sector.

In the view of scholars such as Datta and Singh (2019), Kane (2019), Abel et al. (2018), and Singh and Roy (2015), financial literacy significantly contributes to financial inclusion. On the demand side, Abel et al. (2018) observed that financial literacy is a crucial determinant of individual's demand for financial products. Their position is justified with an explanation that people with relatively high financial literacy have a high probability of accessing and using financial services. This confirms Yoshino and Morgan (2016) findings that low financial literacy contributes to the demand-side barrier of financial inclusion. For instance, Grohmann et al. (2018), linked financial awareness to sound financial decision making. Financial literacy lets one know where, when, what and how to access financial products. Kane (2019) examines the impact of financial literacy on financial inclusion. Comparatively, Kane found that knowledge, skills and awareness influence financial inclusion more. Morgan and Long (2020) recently showed that people with higher financial literacy are more likely to have financial inclusion at all levels than those with lower



financial literacy skills. This is because such people have adequate knowledge of the risks and benefits associated with available financial services and products (Abel et al., 2018).

In a cross country analysis, Datta and Singh (2019) investigated financial inclusion and human development determinants. The study established that socioeconomic characteristics of an individual, such as educational attainment, income status, and better health status, boost awareness and readiness to use available financial facilities. Abel et al. (2018) identified age, income, and education as influencing financial inclusion. They further observed that financial inclusion increases with age until it reaches a maximum and begins to decline. For example, people are affected to use some financial products as they get to understand when they grow. But as they get older and at retirement, they may lose interest in some of these products.

According to Ndanshau and Njau (2021), formal employment, high income, middle aged individuals, educational levels and urban dwellings promote financial inclusion. Oumarou and Celestin (2021) established that in some countries, literacy rate mobile phone penetration positively influences financial inclusion, while interbank credit and rural population reduce the growth rate of financial inclusion. Mhlanga and Henry Dunga (2020) revealed that financial awareness is a dominant element propelling financial inclusion. Bekele (2022), in a comparative study using a generalised linear model in Kenya and Ethiopia to ascertain the determinants of financial inclusion, predicted that age, gender, ownership of a mobile phone and employment status influence financial inclusion. Anyangwe et al. (2022) used data from 85 countries to investigate how culture affects financial inclusion in a comparative study between developing and developed countries. It was observed that countries with more masculine power distance and high uncertainty are unlikely to be financially included. At the same time, long-term orientation, indulgent culture and individualism are more likely to influence financial inclusion. Men access credit than women, enabling men to generate higher incomes than women (Kede Ndouna & Zogning, 2022).

In Ghana, more males have bank accounts with formal financial institutions than their female counterparts. Nevertheless, the number of females in Ghana financially included is higher than those in Sub Saharan Africa and other countries under the “Lower Middle Income” group, as classified by the World Bank. According to Akudugu (2013), the most significant determinant is the education level of females in Ghana. People with at least secondary education use more financial products and services than those without. Additionally, urban residents have more access to financial products and services as compared to their counterparts in the rural setting. However, World Bank (2019) indicated high interest rates as a significant challenge to affordable access to financial services in Ghana.

## **2.2. Microenterprises**

Financial inclusion contributes effectively to poverty reduction, economic growth, and the attainment of the Sustainable Development Goals (Emara & El Said, 2021; Mhlanga, 2021). As such, there is a need to develop effective financial systems that support institutions in designing tailored financial products and services to meet the needs of microenterprises (Oshora et al., 2021)). The concept of microenterprise came into being in 1990s. Microenterprises, or small businesses, are managed by lower income earners at the last end of the size spectrum (White, 2018). They are mainly operated by individuals or a small family, better described by Vandenberg (2009) as own-account workers or the self-employed group. Microenterprise is an enterprise with employees of not more than 50 people. However, it is essential to note that the definitions of firm size vary across countries and at the international level (White, 2018). The activities of microenterprises differ depending on their purpose and location. Microenterprises play a significant role in job creation and delivering inclusive growth to address the needs of the growing population of countries (Fouejieu et al., 2020). Microenterprises stimulate resilient economic development through job creation, competition and innovation (Shinozaki, 2012).

According to Aga et al. (2015), microenterprises serve as an engine of economic growth, increase household income, employment generation and overall development. This assertion is similar to

(Kamunge et al., 2014; Mappigau & Agussalim, 2013). On the contrary, Matindike and Mago (2022) observed in South Africa that while the country has a high rate (over 70% of adults with active bank accounts) of financial inclusion, the entrepreneurial level remains relatively low.

In the case of Ghana, microenterprises are seen as family base enterprises having fewer employees with limited external control (Kulah, 2016). Microenterprises existed before the inception of large-scale enterprises otherwise known as modern size industries. Their contribution towards national development has been widely acknowledged. They are primarily into small-scale vending, services, repair, and enterprise activities. Kulah (2016) in his study examines the structure of small scale businesses in the Wa Municipality. It was established that most businesses in the Municipality are individually owned. The business activities identified include agriculture, art and craft, financial services, construction, carpentry, textiles and garments (Kulah, 2016; Sekyi et al., 2014). Financial inclusion is vital for microenterprises to access credit, meet risk aversion, expand, and enhance competition in the market. The Financial development of countries should provide a practical framework for microenterprises to access credits at lower costs (Ahamed et al., 2021).

