International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 4, Issue 6, June – 2020, Pages: 26-37

The Cautious Approach of Investors to the Latest Government Bond: A Case of Fiji Islands

Amit Prakash[1], Gyaneshwar Rao[2]

[1]The University of Fiji, Lecturer in Economics, Private Mail Bag, Lautoka
Email: amitp@unifiji.ac.fj

[2]The University of Fiji, Senior Lecturer in Economics, Private Mail Bag, Lautoka
Email: gyaneshwarr@unifiji.ac.fj

Abstract: *This paper explores the cautious behavior of domestic investors towards the latest government bond namely Viti bonds that was launched in 2012. The authors provide a pioneering analysis of Viti bonds to examine the potential attractiveness of Viti bonds over savings deposits and time deposits held in commercial banks. With the limited data, this study utilizes descriptive analysis and future value simulation analysis to assess optimal investment options. Captivatingly, domestic investors are unenthusiastic to engage in trading of Viti bonds. This research signifies the importance of lower trading denomination of bonds, accessibility of trading bonds via domestic commercial banks, massive marketing campaign and strengthening financial awareness prior to diversifying the capital market.*

Keywords: Financial literacy; Government bonds; Potential investors

1. Introduction

The World Bank (2008) estimates that approximately two billion people around the globe will enter the formal financial system in the next two decades as a result of financial liberalization, global technological enhancement and private sector initiatives. Lusardi and Mitchell (2014) added that the financial markets in the world are becoming accessible to small investors due to the growth in new financial products and services. An effective financial system is very instrumental in resource allocation within an economy and hence substantially contributes towards economic growth[1]. Gounder (2012) cited several studies (Jung, 1986; Greenwood and Jovanovic, 1990; Roubini and Sala-i-Martin, 1992; Kind and Levine, 1993; Levine, 1997; Levine et al. 2000) that used empirical evidence to conclude strong causality between specific type of financial institution and economic growth. Likewise, Lusardi and Mitchell (2014) using the econometric model reaffirmed a causal relationship between financial literacy and economic decision so long as financial literacy is considered in isolation of education and cognitive ability. However, many studies are debating the direction of causality between financial development and economic growth.

Fiji is an economy compromising of 884,887[2] people with diverse cultural backgrounds. In addition, 56.8% of total population in Fiji falls in the age category of 15 – 54 years representing potential workers and investors. The Fijian financial system is regulated by the Reserve Bank of Fiji (RBF) via the RBF Act (1983) and RBF (Amendment) Decree 2009. The World Bank (2016) categorized Fiji as an upper middle income economy[3] with Gross National Income (GNI) per capita of $4,830 in Fijian dollars. Furthermore, the latest composition of Fijian financial system is as follows: six commercial banks, four credit institutions, seven general insurers, two life insurers, four insurance brokers, one superannuation fund - Fiji National Provident Fund (FNPF), nine foreign exchange dealers and two money changers (RBF, 2017).

According to RBF (2015), Non Banking Financial Institutions (NBFIs)[4] accounted for 63 percent of the total financial systems assets in 2005. However, in 2017 the banking sector held 54.9% of the financial system, followed by FNPF (31.1%) and the insurance industry (8.9%) respectively (RBF, 2017). Moreover, RBF (2017) disclosed that the total financial system grew by 7.4% to FJ$18.1 billion in 2017 while FNPF remained the largest single financial institution. Waqabaca (2004) through empirical evidence on selected financial variables on Fiji found that there is short run causal relationship predominately running from economic growth to financial development. In contrast, Gounder (2012) disclosed that financial development has escorted modest economic growth in Fiji with limitations in the financial sector. In a joint assessment of Fiji's financial sector by International Monetary Fund (IMF) and World Bank (2007) it was outlined that Fiji's financial sector is generally stable but there are issues; (1) lack of risk diversification, (2) over 40% of total financial system assets captured by FNPF that hampers capital market development; (3) restriction in FNPF's ability to invest offshore and engage in international diversification.

[1] Perkins et.al assert that policies for financial deepening increases the real size of the financial system as well as increases the growth of financial growth at a pace faster than income growth.
[2] According to the 2017 census conducted by Fiji Bureau of Statistics.
[3] Upper middle-income economies are those with a GNI per capita between $4,036 and $12,475
[4] In 2005 NBFIs were Insurance companies, licensed and non-licensed credit institutions and Fiji National Provident Fund (FNPF). In 2015 NBFIs are FDB, Housing Authority (HA) and Asset Management Bank (AMD) (from 2010).

