

FINANCIAL INNOVATION AND ECONOMIC GROWTH IN ZIMBABWE¹

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Abstract

Financial innovation has transformed and restructured financial services and its impact on economies is becoming increasingly notable. The World Economic Forum (2012) postulated that the advancement in financial innovation is a driving force for broad economic growth. Despite this acknowledgement, the effect of financial innovation on economic growth in developing countries such as Zimbabwe has received little attention. The objective of the study is to explore how innovations that lie within the local financial system improve the flow of funds into the economic system for the benefit of other sectors of the economy. The motivation of the study emanates from the increased rollout of new financial products such as mobile money, real time gross settlements and internet banking in Zimbabwe during the time the economy is experiencing sluggish economic growth. The study established that financial innovation have a positive impact on economy growth. Therefore, for financial innovation to significantly boost the performance of the economy the education system in Zimbabwe need to be restructured in order to enable it to provide learners with practical skills needed in the labour market that can help to support the national innovative initiatives. Then also assist enhance diffusion and adoption of innovation through consumer education programs and promote increased usage of innovations in the banking sector.

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1. Introduction and Background

Financial innovation has transformed and restructured financial services. The World Economic Forum (2012) postulated that the advancement in financial innovation is a driving force for broad economic growth. The effect of financial innovation on economic growth in developing countries including Zimbabwe has received little attention. The purpose of this study is to fill that gap.

The available literature confirms that financial innovation drives economic growth (Lumpkin, 2010; Sekhar, 2013). Laeven, Levine & Michalopoulos, (2015) point out that financial innovation has been a driving force behind financial deepening and economic development over the past centuries. The fast changing technology has greatly influenced access to financial services and increased channels through which financial services are provided. Then the extent to which changes in regulation and increasing roll out of new products such as mobile money payment system, online point of sale (POS) machines, real time gross settlements (RTGS) affect economic growth and prosperity in Zimbabwe. The persistent cash shortages which started in 2016 has seen the Reserve Bank of Zimbabwe (RBZ) encouraging firms and households to use financial innovations such as RTGS, POS machines, cheques, mobile money and online clearances. Bara & Mudzingiri (2016) argued that financial innovation has become an integral part of financial sector development and is an important determinant in generating new economic activity. In Zimbabwe the high penetration rate of mobile financial services which is a component of financial innovation as compared to the traditional banking, enabled the integration of financial service with mobile communication technology. This has significantly increased financial inclusion (Prior & Santoma, 2010).

The objective of this study is to explore how innovations that lie within the local financial system improve the flow of funds into the economic system for the benefit of other sectors of the economy. The ultimate goal is to evaluate the impact of financial innovation on economic growth. This research is going to examine empirically the link between financial innovations in Zimbabwe to economic growth.

The financial sector of Zimbabwe recovered from the challenges of hyperinflationary period following the advent of the multicurrency era and demonetisation of the Zimbabwean dollar in 2009. The adoption of a multiple currency regime led to gradual growth in the level of confidence in the banking sector of the country spurring the growth of the sector deposits.

Table 1 show the frequency of usage and number of subscribers for selected innovative banking products during the period 2013 to 2018. It can be noted that from figure 1, there is a mixed usage or adaptation of financial innovation products. Thus there was need to assess the impact of these financial innovations on economic growth in Zimbabwe.

Table 1: Selected Financial Innovation Products Usage

	2013	2014	2015	2016	2017	2018
Mobile Banking Agents	6,900	25,618	38,745	40,590	47,838	48,812
ATMs	431	538	556	569	561	563
POS	6,901	12,612	16,363	32,629	59,939	70,960
Debit Cards	2,246,659	3,613,780	2,365,160	3,127,153	4,281,683	4,471,819
Credit Cards	7,221	9,550	10,850	16,030	17,411	17,268
Prepaid Cards	17,559	28,880	30,130	43,288	63,987	68,180
Mobile Banking Subscribers	2,444,340	6,060,630	4,683,960	3,279,049	4,611,608	4,907,500
Internet Banking Subscribers	52,105	78,525	10,866	168,339	277,674	286,222

