

## Financial Technology and Financial Inclusion in Africa

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### Abstract

The paper determined the rate of penetration of specific Fintech Services in Nigeria, Kenya, Egypt, and South Africa; examined the influence of retail and micro, small, and medium enterprises (MSME) driven by Fintech on financial inclusion; investigated the role of wealth management by Fintech on financial inclusion; and analysed the impact of cross border payment facilitation by Fintech on financial inclusion in the study area. The paper adopted a quantitative research method, used secondary/panel data which were sourced from the World Bank Group Data on the Global Findex. Both descriptive and inferential statistics were deployed for the analyses. The results showed that Nigeria, Kenya, Egypt, and South Africa had a considerable rate of Fintech penetration, and this is reflecting in the large volume of their cross border payments. It is concluded that Fintech and Financial Inclusion is playing a strong role in cross border payment, wealth management, and there is more opportunity for MSMEs to make payment at anytime, anywhere, and any moment with the use of technology and this is believed to be financial inclusion.

**Key words:** Fintech Services; Financial Inclusion; Wealth Management; Cross Border Payments; MSMEs

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### INTRODUCTION

The aftermath of COVID-19 pandemic showed that

financial inclusion is cardinal to the economic growth of any country. The reason for this conception is not far-fetched as improved financial inclusion could help the doors to financial services such as fast payments, wealth management, lending and loan facilitation, and cross-border payments. It is on this premise that several African countries have gravitated towards developing policies and creating an enabling environment that will foster financial inclusivity. It is important to note that Nigeria, Egypt, Kenya, and South Africa, has financial inclusion plan that saw Fintech as vital to achieving economic growth. The African continent is the second most populous in the world. With a population estimated at around 1.4 billion, Africa is next to Asia in terms of human capital and population density (Esquivias *et al.*, 2022). Despite the huge human capital in Africa, almost half the population of the continent is categorized as unbanked. The World Bank (2022) estimated that there are 350 million unbanked people in Africa (Pervez, 2022). While the statistics seem a little gloomy, it has also opened up a unique window of opportunity for varying innovative financial services.

A huge number of Africa's population resides in rural areas (El-Sadr & Justman, 2020). This figure stands at 47% in Nigeria (The Global Economy, 2023), 42% in Egypt (Statista, 2023), and 71% in Kenya and South Africa (The Global Economy, 2023). This is without mentioning that the adoption of Fintech solutions is largely made possible through phones and internet connections. Jaiyeola (2022) has established that only 23% of Nigerians and other Africans in rural areas have access to the Internet. Despite, Fintech still has a long way to get adequate penetration in most African countries especially Nigeria and Egypt. Hence, the paper is designed to determine the rate of penetration of specific Fintech services in Nigeria, Kenya, Egypt, and South Africa; examine the influence of retail and micro, small, and medium enterprises (MSME) lending by Fintech on financial inclusion in Nigeria, Kenya, Egypt, and South Africa; investigate the role of

wealth management by Fintech on financial inclusion in Nigeria, Kenya, Egypt, and South Africa; and to analyse the impact of cross-border payment facilitation by Fintech on financial inclusion in Nigeria, Kenya, Egypt, and South Africa.

## LITERATURE REVIEW

All around the world, policymakers are working hard to promote financial inclusion. This is because countries with higher rates of financial inclusion typically have quicker economic growth (Mbutor & Uba, 2013). On this note, the Central Bank of Nigeria has spearheaded the national financial inclusion plan of action with the introduction of the National Financial Inclusion Strategy in 2012 (CBN, 2019). Prior to the introduction of this policy, Mbutor and Uba (2013) explain that Nigeria continues to fall behind other peer-level nations in a number of financial inclusion indices. Nigeria's formal payments penetration rate (21.6%), and account per thousand people (461), was lower than those of peer countries. Nigeria also performs poorly than other comparable nations in terms of credit penetration. Additionally, barely 1% of Nigerians had insurance, compared to around 30% in South Africa.

