

An Empirical Investigation of the Relationship Between Pension Fund Reforms and Financial Sector Development in Botswana

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Abstract

Policy makers and governments are continually seeking means of incalculating sustainable development and growth in capital markets. There is increasing evidence that financial reform is a potent mechanism in achieving capital market development and growth. In 2014, the largest pension fund in Botswana (BPOPF) engaged an investment strategy that drastically changed the flow of capital finance in the local economy. The eventual impact of such a financial reform has largely remained a matter for speculation, hence the motivation for this study. The objective of the study is to explore the impact of changes in pension fund investment policy on wider economic indicators. Financial Sector Development was measured using four key variables and Pension Fund Reform was measured using the pension fund investment portfolio in the Botswana Stock Exchange. The results indicated that the hypothesis of a relationship between pension fund reforms and financial sector development is partially supported. In this regard, the study findings confirm the significant role played by financial reforms in economic development and capital markets growth, despite the short implementation timeframe in the Botswana context.

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Keywords: Pension fund, Financial sector development, Reforms, Stock market, Gross domestic product (GDP)

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1 Introduction

The role of financial markets, and in particular the development of capital markets, in economic growth is widely acknowledged and researched [1-3]. Furthermore, the development of capital markets has been found to be triggered by financial reform [4]. The involvement and active participation of pension funds in Botswana capital markets is increasing in tandem with their growing financial clout. The nature and magnitude of the impact of pension funds on the ever-changing Botswana capital markets landscape are issues of importance and worthy of studying.

[5] identified four broad categories of financial reform that engender the development of capital markets, and thereby stimulate economic growth:

- reforms aimed at creating an enabling environment for capital markets, such as the strengthening of macroeconomic stability and the enforcement of property rights
- reforms aimed at enhancing efficiency and market discipline in the entire financial system through greater competition
- reforms indirectly supportive of capital market development, such as pension reforms and privatisation programmes
- capital market specific reforms, such as the development of regulatory and supervisory framework and improvement in securities clearance and settlement systems

In view of the above, many countries have embarked on different forms of financial market reform in pursuance of the agenda for economic growth. For example, Nepal has undertaken a series of financial reforms over the years with the key objective of liberalisation. The aim was to reduce government control of the economy by jostling the private sector into becoming a mainstream economic contributor [6]. The nature of financial reforms embarked by the Nepalese government towards bolstering the private sector included reducing barriers to entry for private commercial banks, since at the time there were only two banks, both of which were state owned. Banks were viewed as pivotal to the acceleration of financial sector reform from the investment and capital accumulation perspectives [7]. Other reforms were aimed at stabilising the economy by way of easing inflation which had been attributed to macroeconomic imbalances, and also increased market activity in the financial system by introducing regular auction of treasury bills which were purposed to introduce flexibility in interest rates.

India is among countries that have adopted financial liberalisation as a means of stimulating economic growth. Like Nepal, the Indian financial system was dominated by state owned banks and state owned insurance enterprises till the 1990s. The dominance of state ownership and control repressed the country's financial system, leading to financial disintermediation, hence stunted economic growth [7]. The government introduced the New Economic Policy whose premise was to give special attention to financial reforms on account of the deterioration of financial health, autonomy, soundness and resonance of the financial sector.

The Chilean pension reform of 1981 provides a classic example of the interface between pension fund and economic reform. According to [8], the Chilean pension fund reforms had an expansionary effect on market capitalisation and equity market liquidity. In turn, these undertakings had a substantial positive effect on the country's GDP growth [9].

The literature identifies different instruments that can be used as a vehicle for both financial market reform and stimulation of economic growth; for example, monetary policy, pension fund reform, regulatory legislation and exchange rate mechanisms [6, 7, 10]. Pension funds have globally continued to grow both in size and complexity in the recent past, and hence their distinctly impactful influence on modern economies has not gone unnoticed. In 2015, pension fund assets amounted to USD 36.9 trillion in 35 OECD countries, and USD 1.3 trillion in a sample of 45 non-OECD countries [11]. Furthermore, pension funds were the main investors in financial markets worldwide, further demonstrating their prowess [11].

In this respect, studies on pension fund trends and reforms are both important and apt in understanding and influencing economic performance. It is on this premise that this study focuses on exploring the impact of changes in pension fund investment policy on wider economic indicators.