### 3. Materials and methods

#### 3.1. Study design

Previous studies reveal that panel data or cross-section analysis is more suitable for empirical analysis on financial inclusion (Bove & Elia, 2017; Duanmu & Guney, 2013). This study employed an exploratory survey design method to study a cross-section of 200 SMEs out of a total population of 400 microenterprises identified through listing in the Wa Municipality. The target population comprises microentrepreneurs above 18 years engaged in any microenterprise in the Wa Municipality. Exploratory studies are often conducted when the subject under investigation is relatively new and previous research has not been conducted (Mouton, 1996).

These SMEs are mainly engaged in trading, manufacturing and provision of services. A simple random sampling technique was employed to randomly select respondents, which gave every person in the target population an equal chance of being selected. The study sample size was determined by Yamane formula (Isreal, 1992) as:

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where  $n$  is the sample size,  $N$  is the total number of microenterprises,  $e$  is the level of precision at the confidence level of 95% (0.05), and 1 is a constant. A total of 400 microenterprises were identified through listing, and a sample size of 200 was obtained. The study then employed a closed ended questionnaire for the data collection. The closed ended questions provided options for respondents to choose their responses.

#### 3.2. Analytical approach

The probit regression model was employed to predict the drivers of financial inclusion. The individual microentrepreneur's decision to utilise financial services is dichotomous, with two exclusive alternatives. Thus either individual microentrepreneur access and uses financial services or does not. The appropriate models to estimate a phenomenon with binary dependent variables was propounded by (Woodrge, 2006). The framework suitable for such analysis is the threshold theory of decision making, where a reaction occurs only after the strength of a stimulus increases beyond the individual's reaction threshold. This means several factors influence individuals' reaction threshold when faced with a choice. In this study, the dependent variable of interest is financial inclusion which is generated through the Bernoulli process. An entrepreneur's decision to access financial services for his business transaction assumes a value of 1 and 0 if otherwise. The framework for this analysis was the probit regression model, which takes the form:



$$y_1 = \begin{cases} 1 & y_1^* > 0 \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

Where  $y_1^*$  is the latent variable that cannot be observed while  $y_i$  takes the value of 1 if the event occurs and 0 if otherwise. The probability ( $P_i$ ) of an  $i$ th entrepreneur to access financial service or not depends on an unobservable latent variable  $y_i$  determined by the prevailing socioeconomic and institutional factors  $X$ . Guided by literature (e.g. Cameron & Trivedi, 2005), the probit model specifies the conditional probability as:

$$P_i = \Pr[y_i = 1/X] = \Phi(X'\beta) \quad (3)$$

Where  $X$  is a “K by 1” vector of socioeconomic and institutional factors and  $\beta$  is “1 by k” vector of slope parameters. The cumulative density function restricts the probability values to 0 and 1. The probit regression is a non-linear model; hence parameter estimates are often obtained by the maximum likelihood estimation method specified as follows:

$$\Phi(X'\beta) = \int_{-\infty}^{X'\beta} \phi(Z) dZ \quad (4)$$

Where  $X\beta$  is the index function and

$$\phi(Z) = \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}Z^2} \quad (5)$$

Substituting Equation 3 into Equation 2 and rearranging yields

$$\Phi(X'\beta) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{X'\beta} e^{-\frac{1}{2}Z^2} dZ \quad (6)$$

Taking the inverse of the cumulative normal function in Equation 4 gives estimates of the index  $Z$ . For a symmetric distribution,

$$y_i = \Phi^{-1}(P_i) = X'\beta + \mu_i \quad (7)$$

The marginal effect is the change in the  $j$ th regressor on the conditional probability that an individual entrepreneur accesses financial service is derived as

$$\frac{\partial P_i}{\partial x_{ij}} = \Phi(X'\beta)\beta_j = \Phi[\Phi^{-1}(P_i)]\beta_j \quad (8)$$

We specify the empirical model as follows:

$$\begin{aligned} \text{Probit}(\text{Bank}) = & \beta_0 + \beta_1 \text{Sex} + \beta_2 \text{Age} + \beta_3 \text{Edu} + \beta_4 \text{Religion} + \beta_5 \text{Status} + \beta_6 \text{The\_distance} \\ & + \beta_7 \text{Loan} + \beta_8 \text{Start\_up} + \beta_9 \text{Bus\_Age} + \beta_{10} \text{Registration} + \beta_{11} \text{F\_statement} + \mu_i \end{aligned} \quad (9)$$

Table 1 depicts the variables' definitions, unit measurement and the hypothesised relationships.

