

# Financial Inclusion and the Impact of ICT: An Overview

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**Abstract** Financial inclusion has become a global policy priority and the growth Information and Communications Technology (ICT) has become almost identical with the topic. This paper looks at an overview of financial inclusion globally and in Africa and discusses the impact of ICT on reaching individuals who were otherwise financially excluded, mainly through mobile payments. Trend analysis shows a faster growth in mobile telephone subscriptions than financial inclusion in Africa thus presenting the opportunity this aspect of ICT development has for increasing financial inclusion through mobile financial services. The paper also discusses the opportunity costs of increasing ICT both at a microeconomic and macroeconomic level and concludes with possible recommendation for policy in leveraging ICT for increased financial inclusion.

**Keywords** ICT, Financial Inclusion, Mobile-Cellular Telephone

## 1. Overview on Financial Inclusion

### Defining Financial Inclusion

Financial inclusion is usually defined as the proportion of individuals and firms that have access to or use financial services (World Bank, 2014). Burkett and Sheehan (2009, Page v) define financial exclusion as:

A process whereby a person, group or organisation lacks or is denied access to affordable, appropriate and fair financial products and services, with the result that their ability to participate fully in social and economic activities is reduced, financial hardship is increased, and poverty (measured by income, debt and assets) is exacerbated.

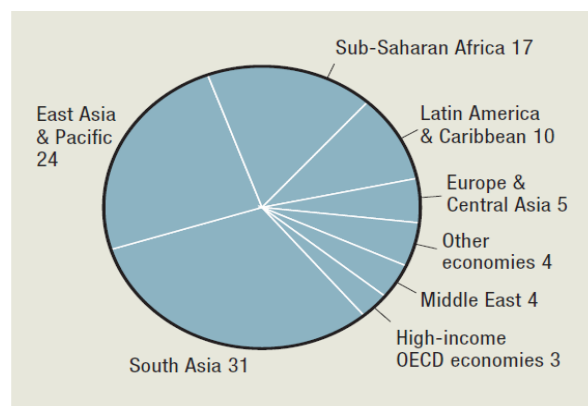
Financial inclusion, therefore, is beyond access to finance, usage and quality are also important. Some people may have access to financial services at affordable prices, but choose not to use certain financial services for reasons such as religion or culture. Statistics show disparities due to factors such as income, age and gender (Demirgüç-Kunt et al, 2015). Others may lack access due to high costs of the services, unavailability of services due to regulatory barriers, or a variety of other market and cultural factors.

Financial Inclusion is increasingly recognized as fundamental for development as it can help poor households improve their lives while also spurring economic activity. A greater access to financial services can contribute to: (i) poverty reduction, by decreasing vulnerability, (ii) an increase in the productivity of Micro, Small and Medium

Enterprises (MSMEs), and (iii) greater formalization of firms. At the macro level, there is also evidence that an increase in access to financial services has positive effects on stability of the financial system, effectiveness of monetary policy, growth and inequality reduction. Policy makers and regulators globally have begun to make financial inclusion a priority and governments in both developing and developed economies are introducing measures to expand access to and the use of financial services.

### Financial Inclusion: Globally and In Africa

Despite these advantages, the financial exclusion worldwide is still prevalent. Recent studies have shown globally, 2 billion adults remain unbanked. South Asia and East Asia and the Pacific together account for more than half the world's unbanked adult (Demirgüç-Kunt et al, 2015). Figure 1 below shows the share of the world's unbanked by region. Sub-Saharan Africa ranks third highest with the unbanked population.



Source: Demirgüç-Kunt et al, 2015.