The debate in financial behavior exists due to inconsistency in defining and measuring financial literacy. This study has adopted a composite definition of financial literacy presented by Hung, Parker and Yoong (2009) that builds on definition provided by President's Advisory Council on Financial Literacy (PACFL) and various researchers. The composite definition conceptualizes interrelation among actual financial knowledge, perceived financial knowledge[5] and financial skills. Financial knowledge is the basic form of financial literacy that is derived from perceived knowledge and in turn influences financial skills. The financial behavior is depended on actual financial knowledge, perceived knowledge and financial skills. The experience gained from financial behavior further transforms the actual and perceived financial knowledge and the cycle of reshaping financial behavior persist. Klapper, Lusardi and Oudheusden (2015) reports that both the developed and developing countries confront financial literacy challenges. In addition, financial literacy levels are the lowest in developing countries with few developing countries having initiated statewide cost free financial literacy and credit counseling centers (Cole, Sampson and Zia, 2009).

The Fijian government diversified the debt market with Viti Bonds in 2012. The standout features of Viti bonds were minimum bond investment of FJ$1000, default risk free, interests earned from bonds are exempted from tax, returns are competitive and transferable. Thus, this provides novice, risk averse and potential investors an opportune platform. However, favorable participation by investors may be subjected to higher relative return of financial instrument, financial knowledge, savings rate, financial beliefs and accessibility to investment instruments. Indisputably, similar variables will influence trading of Viti bonds. Accordingly, in this study, we are guided by the central research question: How domestic Fijian investors have responded to the trading of Viti Bonds? Consequently, the aligned subsidiary questions being investigated are: (1) what is the rate of return from Viti bonds relative to savings and term deposits in commercial banks, (2) how many Viti bonds have been issued to the domestic investors and (3) theoretically explore the potential role of financial literacy. The first objective is assessed with descriptive statistics and future value simulation analysis. In addition, data collated from the Reserve Bank of Fiji addresses the second objective by providing insight to trading and investor composition.

The rest of the paper is structured as follows; section 2 focuses on existing literature. While the subsequent section 3 focus on the financial literacy initiatives in Fiji. Section 4 explores the potential investment ability of small investors. The government debt and diversification in risk free instrument is evaluated in section 5 with results and analysis in section 6. The final section provides concluding remarks.

2. Review of the Literature

Hung, Parker and Yoong (2009) highlighted three cautionary lessons from the sub-prime mortgages; (1) poor financial decision making is not economy specific but widespread phenomenon; (2) financial crisis is not instant and will build unobserved for a long time; (3) achieving stability after crisis requires larger resource pool. Moreover, investigations into behavioral finance have disclosed that individuals do not make most favorable savings and investment decisions whilst financially illiterate individuals are highly likely of committing unknown financial mistakes with lower recovery possibility from economic disruptions (Hung, Parker, Yoong, 2009). Lusardi and Mitchell (2007) further contributed that financial decisions are more technical requiring inclusion of compound interest, inflation, risk diversification and asset universe. Davis, Higgins and Ralston (2011) acknowledged that the prevalence of imperfect information restrain individuals from assessing and factoring financial plans for life cycle events. Moreover, the authors commented that the complexity of financial products is becoming incompatible with the population's relatively low level of financial literacy. In addition, credit products are becoming more visible with higher interest rate and the government is pushing for greater financial inclusion by boosting accessing to financial service however, these opportunities can easily lead individuals into high debts, mortgage defaults and solvency if they lack financial skills.

Lusardi and Mitchell (2007) through a financial literacy survey concluded that participants in developed countries were unaware of financial investment products and practices which hindered savings and investment for retirement. They identified that financial deficiencies existed in particular population subgroups; low income and low educated, minorities and women which fostered economic hardship in retirement. In addition, Mittal and Vyas (2008) as cited in Geetha and Ramesh (2011) stated that cognitive and emotional weaknesses influence the investment decisions and individuals' posses biased financial behavior that dictate a systematic error in the investment decision making. However, Hung, Parker and Yoong (2009) pointed out that there exits real knowledge gap in the primary relationship between financial literacy education and behavior, attributed to lack of appropriate data. Moreover, the debate continues on universally accepted definition and measure of financial literacy. Adding on the role of financial literacy, Hilget, Hogarth and Beverley (2003) acknowledged that the large deficiencies in measuring financial literacy places economically vulnerable groups (the poor, less educated and minority households) at further disadvantage leading to irrational or inferior financial behavior.