Source RBZ Quarterly Report, (September, 2018)

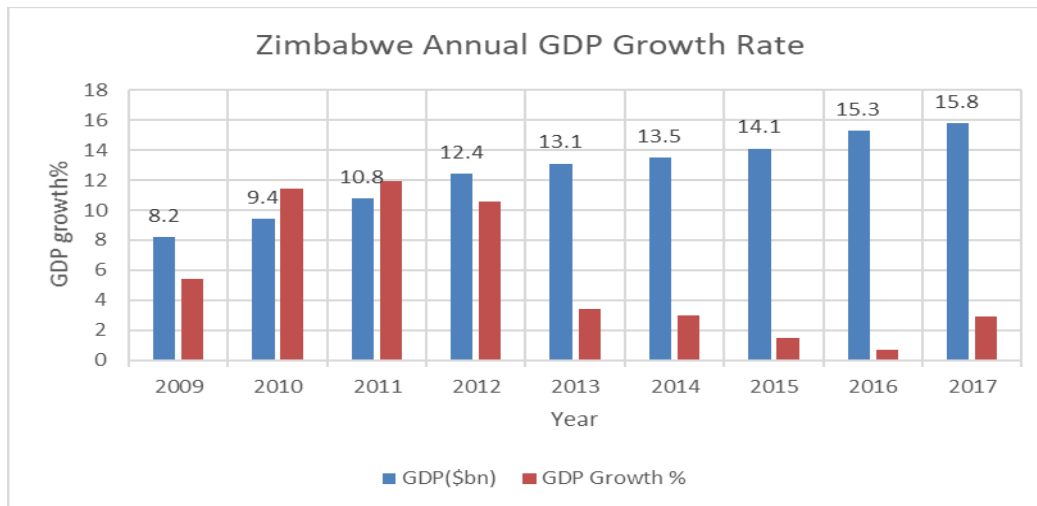
The Zimbabwean economy has not fully recovered from its collapse experienced in 2008. The high growth rates that were experienced soon after dollarization have also slowed down. Real GDP growth in 2016 decelerated to 0.7% from the peak of 11.9% experienced in 2011. Growth in the economy had mainly driven by mining, agriculture and manufacturing sectors with the financial sector playing an active intermediation role.

The Zimbabwe Agenda for Sustainable Socio Economic Transformation (ZIMASSET) set a target of an annual growth rate of 7% in the medium term. The country however failed to meet the target due to a number of factors. The financial service sector was blamed for failing to provide cheaper funding to the productive sectors. This was also aided by the unavailability of long term deposits in the financial service sector. While Zimbabwe's financial sector was viewed as substantially diversified, it was dominated by banking institutions which had not evolved to provide long term capital adequately. The equity and debt market were struggling to gain momentum.

The development financial institutions have not also been performing (BAZ, 2016). If the anticipated investment level was to be achieved, it meant that the financial sector had to mobilize adequate and appropriate finance to meet the financing needs. Hence, the role of financial innovation was very core for ZIMASSET to achieve its goals. However, Zimbabwe has seen a tremendous achievement in terms of financial innovation, which includes the development of new products such as Ecocash, Telecash, Textacash, Mobile Moola, POS, Zimswitch, Paynet and deposit taking automated teller machines (ATMs) which were driving the financial inclusion. The local bourse, the Zimbabwe Stock Exchange was fully automated, allowing smooth transactions. A credit reference bureau was set up and an innovative way to manage problems of non-performing loans was introduced through the setting up of Zimbabwe Asset Management Company (ZAMCO).

The post 2009 period experienced growth in the level of financial innovation as evidenced by growth in innovative financial products. During this period GDP growth had been fluctuating with significant growth being experienced between 2009 and 2011. The period between 2012 and 2016 experienced a decline in the growth rate from 11.4% to 0.7%. Figure 1 shows rate of economic growth as measured by GDP between 2009 and 2017.