**Figure 1.** The world's unbanked adults by region Adults without an account (%), 2014

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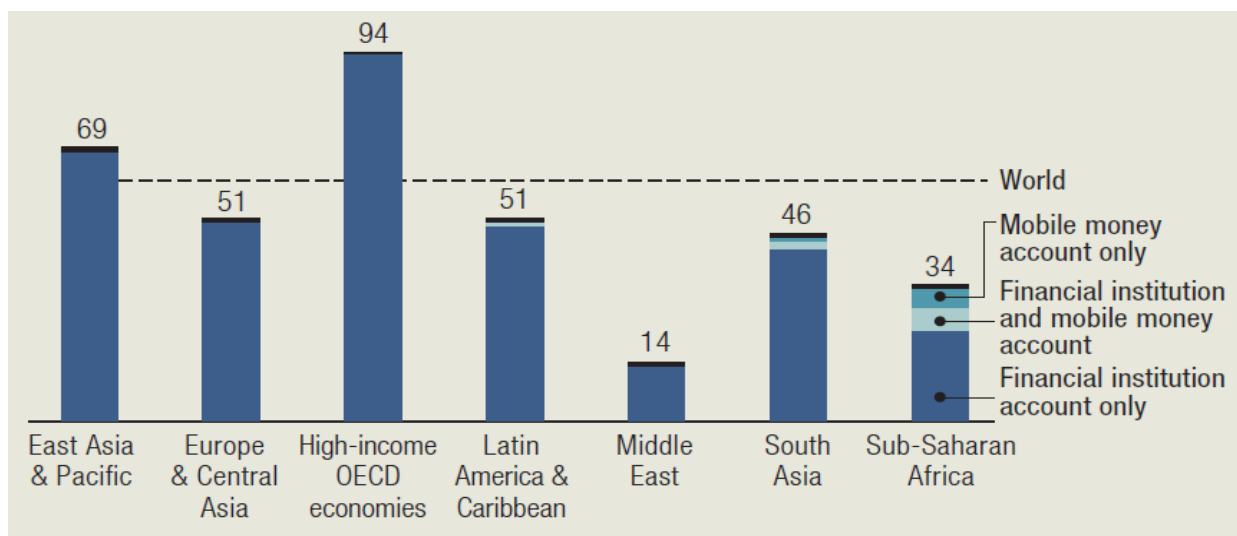
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This position however, according to the Global Findex database, is an improvement. Between 2011 and 2014, 700 million adults worldwide became account holders thereby decreasing the unbanked population by 20 percent to the current 2 billion (Demirgüç-Kunt et al, 2015). Figure 2 shows current levels of account holders globally. The increase in financially included population was concentrated in financial institution accounts everywhere in the globe except Sub-Saharan Africa, where mobile money accounts drove the growth in overall account penetration from 24 percent in 2011 to 34 percent in 2014.

### Financial Inclusion in Africa

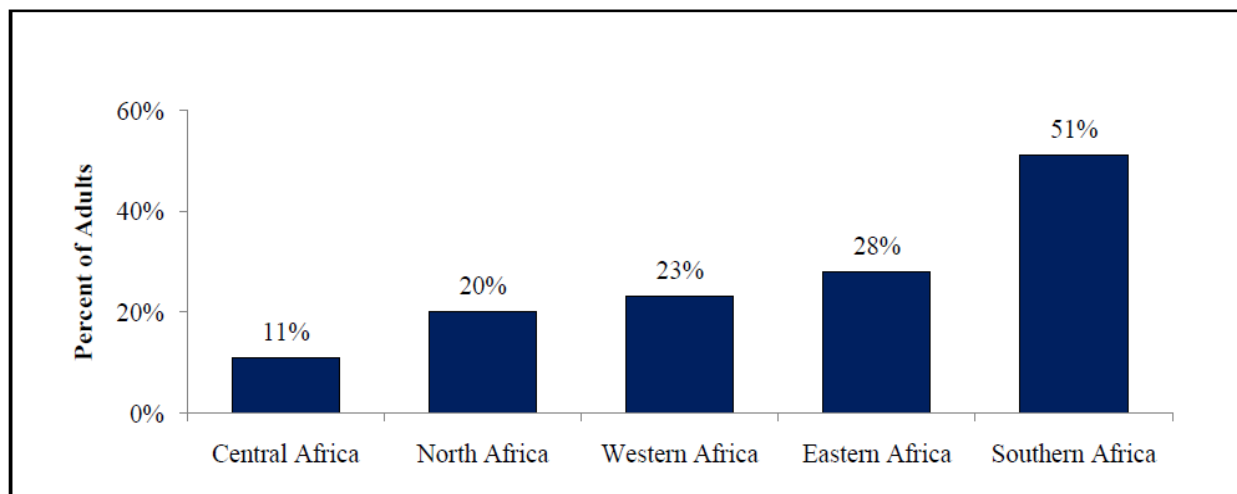
Financial systems in Africa generally lag behind those in other developing economies, despite the fact that many significant improvements were implemented within the past decades. According to Demirgüç-Kunt and Klapper (2012),