2 Background

[5] identified pension fund reform as one on the pillar areas for instigating capital market development, and hence economic growth stimulation. Pension fund reform, as a driver of both financial market restructuring and economic stimulus, is best illustrated by the Chilean pension fund reforms of 1981. At the core of a pension fund reform were provisions for adequate, affordable and sustainable benefits to members [12]. Other structural changes related to the Chilean pension fund were the shift from an unfunded to a funded pension fund. Subsequently, the pension fund portfolio grew from zero in 1980 to 39% of GDP in 1995. This growth of pension assets was accompanied by growth in overall financial assets from 28% of GDP in 1980 to 68% of GDP in 1995. Moreover, the Chilean pension fund reform programme resulted in the expansion of market equity capitalisation from 32% of GDP in 1988 to 90% in 1993 [9].

The Botswana Public Officers Pension Fund (BPOPF) was established 2001 after a decision by the government to shift from a defined benefit to a defined contribution pension scheme. This decision essentially transferred risk bearing to the employees, and by the same token had a multiplier effect on the fund's annual savings and investment portfolio. By 2017, the fund had financial assets standing at 47.3% of the country's GDP, compared to about 6% in 2001. The BPOPF is the single largest institutional investor on the local stock market, the Botswana Stock Exchange (BSE). Furthermore, the pension fund had invested in 45% of the major sectors in the Botswana economy by 2016, becoming an economic giant in every sense [13]. Most fundamentally, the BPOPF has arguably been credited for paying

a critical role in saving the Botswana's financial system from collapsing from the pressures of the recent Global Financial Crisis. The BPOPF has been widely recognised for instigating financial market restructuring, capital market expansion and development, economic growth and enhancing market liquidity [13, 14]. These factors have, in turn, bolstered the robustness and resilience of the Botswana markets and economy.

Over the years, the landscape of the pension fund industry has changed drastically, not least because of the inception of the Non-Bank Financial Institutions Regulatory Authority (NBFIRA) by the Act of 2006. This regulatory body has compliance frameworks that have had a direct effect on the operational strategies and structures of such non-bank financial institutions as pension funds. Moreover, the BPOPF has continuously reviewed its investment and operational strategies so as to remain relevant in the ever-changing financial markets. Most significantly has been the recent review of their investment portfolio.

The regulatory body, NBFIRA, stipulates that Botswana-based pension fund managers invest a maximum of 70% of their funds in offshore investments [15]. In December 2014, the BPOPF made a strategic decision to split their active pension fund using the ratio of 60:40 in terms of offshore investment fund vis-à-vis local investment fund. This was a shift from the default position of the 70:30 investment ratio in terms of offshore investment fund vis-à-vis local investment fund. A multi-sectorial and broad-based investment approach was adopted in investing these funds into the local economy, inter alia [16]:

- i. Botswana unlisted businesses through their private equity fund – Under the private equity fund, the BPOPF launched the Botswana Opportunities Fund valued at US\$40m. Furthermore, the BPOPF set up two private equity funds which were purposed at helping Small Medium Enterprises.
- ii. Botswana unlisted property investments through a property fund – The BPOPF purchased two properties in Francistown City (Botswana's second largest city) valued at US\$7m.
- iii. Infrastructure projects in Botswana through an infrastructure fund – Strategic investments in Botswana projects such as the Pula Hilton Garden Inn Hotel valued at US\$29m.
- iv. Local equity market – Comprising of equities, private and government bonds

The key driver for the paradigm shift in the BPOPF investment strategy was the consolidation of economic clout in the local economy in a manner that stimulates, revitalises and injects liquidity into Botswana's economy [17]. The argument and advocacy for investment strategies that increase capital funds invested in the local economy has some traction, as advanced by [9]. The study asserts that one of the key reasons why the Chilean pension fund reforms were successful was the rechanneling of the flow of capital funds into the local economy.

The greater impact to the Botswana economy of the BPOPF 2014 investment structural reforms is a matter of both academic and policy interest. Many lessons

can be learnt from the success, or lack thereof, of such major shifts in investment paradigm. The BPOPF 2014 investment structural reforms have translated into increased investment in the local capital and financial markets, infrastructure developments and other sectors of the economy. Intuitively, it has created vital jobs, aided economic diversification and stimulated economic development and growth. It is therefore the objective of this study to measure the impact of the BPOPF 2014 investment structural reforms on the wider Botswana economic indicators.