#### 4. Results and discussion

From Table 2, the findings revealed 62 percent of males and 38 percent of females, with a maximum age of 63 years and minimum age of 19 years, participated in the study. It was observed that 27 percent of respondents had basic education, 38 percent had secondary,

**Table 1. Definition and variable measurement**

Variable	Definition	Unit of measurement	Sign
<i>Dependent</i>			
Bank	Access to financial services	Dummy (Yes=1, 0=otherwise)	
<i>Independent</i>			
Sex	Sex of respondent	Dummy (Male = 1, 0 = Female)	±
Age	Age of Respondent	Years	+
Edu	At least basic education	Dummy (Yes = 1, 0 = otherwise)	+
Religion	Religion	Dummy (Christianity = 1, 0 = Islam)	±
Status	Status in business	Dummy (Owner = 1, 0 = Employee)	±
Distance	Distance to bank	Kilometers	-
Loan	Awareness of loan service	Dummy (Aware = 1, 0 = not aware)	+
Start_up	Firm in startup stage	Dummy (Yes = 1, 0 = otherwise)	+
Bus_Age	Business age	Years	+
Registration	Registration status	Dummy (Registered = 1, 0 =otherwise)	+
F_statement	Preparation of Financial statement	Dummy (Yes = 1, 0 = otherwise)	+

*Source: Author's Construct (2020)*

16.5 percent had tertiary education, while those with no formal education represent 18.5 percent. The study also revealed 35 percent of the respondents were single, 0.5 percent divorced, 3.5 percent were separated, while the majority; representing 61 percent, were currently married. Participation according to religious affiliation revealed 27 percent Christians and 73 percent Muslims. The statistics from the study further suggest that 78.5 percent of respondents owned and managed their businesses, while the remaining 21.5 percent were employees of enterprises.

The study categorised the businesses into trade in computers, construction, financial services, food and beverages, provision shops, clothing and textiles, and barbering, as shown in Table 3. The study revealed 24.5 percent for provision shops, 20.5 percent food and beverages, 14 percent for clothing and textile, 12.5 percent for financial services (mobile money and susu operators), 12 percent for barbering and hairdressing, 6 percent for the construction sector, and 10.5 percent for computer repairs and sales. The study also revealed that loan services, mobile banking, internet banking, debit card, credit card, mortgage, depositing/withdrawing cash, cheque book, overdraft, insurance, and Automated Teller Machines (ATMs) are the prevailing financial services and products in Wa Municipality.

From the study, respondents who conducted business transactions with any financial institution were considered financially included. This generated a binary response variable with a value of 1 and 0 if otherwise. The appropriate framework for such a binary response variable analysis is a logit or probit regression model. The study used a Probit regression model to analyse the factors driving microentrepreneurs' financial inclusion. The response variable (whether an individual has transacted with a financial institution) was regressed on demographic and enterprise characteristics. The set of covariates in the model includes sex, age, education, religion, marital status, distance to a financial institution, awareness of loan services by the financial institution, whether

**Table 2. Descriptive statistics**

Characteristic	Frequency	Percent
<i>Gender</i>		
Male	124	62.0
Female	76	38.0
<i>Religious status</i>		
Christianity	54	27.0
Islam	146	73.0
Others	0	.0
<i>Educational status</i>		
Basic	54	27.0
Secondary	76	38.0
Tertiary	33	16.5
None	37	18.5
Others	0	.0
<i>Marital status</i>		
Single	70	35.0
Married	122	61.0
Divorced	1	.5
Separated/Widowed	7	3.5
<i>Status in Business</i>		
Own business	157	78.5
Employee	43	21.5
Total	200	1.0

**Table 3. Type of business**

Type of business	Frequency	Percent
Computers	21	1.5
Construction	12	6.0
Financial services	25	12.5
Food and beverages	41	2.5
Provisions	49	24.5
Clothing and textile	28	14.0
Barbering and hairdressing	24	12.0
Total	200	1.0

a firm is a startup enterprise, business age, registration status and preparation of financial statements.

The regression analysis from the study revealed a likelihood ratio (LR) of 20.49, significant at 5%. This confirmed that at least one independent variable significantly affects financial inclusion and the respondent's decision to access financial services is jointly influenced by explanatory variables. Four (4) out of the eleven (11) covariates predicted a likelihood of accessing financial services for enterprise development. The significant variables include religion, loan service awareness, business registration, and preparation of financial statements.