overall, 23% of adults in the Africa region have an account. Within Africa, there is a large variation in account ownership: 24% of adults in Sub-Saharan Africa report having an account at a formal financial institution, though this ranges ranging from 51% in Southern Africa to 11% in Central Africa (Figure 3). The low level of financial inclusion in Africa is reflected in constraints on both the demand and the supply side of the economy. Existing financial systems are underdeveloped, credit reporting from financial institutions is lacking and the level of financial literacy is often poor. Financial inclusion is further limited by low-quality financial infrastructure and the small size of many African economies (Triki and Faye, 2013). Formal financial services are still dominated by banks as in most developing countries with deposits being more common than loans. However, the increase in mobile phone accounts may turn this around.



Source: Demirgüç-Kunt et al 2015

Figure 2. Adults with an account at a formal financial institution as at 2014 (%)



Demirgüç-Kunt & Klapper, 2012

Figure 3. Financial Inclusion in Africa as at 2011

## 2. The Developments of ICT in Recent Years

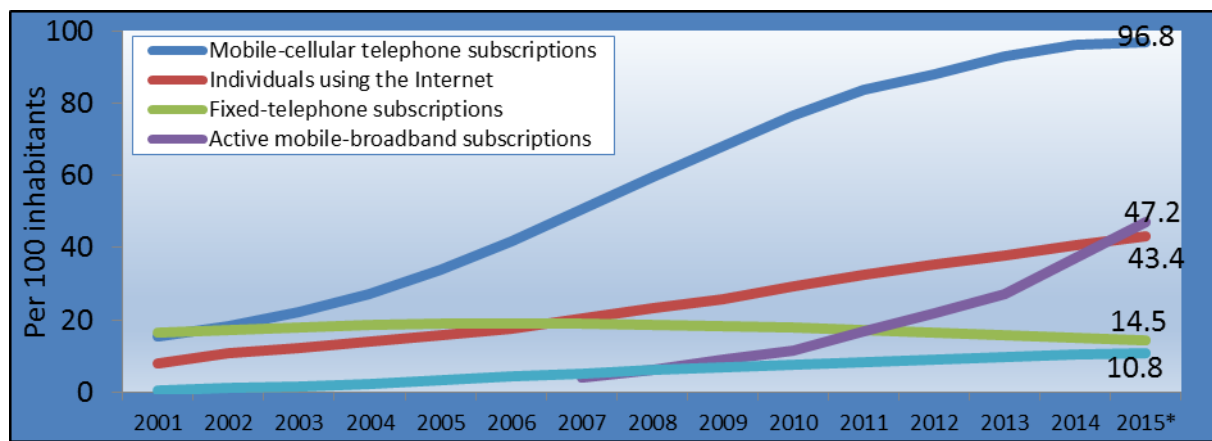
There has been a speedy dissemination of information and communication technologies (ICT) in African countries, in line with similar patterns in other regions of the world (Figure 4). Some studies have observed that the economic and social return of ICT development is larger than the private return of the network provider (Andrianaivo and Kpodar, 2011).