3 Literature Overview

Pension fund reforms across the world have been motivated by a myriad of factors. For example, [18] identifies the following as reasons to why China embarked on a shift towards a partially funded pension reform; ineffective pension fund management, financial insufficiency, pension investment overshadowed by a problematic stock market and implicit pension debt. A study carried out in Nigeria highlights a shift from a pay as you go system to a contributory scheme as motivated by the factors of inadequate funding, discrimination in coverage, demographic shifts and weak administration [19]. It is evident from these and other studies that unfunded pension plans suffer from the likelihood of pension deficits because most of them are non-actuarially balanced, hence leading to a deflection from the original purpose of ensuring income security for the old aged [20]. Contrariwise, Kenya undertook a reform for reasons other than to alleviate pension fund deficit, but rather to strengthen the governance and management of the existing system [21].

On the issue of rationalisation of pension funds, [20] posit that the primary aim of any reform should be to help address imbalances and distortions that surround the previous system and to advance the pension system, and subsequently the welfare of the beneficiaries. A similar viewpoint given is that pension reforms should be carried out to ensure income security for the members in the most efficient way [9].

[22] presented a framework which postulates that pension fund reform leads to: the accumulation of institutional capital, financial innovation due to the increased volume of transactions, increased specialisation in investment and decision making which subsequently led to increases in liquidity, reduced volatility, diversification of financial instruments and a reduction in transaction costs.

Extant literature has suggested mechanisms by which accumulation of pension fund assets can lead to capital market development. These mechanisms are the result of a process of internalising the pecuniary external effects arising from risk taking within a market based financial system [23]. There are several ways in which capital market development can be measured. The most commonly used variables are market size, market liquidity and volatility [9, 22, 24, 25].

In investigating the role of pension fund growth on stock market development, [22]

carried out a study using panel data from 15 EU countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and UK). The study used multiple-regression to test for the relationship between pension fund development and stock market development, whilst controlling for other explanatory variables. To proxy stock market development, the study used Market Capitalization expressed as a percentage of GDP and Pension Fund assets. To proxy pension fund development, pension fund financial assets were expressed as a fraction of GDP. To isolate the effect of pension funds on capital markets, the study controlled for explanatory variables such as interest rates. The findings showed that pension fund development is positively correlated with the dynamics of market capitalisation, with a significant correlation coefficient of 10%. The empirical model gave an R^2 of 0.3223 and an Adjusted R^2 of 0.2381. The study findings highlighted that the effect of pension funds crucially depends on some institutional and economic conditions.

[24] carried out a study to investigate the impact of pension funds on capital markets in the OECD countries, with a focus on the stock and bond markets. The variables used to proxy stock market development were market capitalisation and value turnover. In particular, these variables measured stock market depth and liquidity. To evaluate the bond market, the study used the private bond market capitalisation over GDP. The independent variable, being the size of pension funds, was measured as the value of the financial assets expressed as a percentage of GDP. From the results, there was evidence supporting the notion that pension fund growth positively impacts stock market development. This inference was drawn from correlation coefficient statistics of 0.7283 and 0.6424 for market depth and liquidity, respectively. The regression analysis results showed liquidity to have a higher coefficient of 0.625 as compared to 0.30 for market capitalisation. The regression results went further by showing that the impact of pension funds on capital markets was significant in countries with a high level of financial development while the impact in countries with low levels of financial development was non-significant. The findings call for countries with low financial development to revise their investment strategies as well as the way they manage their pension funds to enable them to reap from positive spill over effects of pension funds.

Similar studies have been conducted in the African continent. [25] carried out an investigation on the relationship between pension funds and stock market development in the context of the changing South African pension fund policy landscape. South Africa introduced pension fund regulation in 1956. This regulation touched on issues of retirement fund management and asset allocation. In terms of asset allocation, the regulation set the minimum levels in the list of asset classes approved by the regulators. However the asset allocation landscape has evolved drastically since inception, for example during the 1980s the minimum investment in bonds and bills were increased. Regulation 28, introduced in 1989, which instead of prescribing minimum investment levels, set maximum

limits on asset classes. Regulation 28 was revised in 2011 to; enable greater investment in alternative asset classes, increase the amounts that could be invested in foreign assets, and gave trustees the responsibility to oversee fund investment decisions.