From Table 4, the religion coefficient is negative and significant at 10%. This implies that Christians have less likelihood of financial inclusion than Muslims. Also, the -0.481 marginal effect

**Table 4. Probit regression estimates of drivers of financial inclusion**

Variables	Coef.	Z	[95% Conf.	Interval]	Marginal Effect
Sex	−0.014 (0.243)	−0.06	−0.491	0.463	−0.014
Age	0.017 (0.018)	0.92	−0.019	0.053	0.017
Edu	0.096 (0.306)	0.31	−0.504	0.697	0.096
Religion	−0.481 (0.265) *	−1.81	−1.001	0.039	−0.481*
Status	−0.153 (0.320)	−0.48	−0.781	0.475	−0.153
Distance	−0.022 (0.059)	−0.38	−0.138	0.093	−0.022
Loan	0.653 (0.336) *	1.94	−0.006	1.313	0.653*
Start_up	0.415 (0.294)	1.41	−0.161	0.991	0.415
Business_age	−0.044 (0.033)	−1.32	−0.109	0.021	−0.044
Registration	0.813 (0.411) **	1.98	0.008	1.619	0.813**
F_statement	0.699 (0.283) **	2.47	0.144	1.254	0.699**
_cons	−0.370 (0.710)	−0.52	−1.762	1.021	−0.370

Observation = 200 LR  $\chi^2(11) = 20.49$ ; Prob >  $\chi^2 = 0.0391$

Log likelihood = −77.689 Pseudo  $R^2 = 0.1165$

\*=significant at 10%; \*\*=significant at 5%. The standard errors are indicated in parenthesis.

suggests that being a Christian is associated with a 48.1% likelihood of not accessing financial services for business growth. However, this finding has not been confirmed in the literature and hence appears relatively new in the literature on financial inclusion. The are comparable to Amin et al. (2023), who examined religious and ethnic diversity on financial inclusion for low-middle and high-income countries. They observed that ethnic and religious affiliations influence financial inclusion and concluded that in assessing financial inclusion for economic growth, ethnic and religious diversity should be considered. In a similar study, Kim et al. (2020) observed that gender inequality, educational outcomes, and social opportunities determine financial inclusion in examining the influence of religious and social inequality variables on financial inclusion in 152 countries but failed to establish that Christians are less likely to have financial inclusion than Muslims.

Furthermore, this finding contradicts Sekyi (2017), who found no significant effect of religion on financial services in Wa Municipality. This could be because Muslims form the majority in the study area and their social interactions could positively influence financial inclusion, especially when they find their neighbours accessing financial services with no restrictions on their beliefs. This also suggests that being a Muslim does not restrict one from accessing financial services and can quickly be promoted through social arrangements. This study supports Breda and Fahy (2011), who observed that networking improves business growth, productivity and performance through access to information, human capital, and resources. Networking enables enterprises to access information, complementary resources, cost sharing, research, human resources, export, production and capital, improving firms' competitive advantage (Rahman, 2015; Turyakira & Mbidde, 2015).

The model predicted awareness of loan services by financial institutions as a driver of financial inclusion. Awareness of loan service was considered a dummy variable with value of 1 if a respondent is aware of loan services provided by the financial institutions and 0 if otherwise. The analysis predicted a positive coefficient, with 10 percent significance, and a marginal effect of 0.653, meaning that those with knowledge of loan services are associated with a 65.3 percent probability of financial inclusion higher than those without this knowledge. This confirmed the literature that knowledge of loan services could drive financial inclusion. The finding of this study further agrees with Benni et al. (2020), Mhlanga and Henry Dunga (2020) (Bove & Elia, 2017; Kim et al., 2020), & (Hasan et al., 2021); In a similar study in Uganda, Benni et al. (2020) noted a positive relationship between financial inclusion and awareness. Benni et al. (2020) also observed

that formal education and financial inclusion have a positive relationship and argued that people with lower education are often unaware of services available at the financial market and such people are often financially included. Mhlanga and Henry Dunga (2020) further revealed that financial awareness is key in promoting financial inclusion among smallholder farmers in Zimbabwe. The awareness rate determines a financial product's benefits (Kim et al., 2020). Countries with higher financial literacy levels save more money (Bove & Elia, 2017). It is argued that an increased awareness rate enhances a better understanding of the benefits and risks associated with financial services (Hasan et al., 2021). In similar findings, Ssekakubo et al. (2022) observed that awareness increased the financial inclusion of microentrepreneurs, which is consistent with the observations of this study.

Moreover, Yoshino and Morgan (2016) noted that individuals with high financial literacy have a high rate of financial inclusion. Therefore, awareness of financial services attracts financial participation. This assertion is consistent with the observations made by Yoshino and Morgan (2016) on awareness and financial inclusion. The justification is that people with knowledge of financial services such as business financing will desire to transact business with such financial institutions to access loan services for their enterprise financing. Diniz et al. (2011) argue in support of this conclusion that entrepreneurs' knowledge of financial services will increase their likelihood of financial inclusiveness. Also, Shinozaki (2012) found that information asymmetry can exclude potential entrepreneurs from accessing the financial market. This could be the case for entrepreneurs in the Wa Municipality who may not have complete market information on the financial market. However, those without knowledge of loan services provided by the various financial institutions may be looking for capital from friends and relatives. They are most likely not to consider business transactions with financial institutions so crucial for their financial needs.

Also, the formal registration status of enterprises was found to influence financial inclusion. It was discovered that some of the enterprises were formally registered while others were not. Business registration status was measured as a dummy variable with values of 1 if a respondent enterprise is registered and 0 if otherwise. It was observed that business registration had a positive coefficient with 5 percent significance level. Also, the marginal effect suggested that respondents who registered their enterprises had an 81.3 percent probability of financial inclusion than those without registration. The justification is that Business registration has the potential to boost the confidence of financial institutions to transact business with entrepreneurs, which could be among the reasons for their relatively higher financial inclusion.