Ozili (2021) explains that the introduction of the financial inclusion strategy effectively resulted in an increase in account-opening services across the country. The deployment of mobile money services, mobile banking, banking agents, and the issuing of operating licenses to payment service providers was regarded as a critical component of the national financial inclusion plan. Between 2011 and 2014, formal borrowing in Nigeria grew overall. Wayne *et al.* (2020), echo a similar tone as they state that customers living in remote areas with no access to bank branches or ATMs naturally gravitated toward mobile money agents. Thus, they were able to obtain funds from money agents who handled payments and money transfers.

Adesina (2020) also ascertains the importance of the introduction of Fintech in Nigeria. They explain that private businesses in Nigeria are moving toward financial inclusion through the use of digital currencies as mobile payments become more accessible (Ajakaiye & Olowookere, 2013). Ozili (2021) thus confirms that the uneducated, male, and senior population categories had the greatest increases in formal borrowings. In a similar vein, Demircuc-Kunt *et al.* (2022) ascertain that only 45% of adult Nigerians have formal accounts, with the figure at 35% for women, and 33% for poor adults. In Nigeria, there is a 20% gender gap in account ownership, as well as a 16% gender gap in digital payment usage, while educated adults are 39% more likely to have an account than uneducated adults. Furthermore, Joseph *et al.* (2021) state that over 36.6 million Nigerian remain economically excluded despite the proliferation of Fintech firms. They

posit that financial inclusion initiatives encounter a variety of fundamental hurdles such as double-digit inflation, rising unemployment, poverty, and currency devaluation.

South Africa has been a revelation in terms of the impact of Fintech on financial inclusion. FinMark Trust (2015) attributes South Africa's Fintech tech success to the proliferation of smartphones. According to them, 51% of the population owned smartphones in 2015; they used mobile money services 31% of the time and smartphone apps 40% of the time to manage their finances. Internet banking usage increased from 11% in 2013 to 13% in 2015, while mobile banking usage increased from 28% to 31% within the same time period. Shipalana (2019), explains that the Fintech success in the country can be attributed to South Africa's National Development Plan (NDP) which set a target of 90% financial inclusion by 2030. Today, South Africa has an adult account holder rate of 85%, with women at 86%, and poor adults at 78% (Demircuc-Kunt & Singer, 2017). Additionally, 81% of rural dwellers in the country use Fintech services while 86% of the black population also benefit from Fintech services (Shipalana, 2019). Ashefani and Dong (2022) argue that South Africa has now surpassed the global standard, with approximately 47.8% of transactions taking place on digital payment channels. Couple with this, Demircuc-Kunt and Singer (2017) buttresses this point by stating that account ownership in South Africa grew by 16% between 2017 and 2021, with the bank and mobile money accounts leading the charge.

There have not been a lot of positives in the case of Egypt. Nonetheless, the Central Bank of Egypt has been coordinating the country's financial inclusion plan (Hassouba, 2022). Despite this, Egypt's core financial inclusion criteria have yet to gain traction, with 29.4% of people opening formal accounts in financial institutions, 6.2% of people saving money there, and 3.5% prioritising formal loans. Ashefani and Dong further state that Egypt is one of the worst performers on digital payment platforms, with digital payments accounting for only 5.6% of all transactions. Hussein (2020), however, explains that a 2018 central bank of Egypt report showed that 5% of Egyptian SMEs receive loans, and they keep close relationships with large corporations through capital lending and payment mechanisms. MENA report for 2020 however, gave a clue as to why Fintech services might have low adoption in the country. It explains that MSMEs and individuals will also benefit in the process when the scheme targets the poor. It is not surprising then that just 18% of the population can access banking services, while only 6% can access loans and savings.