Figure 1: Zimbabwe GDP Annual Growth Rate



Source: ZimStats

2. Literature review

The relationship between financial innovation and economic growth has been researched and empirical results are usually carefully annotated with caveats noting the limitations of findings and the uncertainties that remain concerning fundamental assumptions in the field (Statistics Canada, Innovation Analysis Bulletin, 2002). Theoretical relation between financial innovation and economic growth has been argued to be positive despite dissenting views. This has resulted in the matter on the direction of causality being largely unresolved in both theory and empirics. Aghion (2005) found that financial innovation is linked with higher levels of economic growth, and suggested that it is not so much the level of financial development, but rather the innovative activity of financial intermediaries, which helps countries grow faster at high levels of income. Their results, however, point again to the double-sided nature of financial innovation, bringing opportunities but containing risks, which calls for appropriate regulatory policies. Hicks (1969) and Schumpeter (1912) see a strong causal link from financial innovation to economic growth. Robinson (1952) and Lucas (1988) are very much skeptical about this causality and argue that financial development largely follows economic development. Antony & Antony (2012) looked at the relationship and Granger causality between financial innovations and economic growth in Ghana, for the period 1963 to 2009. The results showed that financial innovation has short run positive effect on economic growth. However, in the long run, financial innovation is detrimental to economic growth. Causality also runs from financial innovations to economic growth. The evidence advocates for regulations toward improving financial innovations through long term savings. Some researchers argue that financial innovation drives

economic growth, while others point to its dark side. Arnboldi and Rossignoli (2015), for example point out that innovation is a double – edged sword. The right kind of innovation and favourable conditions that may spur banks to invest in new technologies would help the financial system to fulfil its functions and, as a consequence, deliver growth. Too much or inefficient innovation can however, have serious consequences for the overall economy (Beck, Chen, Lin & Song, 2014).

Samuel & Emeka (2009) did a study to examine the relationship between financial deepening and economic development in Nigeria between 1986 and 2007. The central focus was the high level of financial deepening and growth in an economy. This was due to the central role of the financial system in mobilizing savings and allocating some for the development process. They specified nine explanatory variables for the study based on theoretical underpinnings. They sought to establish a relationship between these variables and financial deepening index. The two stages least squares analytical framework was used in the analysis. A trend analysis was also done in the study. At the end of the study, they found that financial deepening index is low in Nigeria over the years. They also found that the nine explanatory variables, as a whole were useful and had a statistical relationship with financial deepening but four of the variables; lending rates, financial savings ratio, cheques/GDP ratio and the deposit money banks/GDP ratio had a significant relationship with financial deepening. They concluded that the financial system has not sustained an effective financial intermediation, especially credit allocation and a high level of monetization of the economy. Thus the regulatory framework should be restructured to ensure good risk management, corporate governance and stemming systemic crisis in the system.

3. Methodology

The relationship between the economic growth measured by GDP growth (dependent variable) and the independent variables (financial innovation variables) is determined by the regression model below. The data analysis covered the period January 2010 to August 2018. The data was analysed on monthly basis and based on 104 data points. Variables data were analysed using Statistical Package for Social Sciences (SPSS).

The regression model was of the form below;

$$GDPG = \beta_0 + \beta_1 RTGS + \beta_2 MOBILE MONEY + \beta_3 INTERNET + \beta_4 ATM + \beta_5 CHEQUES + \mu$$

This study relied on secondary data sources extracted from banks' annual reports, RBZ publications, ZimStat data and World Bank and IMF publications. The secondary data is monthly time series covering the period January 2010 to August 2018 implying that there are 104 data points.

4. Result Presentation and Analysis

Table 2 shows the results of the study. It provides the estimates of independent variables and the statistical significance of each independent variable in the regression model.