### Mobile-Cellular Telephones

Mobile telephone subscriptions allow expansion and access to financial services to previously underserved groups in developing countries. It reduces the costs of running physical bank branches for the supplier and reduces the otherwise high costs of distance and time for the user. The increasing use of mobile phones in developing countries has contributed to the emergence of branchless banking services, thereby improving financial inclusion. Figure 5 shows the

upward trend of mobile-cellular telephone subscriptions between 2005 and 2015. Although the figures are lowest in sub-Saharan Africa and in South Asia, the upward trend is also present in these regions.

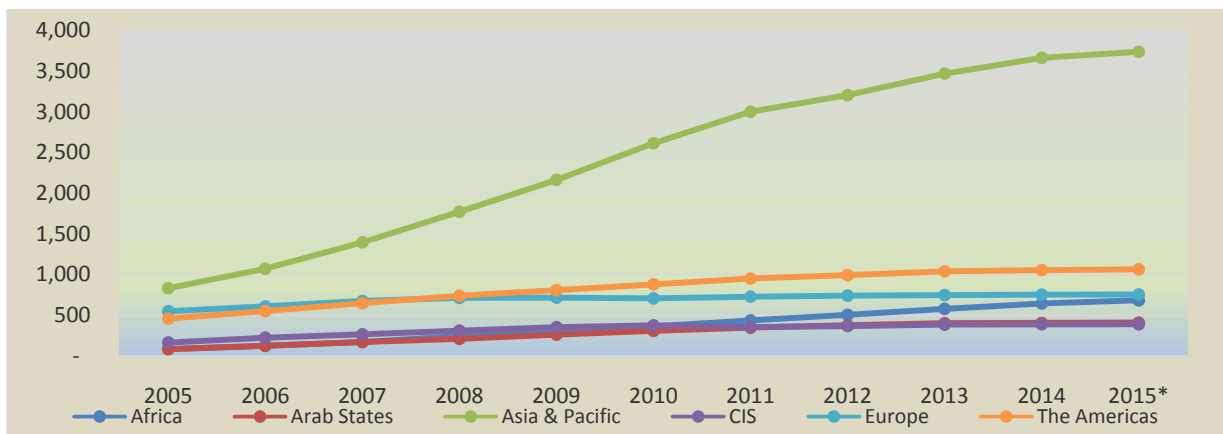
The growth in Africa is 47.2 percent between 2011 and 2014 whilst the growth in financial inclusion is 10 percent within the same period. Thus despite this growth in mobile phone subscriptions, Africa remains with relatively low levels of financial inclusion. The expansion of the financial system lags behind that of mobile telephone development not only in Africa but globally. In 2012, the Consultative Group to Assist the Poor (CGAP) and GSM Association (GSMA) estimated that close to 2 billion people had a mobile phone but no bank account (ITU, 2014). This implies there are mobile telephone users who are unbanked but are certainly active in the economy. This therefore means there is room for mobile financial services to leverage the expansion of a more financially included Africa.