Further, the success of M-PESA in Kenya is one of the factors that brought Fintech and mobile banking to the forefront globally (Mhlanga, 2020). AFI (2018) explained that the introduction of M-Pesa by Safaricom in 2007 has assisted the spread of financial inclusion in the country

by allowing those without bank accounts to send money, make payments, and save using their phone. Guild (2017) further explains that Safaricom already had a stranglehold on the country's communications infrastructure; M-PESA merely leveraged this coverage, and by 2014, it had amassed 90% of the mobile money market in the country (FSD Kenya, 2016). Kenya has 79% of its total adult having a formal account, while 75% of women had accounts, and 67% of poor adults' own formal accounts (Demirguc-Kunt & Singer, 2017). In the work of Soriano (2017), it was noted market women in Kenya were able to save much more through mobile money, which rose their spending by 38%. Suri and Jack (2016) further ascertain that M-PESA alone boosted per-capita consumption in Kenya and lifted 194,000 people out of poverty. Today, small-scale investors in Kenya can now access instruments such as government bonds using a mobile wallet powered by a Fintech service called M-Akiba (AFI, 2018).

## METHODOLOGY

This paper adopted quantitative research method. It used secondary/panel data which were sourced from the World Bank Group Data on the Global Findex. Data obtained were rebased, computed on Excel Worksheet and exported to the SPSS Version 23. Both descriptive and inferential statistics were deployed for the analyses. For descriptive statistics, simple percentage and measurement of central tendencies were utilized. Regression analyses was deployed for inferential statistics in order establish the existing relationship between Findex and cross-border payment with respect to retail, micro, medium, and small scale enterprises.

## RESULTS AND DISCUSSION OF FINDING

This part of the paper presents results and discussion of major findings.

### Rate of Penetration of Specific Fintech Services

This aspect presents data on the rate of penetration of specific Fintech services in the study area. However, Table 1 below revealed that the rate of penetration of specific Fintech services in Nigeria was 35%; for Kenya it was 3.8%, Egypt 8.8%, and South Africa 82%. The highest rate is observed in the South Africa which was becoming the hub financial digitalization in the Southern region of Africa, nevertheless, in 2022 the average rate of penetration of Fintech in Africa was 2.5%, hence none of the countries study fell below average; yet a maximum average penetration rate of 5% was projected in 2020 with the exclusion of South Africa, where as Fintech startups in Africa grew up to 81% in 2021 with Kenya, South Africa and Nigeria emerging as the key hubs on the African continent.

**Table 1**  
**Rate of penetration of specific Fintech services**

Country	Rate of penetration of specific Fintech services
Nigeria	35%
Kenya	3.8%
Egypt	8.8%
South Africa	82%
Africa	Average score 2.5%

Source: Kodzilla, 2022

McKingsley and Company, 2022

### Influence of Retail and Micro, Small, and Medium Enterprises (MSME) Lending by Fintech on Financial Inclusion

This aspect presents the influence the retail and micro, small, and medium enterprises (MSME) lending by Fintech is having on financial inclusion. Table 2 presents two different data; one is for MSME and Findex, hence, the table revealed data for four different years, which is 2011, 2014, 2017, and 2021. This was uniform for all the four countries under study. On MSME, the Arab Republic of Egypt has no data available for 2011 and 2021 but 5% of MSME was leading by Fintech in 2014 and 9% in 2017. Correspondingly, there was no data available for Egypt in 2011 on financial inclusion, but 8%, 23% and 20% of the population were inclusive in 2014, 2017, and 2021 respectively. It could be said that 79% inclusion of the population in 2017 pool MSME to 9%. Kenya has no data available for 2011 and 2021 but 73% of MSME was leading by Fintech in 2014 and 75% in 2017. Correspondingly, there was no data available for Kenya in 2011 on financial inclusion, but 69%, 79% and 78% of the population were inclusive in 2014, 2017, and 2021 respectively. It could be said that 79% inclusion of the population in 2017 pool MSME to 75%.