Similarly, Yoshino and Morgan (2016) and (Ulyseas, 2020) reported a positive direct relationship between certification and financial inclusion. They found that people without the necessary legal documentation may be unable to transact business with formal financial institutions. Their argument is based on the conviction that documentation reveals a clear identity and improves the transparency of the enterprises. A similar reason could fit the case of Wa Municipality, where businesses without formal registration participate less in the financial market. Abel et al. (2018) also indicated that business registration provides information on the location and activities of the business and can be used to reach the registered enterprise by financial institutions at any time to monitor their progress. This means that enterprises without formal registration will be difficult to manage and track by financial service providers. Similar findings were reported by Abel et al. (2018), bringing to the fore the consistency in scientific observations on the positive effect of certification and financial inclusion.

Finally, the availability of financial statements (F\_Statement) positively influenced the financial inclusiveness of microentrepreneurs. The finding revealed a positive coefficient significant at the 5 percent level, and a marginal effect of 69.9 percent. This confirmed that respondents with financial statements for their businesses are more likely to have financial inclusion than those without financial statements. This support the argument that financial statements provide an opportunity to monitor the financial health in terms of the revenues and cost of the business. This

study agrees with (Bani-Khalid et al., 2022; Bobek et al., 2007; Khan, 2022; Kung et al., 2015; Sastararui et al., 2022) that financial statement is a requirement by financial providers, especially during loan applications and probably explains why firms with financial statements have the likelihood of financial inclusion than firm without. A similar observation was made by Abel et al. (2018) that the availability of evidence of track records is vital for financial inclusion. Also, Sekyi (2017) observed that enterprises with good credit histories have relative access to financial services. In all, religion, awareness, business registration, and financial statement preparation improve financial inclusion in Wa Municipality of the Upper West Region of Ghana. This study supports both the drivers and systems theories of financial inclusion.

## 5. Conclusion and recommendations

The study explored the drivers of financial inclusion of microentrepreneurs in Wa Municipality of the Upper West Region of Ghana. The lack of literature to aid holistic appreciation of the drivers of financial inclusion necessitated this study. Data was collected from a cross-section of 200 microentrepreneurs out of 400 microenterprises listed, using an exploratory research method, simple random sampling technique and close-ended questionnaire. Data from the study were analysed using a binary probit regression model. Religion, awareness of loan services, business registration, and financial statement preparation were the key drivers of financial inclusion. These findings are relevant for business development in general and the financial sector development of the region. It is recommended that financial education should be intensified beyond just credit services and financial service providers should encourage their clients to use digital financial services, which are secure, risk averse and cheaper. Also, in promoting financial services, service providers should consider gender and religion as sensitive drivers of financial inclusion. Despite the new perspective presented on drivers of financial inclusion with regards to religion and gender and the extent to which factors such as loan, religion, business registration, financial statements, sex, age, education, status of business, distance, and business age drives financial inclusion in the body of literature, further research is necessary to identify consumer financial needs to meet clients' expectations.

### Funding

The authors received no funding for this research.

### Author details

Jonas Tia<sup>1</sup>

E-mail: [tiajonas@yahoo.com](mailto:tiajonas@yahoo.com)

Naasegnibe Kuunibe<sup>2</sup>

Paul Kwame Nkegbe<sup>3</sup>

<sup>1</sup> Golbridge Associates, Jostimo Group of Companies, Tumu, Ghana.

<sup>2</sup> Department of Economics, SDD-University of Business and Integrated Development Studies, Wa, Ghana.

<sup>3</sup> Department of Applied Economics, University for Development Studies, Tamale, Ghana.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Data availability statement

The data supporting this study are available from the corresponding author, JT, upon request.

### Citation information

Cite this article as: Drivers of financial inclusion in Ghana: Evidence from microentrepreneurs in the Wa Municipality of the Upper West Region, Jonas Tia, Naasegnibe Kuunibe & Paul Kwame Nkegbe, *Cogent Economics & Finance* (2023), 11: 2267854.

### References

Abel, S., Mutandwa, L., & Roux, P. L. (2018). International journal of Economics and financial issues. A Review of Determinants of financial inclusion. *International*

*Journal of Economics and Financial*, 8(3), 1–8. <https://www.econjournals.com>

Aga, G. A., Francis, D., & Rodriguez-Meza, J. (2015). SMEs, age and jobs: A review of the literature, metrics and evidence. *World Bank Policy Research Working Paper*, 7493.

Ahamed, M. M., Ho, S. J., Mallick, S. K., & Matousek, R. (2021). Inclusive banking, financial regulation and bank performance: Cross-country evidence. *Journal of Banking and Finance*, 124, 106055. <https://doi.org/10.1016/j.jbankfin.2021.106055>

Akudugu, M. A. (2013). Determinants of financial inclusion in Western Africa: Insights from Ghana. *Research Journal of Finance & Accounting*, 4(8), 1–10.