The review of Regulation 28 resulted in transparency by increasing the monitoring and reporting burden on retirement funds. The study applied the Johansen Cointegration approach on the 1985-2013 data. The study measured the development in terms of depth, liquidity and volatility as measured by market capitalisation, value of shares traded and movements of the All Share Index, respectively. Pension fund development was estimated using the total pension fund assets as well as pension fund investment in shares. Since there are other factors that affect stock market development, over and above pension funds, there was a need to take these variables into account in order to isolate the effect of pension funds. Based on the analysis, the results showed that: (i) South African pension funds have improved the liquidity and led to a decline in stock market volatility and, (ii) pension fund investment in shares increased market capitalisation. This study demonstrated the importance of South African pension funds in improving market capitalisation in the Johannesburg Stock Exchange and in increasing liquidity and trading in the market. Therefore, pension fund managers and regulators should bear these effects in mind when devising policies and strategies if the full economic growth prospects from pension fund reforms are to be fully realised.

In sum, it can be deduced from the empirical literature that though reforms in the pension fund sector are carried out from the necessities of improving operational efficiency and financial sustenance, it is evident they coincidentally yield such other macroeconomic benefits as capital market enhancement and development. [9, 24-26] allude to these trickle down effects of pension funds reforms on capital market development. However, [25] sounds a cautionary note that pension fund development could be counter-productive by potentially increasing market volatility.

In the same vein as the South African study [25], this study investigates the role of pension funds on the capital markets in the context of significant reforms to the investment policy by the largest pension fund in Botswana. This investigation is pivotal for developing countries like Botswana which are seeking ways in which they can leverage on the contribution of their pension funds to enhance their domestic markets, and hence achieve a multiplier effect on the larger economy. Furthermore, such an investigation has not been carried in Botswana, a matter which provides an opportunity for new insights.

4 Methodology

In investigating the impact of pension reforms on the financial sector in Botswana, the period of analysis will be 2011-2016. The choice of this period of analysis was

informed by the timeframe over which the pension fund investment policy decision was implemented (2014). With a view to measure the impact of this decision to the financial sector, it was imperative to incorporate the period before and after the reform. Relevant data will be sourced from the reliable sources of the Botswana Stock Exchange archives, audited BPOPF annual reports and Statistics Botswana (the official national statistical agency).

It should be noted that for purposes of research methodology the terms Financial Sector Development and Capital Market Development will be used synonymously in this paper, and with particular relation to the stock exchange.

There are several ways in which the Financial Sector Development variable can be measured. The most commonly used proxies for the variable are market size, market liquidity and volatility [9, 22, 24, 25]. A study by [27] identified seven ways that can be used to proxy stock market development: stock market size, liquidity, volatility, concentration, asset pricing, integration with world markets and institutional indicators.

To proxy Financial Sector Development (dependent variable), this study will use measures adopted from previous studies, namely; stock market volatility, market capitalisation, stock value traded and stock market turnover [9, 22, 24, 25]. The aforementioned are used to account for market volatility, size, depth and liquidity, respectively. The variables will mainly be expressed as a fraction of GDP, with GDP used to calibrate the degree of development [28].

To proxy Pension Fund Reform (independent variable), the study will use the pension fund investment in local equities expressed as a fraction of GDP [25]. The premise of using pension fund investment in shares is that a large portion of retirement funds is invested in equities. In 2016, for example, 47% of the retirement funds were invested in listed equities [29]. The summary of the key variables used in the study, both dependent and independent, is presented in Table 1.

The relationship between the independent and dependent variables will be tested using both correlational and causal techniques through ANOVA. The choice of correlation is informed by the effectiveness of the method in investigating the relationships among theoretically related variables [30]. Regression was used because it allows for the causality to be assumed rather than to be inferred from the model [31].

Table 1: Summary of Key Variables

Key Variable	Measurement Proxy	Sources
Pension Fund Reform (PFR)	Pension Fund Investment in Shares/ GDP	[25]
Stock Market Volatility (MV)	Volatility of stock prices	[9, 22, 24, 25]
Stock Market Capitalisation (MC)	Market Capitalisation/ GDP	
Stock Value Traded (VT)	Value Traded/ GDP	
Stock Market Turnover (MT)	Value Turnover/GDP	

5 Results

5.1 The Data

The data used in the study was collected from the audited BPOPF annual reports, Botswana Stock Exchange archives and Statistics Botswana for the period 2011-2016, resulting in 69 monthly observations for each of the key variables of financial sector development (i.e. stock market volatility, market capitalisation, stock value traded and stock market turnover) and pension fund reform. It should be noted that key variables were expressed as a fraction of GDP, with GDP used to calibrate the degree of development [28], with the exception of stock market volatility. Instead, the stock market volatility adopted the approach of [27] who computed it as a 12 month rolling standard deviation estimate based on market returns. The market returns in this case were obtained by computing monthly capital gains of the share prices.