Note: \* Estimate

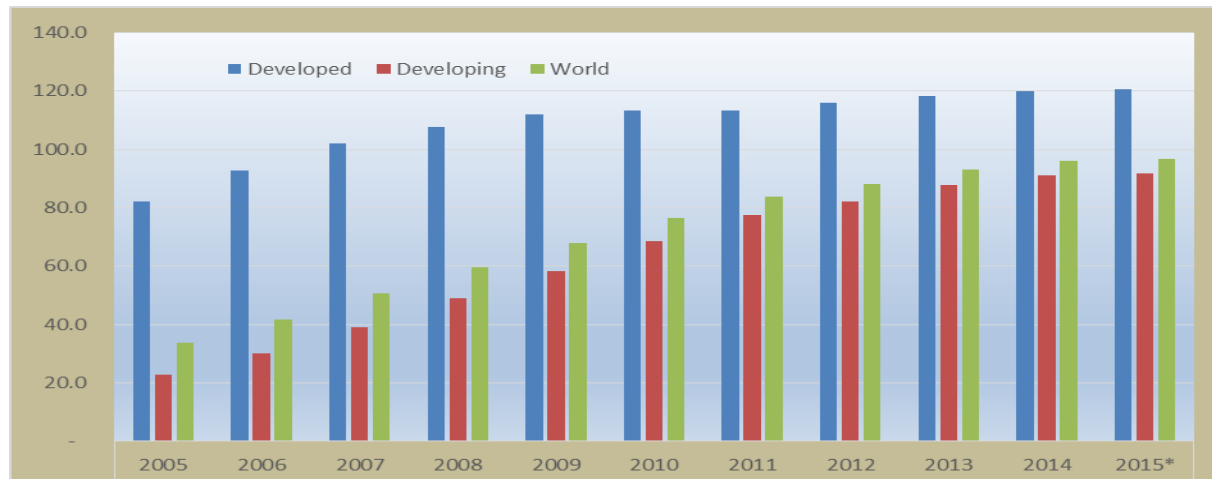
Source: ITU World Telecommunication /ICT Indicators database

Figure 4. Global ICT developments, 2001-2015



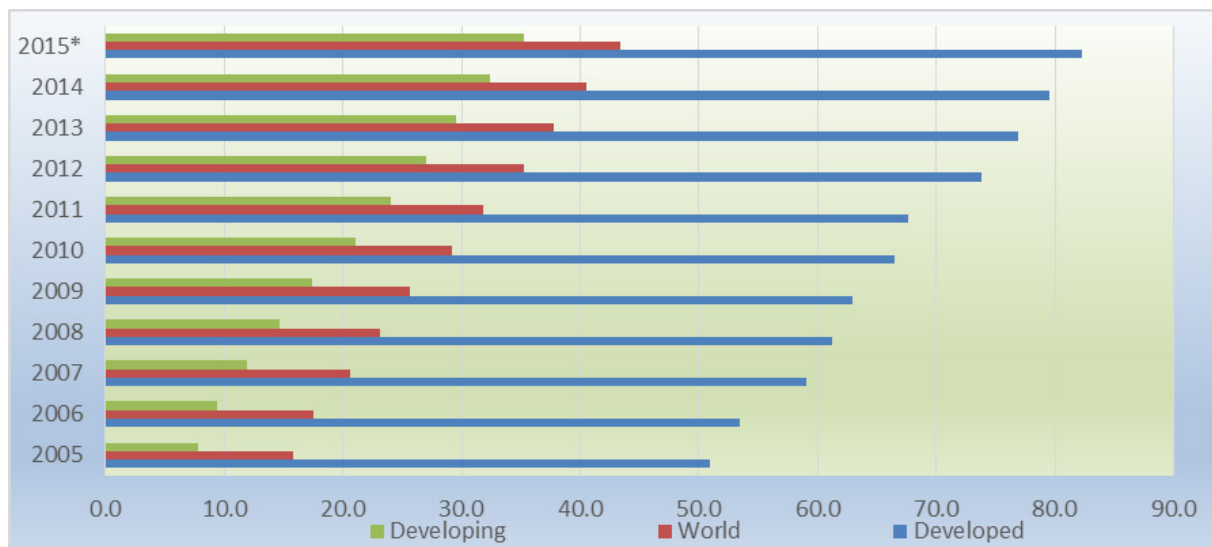
Note: \* Estimate; Source: ITU World Telecommunication /ICT Indicators database (2014); Author computations

Figure 5. Mobile-cellular telephone subscriptions by Region (millions)



Note: \* Estimate; Source: ITU World Telecommunication /ICT Indicators database (2014); Author computations

**Figure 6.** Mobile-cellular telephone subscriptions Per 100 inhabitants



Note: \* Estimate; Source: ITU World Telecommunication /ICT Indicators database (2014); Author computations