Allen, F., Demircug-Kunt, A., Klapper, L., & Peria, M. S. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation*, 27, 1–30. <https://doi.org/10.1016/j.jfi.2015.12.003>

Amin, S., Yasin, I., & Rutkowska-Ziarko, A. (2023). Diversity inclusion nexus: Assessing the role of ethnic and religious diversity in financial inclusion; a global perspective. *Economic research-Ekonomska istraživanja*, 36(1), 1205–1225.

Anyangwe, T., Vanroose, A., & Fanta, A. (2022). Determinants of financial inclusion: Does culture matter? *Cogent Economics & Finance*, 10(1), 2073656. <https://doi.org/10.1080/23322039.2022.2073656>

Bani-Khalid, T., Alshira'h, A. F., & Alshirah, M. H. (2022). Determinants of tax compliance intention among Jordanian SMEs: A focus on the theory of planned behavior. *Economies*, 10(2), 30. <https://doi.org/10.3390/economies10020030>



- Bekele, W. D. (2022). Determinants of financial inclusion: A comparative study of Kenya and Ethiopia. *Journal of African Business*, 24(2), 1–19. <https://doi.org/10.1080/15228916.2022.2078938>
- Benni, N., Berno, D., & Del Puerto Soria, M. (2020). *Agricultural finance and the youth: Prospects for financial inclusion in Uganda*. <https://doi.org/10.4060/ca7873en>
- Bobek, D. D., Roberts, R. W., & Sweeney, J. T. (2007). The social norms of tax compliance: Evidence from Australia, Singapore, and the United States. *Journal of Business Ethics*, 74(1), 49–64. <https://doi.org/10.1007/s10551-006-9219-x>
- Bove, V., & Elia, L. (2017). Migration, diversity, and economic growth. *World Development*, 89, 227–239. <https://doi.org/10.1016/j.worlddev.2016.08.012>
- Breda, K., & Fahy, J. (2011). Network resources and international performance of high tech SMEs. *Journal of Small Business and Enterprise Development*, 18(3), 529–555. <https://doi.org/10.1108/14626001111155691>
- Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: Methods and applications*. Cambridge University Press.
- Damodaran, A. (2013). Valuing financial services firms. *Journal of Financial Perspectives*, 1(1). <https://ssrn.com/abstract=3075980>
- Datta, S. K., & Singh, K. (2019). Variation and determinants of financial inclusion and their association with human development: A cross-country analysis. *IIMB Management Review*, 31(4), 336–349. <https://doi.org/10.1016/j.iimb.2019.07.013>
- Dikshit, S., & Pandey, A. C. (2021). Role of financial inclusion in realising sustainable development goals (SDGs). *International Journal of Research in Finance and Management*, 4(2), 35–39. <https://doi.org/10.33545/26175754.2021.v4.i2a.103>
- Diniz, E., Birochi, R., & Pozzebon, M. (2011). Triggers and barriers to financial inclusion: The use of ICT-based branchless banking in an Amazon county. *Electronic Commerce Research and Applications*, 11(5), 484–494. <https://doi.org/10.1016/j.elerap.2011.07.006>
- Duanmu, J. L., & Guney, Y. (2013). Heterogeneous effect of ethnic networks on international trade of Thailand: The role of family ties and ethnic diversity. *International Business Review*, 22(1), 126–139.
- Efma. (2020). Financial inclusion: New ambitions for 2020. [www.efma.com](http://www.efma.com).
- Emara, N., & El Said, A. (2021). Financial inclusion and economic growth: The role of governance in selected MENA countries. *International Review of Economics & Finance*, 75, 34–54. <https://doi.org/10.1016/j.iref.2021.03.014>
- Fouejieu, A., Ndoeye, A., & Sydorenko, T. (2020). *Unlocking access to Finance for SMEs: A cross-country analysis*. International Monetary Fund.
- Goel, S., & Sharma, R. (2017). Developing a financial inclusion index for India. *Procedia computer science*, 122, 949–956. <https://doi.org/10.1016/j.procs.2017.11.459>
- Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does financial literacy improve financial inclusion? Cross country evidence. *World Development*, 111, 84–96. <https://doi.org/10.1016/j.worlddev.2018.06.020>