[5] Perceived knowledge is what people think they know.

According to Hung, Parker and Yoong (2009), several researchers in financial behavior view financial literacy as a secondary issue in decision making as a consequence of varied evidence on financial education programs. They reviewed literature by Bayer et al. (1996) and Bernheim (2003) to comment that financial education initiatives at workplace boosted individuals' partaking in savings plan whilst compulsory financial school curriculum trigged significant adult propensity to save. However, recent evidence disputed the contribution of workplace and school financial education programs to peer pressure effect and behavioral biases. Further research by Hilt and Wendy (2016) acknowledged that the behavior factor may influence an individual's ability to make choice. As such, individuals display time-inconsistent behavior where they weigh current consumption highly over intertemporal choices (Laibson 1997; O' Donoghue and Rabin 1991 cited in Hilt and Wendy 2016). Essentially, savings require self control and at times many individuals may lack self control even though they desire to save (Hilt and Wendy, 2016). In addition, Hilt and Wendy (2016) cited Guiso and Sodini 2013; Karlan, Ratan, and Zinman 2014; De Nardi 2015, that the financial competencies are subjected to cognitive skills and financially relevant beliefs of individuals. Lusardi and Mitchell (2014) suggested that financial knowledge which individuals attain incur a cost and future studies should consider financial knowledge as form of human capital. They also highlighted that the financial crisis have warranted policymakers to dwell on lack of financial literacy and address the gap via user targeted financial literacy programs. Moreover, Miller et al (2014) as cited by Klapper, Lusardi and Oudheusden (2015) recommended financial programs that are geared towards specific behavior and population enable rational financial decisions.

Hilt and Wendy (2016) provided valuable insight into the success of America's government bonds. The American federal government issued patriot bonds; Liberty Bonds (World War I), Series E Defense Bonds (World War II) and Series EE Savings Bond (following September 11 terrorist attack). The Liberty bond drive was one of the largest and most successful efforts to induce ordinary American to participant in financial market (Hilt and Wendy, 2016). The authors accredited following factors for the success; (1) sale of liberty bonds in low denominations as low as $50, (2) installment plans options, (3) a inclusive financial institutions approach with banks given incentive to hold Liberty bonds as collateral and at the same time facilitated the payment of Liberty Loan subscriptions and extended credit to customers holding Liberty Bonds as collateral and (4) massive promotion on bond purchases through patriotic partnership (Skocpol et al, 2002 as cited in Hilt and Wendy, 2016) as a way of intriguing patriotism (doing your share).

The Series E Defense Bond (special savings bond) was guided with similar promotion strategies as Liberty Bonds and was quite successfully. However, Series EE savings bond fell short, as there were no significant campaigns, no participation by civil societies and banks, and no appeal to patriotism (Hilt and Wendy, 2016). In addition, Americans lack trust in financial intermediaries (Karlan, Ratan and Zinman, 2014) and that has diverted households to rely on alternative financial services such as; payday lenders, pawn shops and check cashing services (Hilt and Wendy, 2016). Furthermore, Brien (2012) as cited in Hilt and Wendy added that low and moderate income individuals perceive bank fees and minimum balance requirements as barrier and simply 'don't do banks'.

3. Financial Inclusion and Investment Ability of Small Investors in Fiji

The Reserve Bank of Fiji (RBF) formalized the National Financial Inclusion Taskforce in February of 2010. Subsequently, the financial literacy mascot 'Vuli the Vonu' was unveiled. Vuli signifies school in iTaukei language whilst Vonu is a turtle. A turtle is smart (responses quickly to overcome obstacles in continuing the journey), strong (persevere all types of wealth) and steady creature. The National Financial Literacy Strategy coordinated the framework for development and delivery of financial literacy programs complementing financial inclusion. Moreover, financial education was integrated into the Fiji school curriculum from 2013. As part of the money smart projects it was mandatory for secondary school students to have a bank account. In addition, the RBF produced a first ever iTaukei financial literacy television show *'Noda I Lova (our money)'* on national platform – Fiji Broadcasting Corporation and disseminated information on various actors in the Fiji's financial system.