Table 2: Estimation of growth model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.043	1.943		7.228	0
	RTGS	0.024	0.01	0.025	2.268	0.028
	CHEQUE	0.053	0.05	0.084	1.053	0.065
	POS	0.006	0.002	0.005	1.955	0.005
	ATM	0.027	0.004	0.009	2.118	0.003
	MOBILE	0.002	0.001	0.001	5.04	0.017
	INTERNET	0.013	0.026	0.042	0.504	0.07
	INTEREST RATE	-1.64	0.074	-1.288	2.242	0.028
a. Dependent Variable: GDP						

Table 2 depicts that the following independent variables; RTGS, POS, ATM and Mobile banking are statistically significant. However, the value of cheques and internet banking transactions are statistically insignificant and therefore could not be used to predict economic growth.

Generally, from the study, it can be concluded that financial innovation has a positive significant impact on economic growth in Zimbabwe. The findings are in line with other researchers although different variables were used. Bara & Mudzingiri (2016) investigated the connections between financial innovations and economic growth in Zimbabwe for the period 1980-2013 using the ARDL bounds test and Granger causality tests. The result show that financial innovation has a positive relationship to economic growth regardless of the variable used. This implies that financial innovation can be a source of economic growth in Zimbabwe. The results confirms to prior results from other studies (Birwe & Musiime 2006; Odhiambo 2008; Waiyaki 2013)

Mobile banking transactions were found to be significant and contributing positively to economic growth through improvement in efficiency in financial intermediation, effectiveness and wider financial inclusion. The findings are corroborated by several studies done around the world. According to Archarya & Kagan (2004) it was found in India that mobile banking attracted the unbanked and marginalised due to the wide range of banking transactions that could be performed using a phone. This increased the rate of economic growth through savings and other products offered by mobile transactions. Use of mobile services has become an essential component of people's

lives both at an individual level and in the corporate world. Individuals in Zimbabwe prefer to conduct their banking with banks that have mobile banking services as this helps them to do transactions faster and with ease without having to be physically present at the banking premises. Thus mobile banking provides cost savings on the operations of a bank account to both banks and their customers.

POS terminals provide bank customers ease of access to their accounts and withdrawals which saves time, improve efficiency and promotes non-cash transactions. The findings that POS contributes positively to economic growth are in line with Kamppainen (2003 & 2008) & Hasan, Schmiedel & Song (2009) who found POS terminals as an innovation that enhances banking business especially among retail customers and encouraging growth of the retail sector. The usage of POS terminals in Zimbabwe has been on the rise since the year 2010 due to the introduction of agent banking. Agent banking has provided many customers the opportunity to access their bank accounts without having to travel to a physical branch.

The results indicated that the independent variables explain 89% of the variation in economic performance. This shows that the regression model had a strong explanatory power as only 11% of variation in economic performance could not be explained by the model. The results of this study were similar to a study done by Justus (2013) that concluded that financial innovation has a significant positive impact on financial deepening.

5. Conclusions

Financial innovation variables have a positive impact on economy growth. Therefore, for financial innovation to significantly boost the performance of the economy the education system in Zimbabwe need to be restructured in order to enable it to provide learners with practical skills needed in the labour market that can help to support the national innovative initiatives. Then also assist enhance diffusion and adoption of innovation through consumer education programs and promote increased usage of innovations in the banking sector.

The promotion of financial innovation has a long-term effect on improvement in economic growth. Government should therefore partner private sector or give taxes incentives for investment in technology and infrastructure which support financial innovation. No matter what comes first, either economic growth or financial innovation, influencing one will help in achieving the other.

Transactions done through the RTGS, Mobile, ATM and POS where found to be contributing positively to economic growth. Policies towards strengthening these channels are highly recommended. The researcher also applauds the RBZ for its drive towards usage of plastic money as it increases amount of transactions that will be done through these channels. The policy on plastic money usage is a very good intervention measure given the current cash crisis which the economy is experiencing during the time of this study.

The policy makers should put policies aimed at promoting business innovation as well as technological innovation (more POS machines and ATMs outlets) particularly in rural areas where they are scarce. This will offer much needed boost to improve productivity and performance of the financial sector.

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