- Hasan, M., Le, T., & Hoque, A. (2021). How does financial literacy impact on inclusive finance? *Financial Innovation*, 7(1), 1–23. <https://doi.org/10.1186/s40854-021-00259-9>
- Ibor, B. I., Offiong, A. I., & Mendie, E. S. (2017). Financial inclusion and performance of micro, small and Medium scale enterprises in Nigeria. *International Journal of Research - Granthaalayah*, 5(3), 104–122. <https://doi.org/10.29121/granthaalayah.v5.i3.2017.1758>
- Israel, G. D. (1992). Determining sample size. Retrieved September 23, 2009, University of Florida, Institute of Food and Agricultural Sciences Extension Web Site. from <http://edis.ifas.ufl.edu/PD006>
- Kamunge, M. S., Njeru, A., & Tirimba, O. I. (2014). Factors affecting the performance of small and macro enterprises in Limuru town market of Kiambu County. *International Journal of Scientific and Research Publications*, 4(12), 1–20.
- Kane, M. S. (2019). *Financial inclusion in micro, small and medium enterprises*. Impact of Financial Growth Stages and Financial Literacy.
- Kede Ndouna, F., & Zogning, F. (2022). Financial inclusion and gender income inequalities in informal entrepreneurship: The case of Cameroon. *Journal of Entrepreneurial Finance*, 24(3), 33–47. <https://doi.org/10.57229/2373-1761.1443>
- Khan, Z. U. H. (2022). Economic experiments on tax compliance, harassment bribes, and diverse committees. PhD thesis, University of Essex.
- Kim, D.-W., Yu, J.-S., & Hassan, M. K. (2020). The influence of religion and social inequality on financial inclusion. *The Singapore Economic Review*, 65(1), 193–216. <https://doi.org/10.1142/S0217590817460031>
- Kulah, J. (2016). *Critical study of the challenges faced by small and medium enterprises' master craftsmen in the welding and fabrication industry in the Wa Municipality*. University of Education. <http://ir.uow.edu.gh>
- Kumar, R., & Pathak, D. C. (2022). Financial awareness: A bridge to financial inclusion. *Development in practice*, 32(7), 968–980. <https://doi.org/10.1080/09614524.2022.2028731>
- Kung, L., Cegielski, C. G., & Kung, H. J. (2015). An integrated environmental perspective on software as a service adoption in manufacturing and retail firms. *Journal of Information Technology*, 30(4), 352–363. <https://doi.org/10.1057/jit.2015.14>
- Mappigau, P., & Agussalim, M. (2013). Human capital and survival of small scale food processing firms under economic crisis in central java Indonesia. *Australian Journal of Business and Management Research*, 3(1), 16–29.
- Mastercard. (2020). Pay on demand: The digital path to financial inclusion in Africa. [Mea.Mastercard.com](http://Mea.Mastercard.com).
- Matindike, S., & Mago, S. (2022). Financial inclusion on Entrepreneurship in South African Townships: Lessons for practioners and policy makers from literature. *AfricaGrowth Agenda*, 19(2), 22–23.
- Mhlanga, D. (2021). Financial inclusion in emerging economies: The application of machine learning and artificial intelligence in credit risk assessment. *International Journal of Financial Studies*, 9(3), 39. <https://doi.org/10.3390/ijfs9030039>
- Mhlanga, D., & Henry Dunga, S. (2020). Measuring financial inclusion and its determinants among the smallholder farmers in Zimbabwe: An empirical study. *Eurasian Journal of Business and Management*, 8(3), 266–281. <https://doi.org/10.15604/ejbm.2020.08.03.008>
- Morgan, P. J., & Long, T. Q. (2020). Financial literacy, financial inclusion, and savings behavior in Laos. In *Journal of Asian economics* (Vol. 68, p. 101197). Elsevier Inc. <https://doi.org/10.1016/j.asieco.2020.101197>
- Mouton, J. (1996). *Understanding social Research*. J.L Van Schaik.
- Ndanshau, M. O. A., & Njau, F. E. (2021). Empirical investigation into demand-side determinants of financial inclusion in Tanzania. *African Journal of Economic Review*, 9(1), 172–190. <https://www.ajol.info/index.php/ajer/article/view/201733>