5.2 Descriptive statistics

The descriptive statistics of the data used are presented in Table 2. In particular are the measures of central tendency as well as variation in the five key variables. These key variables are a measure of financial sector development and pension fund reform for the period 2011-2016.

Table 2: Summary for Descriptive Statistics

Descriptive Statistics								
Key Variable	Range	Min	Max	Mean	Std. Dev	Var.	Skewness	
							Statistic	Std. Error
Pension Fund Reform	238.69	18.43	257.12	26.63	28.36	804.33	8.12	.29
Stock Market Volatility	.70	.00	.70	.02	.085	.007	8.01	.29
Stock Market Capitalisation	12.66	1.03	13.69	1.39	1.51	2.28	8.21	.29
Stock Value Traded	36.64	13.36	50.0	35.82	9.69	93.83	-.35	.29
Stock Market Turnover	1.22	.03	1.25	.13	.15	.02	6.00	.29

The Pension Fund Reform variable ranges from minimum of 18.43 in quarter two of 2011 and to a maximum of 257.1 in the last quarter 2016. The range demonstrates the growth of pension funds as a fraction of GDP that transpired from 2011 to 2016. Volatility of stock prices has a minimum and maximum of 0.00 and 0.70 respectively, the average volatility recorded is 0.0159 and the standard deviation is 00846. Market capitalisation has a minimum value of 1.03, a maximum value of 13.19 and a mean and standard deviation of 1.38 and 1.508 respectively. From the other measure of financial sector development, total value traded, the table shows a mean of 35.81 of GDP, with a standard deviation of 9.68 and minimum and maximum values of 13.36 and 50.0 respectively.

One of the other assumptions underlying one way ANOVA is that the dependent variables should be normally distributed. The skewness statistic explains the distribution of dependent variables along the scale. The dependent variables are positively skewed with skewness values of 8.01, 8.21, and 6.0 respectively. However, the Stock Value Traded (VT) variable is marginally negatively skewed at -.350.

5.3 Correlation Results

Correlational analysis was run among the five key variables representing financial sector development and pension fund reform, and the results are presented in Table 3.

Table 3: Summary of Correlation Analysis Results

Correlations		Pension Fund Reform	Market Volatility	Market Capitalisation	Value Traded	Value Turnover
PFR	Pearson Correlation	1	.045	.994**	.176	.893**
	Sig. (2-tailed)		.715	.000	.148	.000
	N	69	69	69	69	69

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation results between pension fund reform and stock market volatility [$r(67) = .045$, $p = .715$] indicate a statistically non-significant relationship. Similar results were found in the relationship between pension fund reform and stock value traded [$r(67) = .176$, $p = .148$]. Correlation results pertaining to the relationship between pension fund reform and the other independent variables of market capitalisation and value turnover were however found to be positive and highly statistically significant at [$r(67) = .994$, $p = .000$] and [$r(67) = .893$, $p = .000$], respectively.

5.4 ANOVA Test Results

Further analysis were conducted to test for the relationship between pension fund reforms and the four financial development measures. The analysis was conducted to explicitly test for any causal relationship between the dependent and independent variables. The analysis allows for the causality to be tested rather than to be inferred from the model. The results are shown in Table 4.

Table 4: Summary of Anova Results

Regression Results		Volatility MV	Capitalisation MC	Value VT	Turnover MT
PFR	p-value	.715	.000	.148	.000
	F	.135	564.29	2.141	264.967
	N	69	69	69	69

The first test regressed pension fund reforms against the dependent variable of stock market volatility. The ANOVA results indicated statistically non-significant results [$F(1, 67) = .135$, $p = .715$]. The hypothesis of a causal relationship between the pension fund reforms and stock market volatility was therefore not supported. The second test regressed pension fund reforms against the dependent variable of market capitalisation. The ANOVA results indicated statistically significant results [$F(1, 67) = 564.29$, $p < .001$]. The hypothesis of a causal positive

relationship between the pension fund reforms and market capitalisation was therefore supported.