**Figure 7.** Individuals using the Internet per 100 inhabitants, 2005-2015

### 3. The Role of ICT

The degree of financial inclusion is likely to increase in the next few years since, (i) the absolute income levels of those at the bottom of the pyramid are rising, (ii) new technologies such as mobile financial services reduce transaction costs and increase outreach, and (iii) financial inclusion has become a policy priority at high global levels. Financial inclusion is one of the channels through which ICT affects economic growth thus it will also contribute to growth of countries. Building on previous work by Beck and de la Torre (2006) and Beck et al. (2007), Kendall et al. (2010) investigate which factors that determine the outreach of the financial system. Their findings suggest that level of economic development, as well as population density and financial stability are of particularly importance for financial inclusion. They further conclude that electricity consumption and mobile phone diffusion have positive effects on financial access.

ICTs allow for greater financial inclusion, and the financial services sector is a primary driver of communications and network technology. It is striking to see the role that ICT and innovative business models have played in the explosive growth of financial inclusion. In Sub-Saharan Africa the mobile phone is increasingly being used to extend financial services past the limits of bank branches. In Africa, the most visible case is Kenya, where active bank accounts have grown more than fourfold between 2007 and 2012. Innovative use of ICT has made management of large numbers of small transactions easier and the delivery of financial services in remote areas cheaper. Africa's recent surge in mobile phone penetration looks promising for future progress towards greater financial inclusion (Faye and Triki, 2013). Technology developments such as telecommunication infrastructure and more advanced payment systems do not only reduce transaction costs but also expand reachable areas.

The development of technological innovations can

facilitate overcoming several of the obstacles that affect the supply and demand for financial services. By cutting costs even further, technology can make it feasible to reach an even broader population and can help expand operations in remote or sparsely populated rural areas. The delivery of financial services through digital channels, in particular through mobile, offer the greatest potential for reducing the costs of reaching a broader population and expanding operations in remote areas, while also enhancing the convenience of accessing the services, thereby tackling two of the main obstacles limiting financial inclusion. The experience of countries where digital payments are more widely available does suggest that this can be certainly a relevant and fast way of expanding access to financial services.

In the medium and long term, the availability of smartphones and mobile broadband also offer an important potential for expanding different types of digital financial services. Figure 7 below shows the growth in the use of the internet worldwide. With almost universal access to the web, the range and quality of services could improve significantly. On the supply side, more data-rich services can help providers better assess risks using powerful analytical tools, as well as to develop more targeted and customer-centered service which would better fit the needs of customers.

#### Opportunity Cost of ICT Development

There may be negative impacts that might arise because of the opportunity costs of investments and expenses in ICT rather than in education and health for governments and individuals. Governments may forgo investments in other social activities to facilitate an environment for the growth of ICT. Similarly, share of household income devoted to mobiles services in developing countries is rising, even though it is already higher than that of developed countries. Thus this reduces households' budgets for food, health, education, and other essentials. Grace, Kenny, and Qiang (2003) mention that some developing countries might fall into a poverty trap if ICT threshold effects are at play. For instance, if a minimum level of ICT is needed to benefit from new opportunities, and if ICT provision is correlated with income per capita, low-income countries might not be able to benefit from the opportunities provided by ICT development.

## 4. Conclusions and Policy Implications

This paper is a preliminary overview on the impact of ICT development on financial inclusion. ICT development can lead to better financial inclusion and therefore facilitate financial development. Statistics show that financial development in Africa is slower than mobile phone subscriptions. The paper discussed potential benefits of financial inclusion for an economy. Further study is to be done to establish the empirical relationship between financial inclusion and ICT.

It is important that governments pursuing financial

inclusion consider the level of technology and ensuring its penetration in the various parts of the country. The increase in ICT development provides the much needed platform for financial inclusion to increase especially in Africa. Furthermore, ICT growth brings with it other macroeconomic benefits such as economic growth, employments and financial system stability through less information asymmetry. Further empirical analysis may be carried out to validate the statistical significance of the discussion herein.

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