- Ng'weno, A., Oldja, L., Hassan, M., & Kapoor, P. (2018). *Demand-side review of financial inclusion for women in entrepreneurship and smallholder agriculture*. International Development Research Centre.
- Nikaido, Y., Pais, J., & Sarma, M. (2015). What hinders and what enhances small enterprises' access to formal credit in India? *Review of Development Finance*, 5(1), 43–52.
- Oppong, M., Owiredo, A., & Churchill, R. Q. (2014). Micro and small scale enterprises development in Ghana. European Centre for Research Training and Development. *European Journal of Accounting Auditing & Finance Research*, 2(6), 84–97.
- Oshora, B., Desalegn, G., Gorgenyi-Hegyes, E., Fekete-Farkas, M., & Zeman, Z. (2021). Determinants of financial inclusion in small and medium enterprises: Evidence from Ethiopia. *Journal of Risk and Financial Management*, 14(7), 286. <https://doi.org/10.3390/jrfm14070286>
- Oumarou, I. C., & Celestin, M. (2021). Determinants of financial inclusion in west African economic and monetary union (WAEMU) countries. *Theoretical Economics Letters*, 11(3), 489–506. <https://doi.org/10.4236/tel.2021.113033>
- Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. Elsevier B.V. *Borsa Istanbul Review*, 18(4), 329–340. <https://doi.org/10.1016/j.bir.2017.12.003>
- Ozili, P. K. (2021). Financial inclusion research around the world: A review. *Forum for Social Economics*, 50(4), 457–479. <https://doi.org/10.1080/07360932.2020.1715238>
- Pahlevan Sharif, S., Naghavi, N., Waheed, H., & Ehigiamusoe, K. U. (2022). The role of education in filling the gender gap in financial inclusion in low-income economies. *International Journal of Emerging Markets*. <https://doi.org/10.1108/IJOEM-07-2021-0991>
- Rahman, M. M. (2015). SMEs and networking: A resource-based view perspective. *Entrepreneurship*. [https://www.researchgate.net/publication/279450110\\_SMEs\\_and\\_Networking\\_A\\_Resource-based\\_View\\_Perspective](https://www.researchgate.net/publication/279450110_SMEs_and_Networking_A_Resource-based_View_Perspective)
- Sakyi-Nyarko, C., Ahmad, A. H., & Green, C. J. (2022). The role of financial inclusion in improving household well-being. *Journal of International Development*, 34(8), 1606–1632. <https://doi.org/10.1002/jid.3661>
- Sastararaji, D., Hoonsoopon, D., Pitchayadol, P., & Chiwamit, P. (2022). Cloud accounting adoption in Thai SMEs amid the COVID-19 pandemic: An explanatory case study. *Journal of Innovation and Entrepreneurship*, 11(1), 1–25. <https://doi.org/10.1186/s13731-022-00234-3>
- Sekyi, S. (2017). Rural household's credit access and loan Amount in Wa Municipality. *International Journal of Economics and Financial Issues*, 7(1), 506–514. <https://dergipark.org.tr/en/pub/ijefi/issue/32002/353228?publisher=http-www-cag-edu-tr-ilhan-ozturk>
- Sekyi, S., Nkegbe, P. K., & Kuunibe, N. (2014). Participation in the credit market by small scale enterprises in Ghana: Evidence from Wa Municipality. *African Journal of Business Management*, 8(9), 292–299. <https://doi.org/10.5897/AJBM2013.7313>
- Shinozaki, S. (2012). A New regime of SME Finance in emerging Asia: Empowering growth-oriented SMEs to build resilient national economies, ADB Working Paper Series on Regional Economic Integration, No. 104, Asian Development Bank (ADB), Manila, <http://hdl.handle.net/11540/1260>.
- Singh, R., & Roy, S. (2015). Financial inclusion: A critical assessment of its concepts and measurement. *Asian Journal of Research in Business Economics and Management*, 5(1), 12–18. <https://doi.org/10.5958/2249-7307.2015.00002.X>
- Ssekakubo, J., Nkurunziza, G., Muwanga, R., & Tumwine, S. (2022). Financial literacy and financial performance of micro enterprises in developing economies: The mediating role of credit access. *ORSEA Journal*, 12(2), 75–89. <https://doi.org/10.56279/orseaj.v12i2.5>
- Triki, T., & Faye, T. (2013). *Financial inclusion in Africa*. African Development Bank (AfDB).
- Trombetta, M., Calvo, M. L., & Casadio, P. (2017). *Microfinance Institutions and Micro & Small Enterprises in Ghana: The Potential of the Missing Middle*. 1–33. <https://www.theigc.org/sites/default/files/2017/03/Trombetta-et-al-2017-Final-report.pdf>
- Turyakira, P., & Mbidde, C. I. (2015). Networking for SMEs in Uganda: A conceptual paper. *African Journal of Business Management*, 9(2), 43–49. <https://doi.org/10.5897/AJBM2014.7534>
- Ulyssa, G. (2020). Informality: Causes and consequences for development. *Annual Review of Economics*, 12(1), 525–546. <https://doi.org/10.1146/annurev-economics-082119-121914>
- Vandenberg, P. (2009). Micro, small and Medium-sized enterprises and the global economic Crisis, impacts and policy responses. International Labour Organization. Sustainable Enterprise Programme. [www.ilo.org/publns](http://www.ilo.org/publns).
- White, S. (2018). 'Creating better business environments for micro and small enterprises', Technical Report, Donor Committee for Enterprise Development, Woodrge, M. J. (2006). *Introductory econometrics: A modern approach* (2nd ed.). Cengage Learning.
- World Bank. 2019, 4th Ghana economic update enhancing financial inclusion Africa region
- World Bank Group. (2020). *Payment aspects of financial inclusion in the fintech era*. ISBN 978-92-9259-345-2 (print). ISBN 978-92-9259-346-9 (online). Bank for International Settlements.
- Yang, L., & Zhang, Y. (2020). Digital financial inclusion and Sustainable growth of small and micro enterprises—evidence based on China's New third board market listed companies. *Sustainability*, 12(9), 3733. <https://doi.org/10.3390/su12093733>
- Yoshino, N., & Morgan, P. (2016). Overview of financial inclusion, regulation, and education. ADBI Working Paper 591. Asian Development Bank Institute. <http://www.adb.org/publications/overview-financial-inclusion-regulation-and-education>