The third test regressed pension fund reforms against the dependent variable of stock value traded. The ANOVA results indicated statistically non-significant results, [$F(1, 67) = 2.141, p = .148$]. To this extent, the hypothesis of a causal relationship between the pension fund reforms and stock value traded was not supported.

The last test regressed pension fund reforms against the dependent variable of stock market turnover. The ANOVA results indicated statistically significant results, [$F(1, 67) = 264.967, p < .001$], suggestive of a positive causal relationship. In this respect, the hypothesis of a relationship between pension fund reforms and stock market turnover was supported.

In sum, the multiple dimensions of the construct variable of Financial Sector Development, namely stock market volatility, market capitalisation, stock value traded and stock market turnover, were tested for relationship with the independent variable of Pension Fund Reforms. Two tests were conducted, correlation analysis and ANOVA. In both instances, stock market volatility and stock value traded did not statistically relate to pension fund reforms, while market capitalisation and stock market turnover were found to positively relate to pension fund reforms. It is therefore concluded that the hypothesis of a relationship between pension fund reforms and financial sector development was partially supported by these results.

5 Discussion and Conclusion

The important role played by pension fund reform as a catalyst for financial sector development and economic growth is well documented in the extant literature [5, 9, 25, 8]. Botswana's largest pension fund, the BPOPF, has both experienced phenomenal growth and increased its traction in the local economy. The fund's assets stood at 47.3% of the country's GDP by 2017, compared to about 6% in 2001. It is also reported as the single largest institutional investor on the Botswana Stock Exchange [13]. Any investment structural changes by the BPOPF would therefore be a subject of interest to both the academia and policymakers. In December 2014, the BPOPF engaged in investment reforms that saw an increase in the local investment fund ratio. It was the objective of this paper to investigate the greater impact to the Botswana economy of such a policy reform

In the study, the construct of Financial Sector Development was represented by the multiple dimensions of stock market volatility, market capitalisation, stock value traded and stock market turnover, and was each independently tested for relationship with the independent variable of Pension Fund Reforms. The results found stock market volatility and stock value traded not to be statistically related to pension fund reforms, while market capitalisation and stock market turnover were found to be statistically positively relate to pension fund reforms. In this

regard, the hypothesis of a relationship between pension fund reforms and financial sector development was partially supported.

These findings give credence to the financial weight that the BPOPF carries in Botswana's economy. To the extent that market capitalisation and stock market turnover were found to positively react to increased investment, pension fund reforms are key drivers of Botswana's financial sector development. [25] observed that pension funds are colossal institutional investors that should be expected to impact stock market capitalisation.

Equally, increased investment in the local bourse has been associated with reduced market friction, hence increased market efficiency. According to classical economic theory, bulk transactions are associated with increased economies of scale, and lower associated brokerage costs [26]. The overall effect is improved liquidity, market turnover and general market efficiency [25].

While some studies have found pension fund reform to also be a key determinant of both stock market volatility and stock value traded, this did not apply in the case of Botswana. For example, [25] found a negative relationship between pension fund investment and volatility of stock prices. However, another study did not find evidence that average day-to-day price fluctuations impact volatility [32]. With regard to value traded, a study by [33] found a positive association between growth in pension fund financial assets and value traded only in terms of the short run effect. In the long run, the effect was negative and not significant and positive for the lesser developed economies. Similarly, another study by [24], also positively related pension fund growth to stock value traded. However, in determining whether the impact differed based on the different level of financial development, they found the impact to be higher in countries with higher financial development. The impact was insignificant in countries with lower financial development.

Whereas it is not immediately obvious why the results on the relationship between pension fund reforms and both stock market volatility and stock value traded were not statistically significant in the case of Botswana, it should however be noted that these reforms are relatively new, i.e. only implemented in December 2014. Intuitively, and from the literature, the two factors are key and should elucidate on pension fund investment reforms. Owing to the short implementation timeframe, the full impact of these reforms on the markets may still have not yet taken full effect. In this light, further future research is required.

The study buttresses the importance of pension reform on financial sector development and growth. It further alludes to the importance of creating a conducive environment that allows for increased financial innovation, market participation and acquiescent to stability [22, 25]. Policies that advances technology, deregulation, privatisation, adoption of optimising policies to allow for pension funds to have significant impact on both financial sector development and economic growth become key [12, 24].

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