Similarly, Nigeria has no data available for 2011 and 2021 but 64% of MSME was leading by Fintech in 2014 and 60% in 2017. Correspondingly, there was no data available for Nigeria in 2011 on financial inclusion, but 37%, 30% and 34% of the population were inclusive in 2014, 2017, and 2021 respectively on Fintech. It could be said that 37% inclusion of the population in 2017 pool MSME to 64%. However, in South Africa, there was no data available for 2011 and 2021 but 22% of MSME was leading by Fintech in 2014 and 26% in 2017. Correspondingly, there was no data available for South Africa in 2011 on financial inclusion, but 66%, 60% and 81% of the population were inclusive in 2014, 2017, and 2021 respectively. It could be said that 60% inclusion of the population in 2017 pool MSME to 26%. Though, the statistics presented for South Africa seem not to be following the pattern of the other countries under studies but in general it is considered that MSME leading by Fintech was having influence on Financial Inclusion.

**Table 2**  
**Retail and micro, small, and medium enterprises (MSME) and Fintech on financial inclusion**

Country	Year	Saved to start, operate, or expand a farm or business (MSME)	Made or received a digital payment (Findex or Financial Inclusion)
Egypt	2011		
	2014	5%	8%
	2017	9%	23%
	2021		20%
Kenya	2011		
	2014	73%	69%
	2017	75%	79%
	2021		78%
Nigeria	2011		
	2014	64%	37%
	2017	60%	30%
	2021		34%
South Africa	2011		
	2014	22%	66%
	2017	26%	60%
	2021		81%

Source: World Bank Group (Findex)

**Role of Wealth Management by Fintech on Financial Inclusion**

This aspect of the analyses presents the role of wealth management leading by Fintech on Financial inclusion. Table 3 presents two different data, one wealth management and Findex. No data was available for all the four countries under study in 2011. In Egypt, 3% engaged in wealth management in 2014, 5% of the population in 2017, while 7% engaged in wealth management in 2021. In the case of Kenya, 21% engaged in wealth management in 2014, 15% of the population in 2017, while 17% engaged in wealth management in 2021. In Nigeria, 20% engaged in wealth management in 2014, 15% of the population in 2017, while 16% engaged in wealth management in 2021. However, South Africa had 20% of its population engaged in wealth management in 2014, 11% of the population in 2017, while 22% engaged in wealth management in 2021. Further, it can be said that 23% financial inclusion recorded by Egypt in 2021 gave 7% of its population to have engaged in wealth management, in Kenya, 79% of Findex produced 15% of wealth management in 2017. In 2014, Nigeria Findex of 37% brought about 20% of wealth management; while in South Africa 81% of Findex produced 22% of wealth management in 2021. This is one of the highest the Africa.

**Table 3**  
**Wealth management by Fintech and financial inclusion**

Country	Year	Saved for old age, older (Wealth Management)	Made or received a digital payment (Findex or Financial Inclusion)
Egypt	2011		
	2014	3%	8%
	2017	5%	23%
	2021	7%	20%
Kenya	2011		
	2014	21%	69%
	2017	15%	79%
	2021	17%	78%
Nigeria	2011		
	2014	20%	37%
	2017	15%	30%
	2021	16%	34%
South Africa	2011		
	2014	20%	66%
	2017	11%	60%
	2021	22%	81%

Source: World Bank Group (Global Findex), 2022

**impact of Cross-Border Payment Facilitation by Fintech on Financial Inclusion**

This aspect presents two variables. The causal variable or independent variable is the Financial Inclusion (Findex) while the dependent variable or effect variable is cross-border payment. The analyses done in this aspect is divided into three parts. One presents the cross-border payment, follow by Findex, and lastly regression analyses were run for the main two variables at alpha value or p value of 0.05. Cross border payment were presented in US Dollar otherwise USD while Findex is still simple percentage. Hence Table 4 revealed that cross-border payment of Egypt is USD34.4 Billion, Kenya USD3.72 Million, Nigeria USD 19.2 Billion, while South Africa is USD50 Million. Correspondingly, Egypt, Kenya, Nigeria, and South Africa had a Findex of 20%, 78%, 34%, and 81% respectively. Further in table 4.5, the cross-border payment of the four countries under study had a mean score of 12.67 while on the Findex, a mean score of 53.25 was observed. In a bid to establish the existing relationship between cross-border payment and Findex, the paper computed the data on the Excel data set; it was then rebased before being exported to the data tray of the SPSS Version 22. A simple linear regression was adopted to explain Findex and cross-border payment. It was found that Findex was significantly useful in explaining Cross-border payment with a very strong but positive correlation  $r = 0.989$   $p < .05$ .

**Table 4**  
**Cross-border payment facilitation by Fintech and financial inclusion**

Country	Cross border payment	Made or received a digital payment (Findex or Financial Inclusion)
Egypt	USD31.4B	20%
Kenya	USD3.72M	78%
Nigeria	USD19.2B	34%
South Africa	USD50M	81%

Source: World Bank Group (The Global Findex)  
Central Bank of Kenya, 2023  
Dosumu, 2022

**Table 5**  
**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.989a	.978	.967	2.78781	.978	89.675	1	2	.011	1.959

a. Predictors: (Constant), Findex

b. Dependent Variable: CrossBorderP

**Table 6**  
**ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	696.944	1	696.944	89.675	.011b
1 Residual	15.544	2	7.772		
Total	712.488	3			

a. Dependent Variable: CrossBorderP

b. Predictors: (Constant), Findex

**Discussion of Finding**

The paper revealed that South Africa (SA) had 82% rate of Fintech penetration. This is pretty higher than the other three countries studied. It is not different from what the literature and other relevant reports had suggested. For instance, Capolupo (2023) noted that SA is a major investment and trade commercial hub in African. It was identified that MSME in Kenya is higher in rate of startups reaching 75% in 2017 and Findex is put at 79%. This is not different from the existing and current reports; Yermack (2018) posited that Kenya is rated high in agritech and healthtech, which represented 10.1percent of Kenyan’s MSME. The role of wealth management leading by Fintech on Financial inclusion in Kenya is strategically situated for progress since it is an expected center point to other African wealth management markets. Though, South Africa has strong stock trade and an advanced wealth management, and banking framework. This is the opinion of De Castro, Tanner, and Johnston (2020). Further, it was revealed that Egypt was high in the record of cross border payment (CBP). This is also in line with the findings of Gamal and Aref (2022) who explained that settlements make up a strong aspect of Egypt’s financial receipts, and it is developing and sending cash back home is divided despite everything nowhere near consistent. Furthermore, the developing reliance on settlement income does not look good for Egypt’s financial economy. So, Egypt’s

business and policymakers need to move past it. Egypt is immovably situated towards the Middle Eastern promontory. Most of her diaspora inflow came from FDI in Europe. Those settlements are a significant in Egyptian economy.

**CONCLUSION**

As impressive as the emergence of Fintech start-ups has been for Africa, much of the deal has largely focused on transaction volume and the effort toward inclusivity. Financial inclusion, therefore, is not just about the prevalence of Fintech and their financial services, but the concentration and availability of these start-ups, in the areas where they are needed the most. This study was conducted so as to fill in the existing gap by ascertaining if Fintech solutions are accessible to people in rural Africa, where financial services are the least accessible, hence the study concluded that Nigeria, Kenya, Egypt, and South Africa has a considerable rate of penetration, and this is reflecting in the large volume of cross border payment. Lastly, Fintech has impacted cross border payment on four facts that one, people are being empowered in the forex (FX), two, innovation improves ease of payment, three, digitalisation increase worldwide reach; and four there is more opportunity for MSMEs to make payment at anytime, anywhere, and any moment with use of technology this is believed to be financial inclusion.

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