Furthermore, the RBF and the Fiji Bureau of Statistics (FBOS) in 2015 coordinated the Fiji Financial Inclusion Demand Side Survey to grasp better understanding of Fijians financial services and products need. The survey revealed that 60% of Fijian have a formal bank account, 4% use other financial services (microfinance, credit unions and insurance), 9% of respondents exclusively used informal financial services while 27% of respondents were financially excluded. In addition, the other Pacific economies are yet to be included in the Global Findex. It is evident that Fiji's level of financial inclusion is closely aligned with Upper-middle countries and surpasses that of lower-middle income countries (Table 1). Interesting, 71.2% of Fijians had stated that they had saved (any form of financial instrument) in the last 12 months which is higher than the average reported rates of lower-middle and upper-middle countries.

International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 4, Issue 6, June – 2020, Pages: 26-37

Table 1: Fiji's Financial Inclusion Indicators

	Lower-middle income countries (2014)	*Fiji (2014)*	*Upper-middle income countries (2014)*
Account with a formal financial institution	41.8%	60.2%	70.4%
Loan in the past year (from any source)	47.4%	32%	37.7%
Loan from a financial institution in the past year	7.5%	6.9%	10.4%
Saved any money in the past year (self-reported)	45.6%	71.2%	62.7%
Saved at a financial institution in the past year	14.8%	37.9%	32.2%

Source: Reserve Bank of Fiji : Financial Services Demand Side Survey Republic of Fiji (2015)

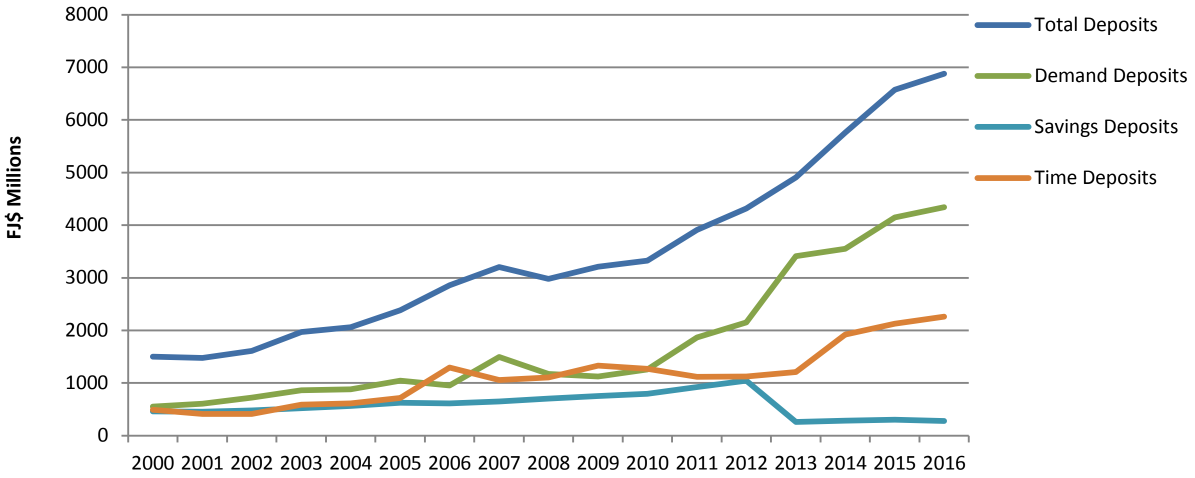
Also, Fijians savings at a financial institution is higher than the average of 14.8% and 32.2% respectively. The Demand Side Survey highlights that young Fijian adults (15 – 20 years) are less likely to be using any form of financial services (41% are completely excluded) and it may be that the young adults are completing their studies with no regular income. Furthermore, Fijians above the ages of 21 to 70 years are more likely to using banks over non banked and informal financial services (Figure 1).

Figure 1: Fiji's Financial Inclusion Strand by Age

Source: Reserve Bank of Fiji : Financial Services Demand Side Survey Republic of Fiji (2015)

To engage in investment activity there is need for an appropriate level of savings whilst the relative return on the respective investment must be attractive. This study is consistent with Life Cycle Hypothesis - individuals prefer smooth consumption pattern over their life time in contrast, to furious savings in one period and huge spending spree in next. Thus, to ensure balanced consumption individuals need to save from happier days for rainy days. This urges individuals to invest a portion of their regular income in rewarding and sound investment options. However, Emmanuel Saez and Gabriel Zucman (2016) as cited in Hilt and Wendy (2016) stated that the savings inequality rates have increased over recent decades and contributed to the growth of wealth inequality. Furthermore, Hilt and Wendy (2016) acknowledged unfavorable savings culture in American families. A possible indicator of adequate liquidity on hand for financial investment is the demand deposits (depositors can withdraw funds without prior notice to the financial institutions) held in the commercial banks, illustrated in Figure 2.

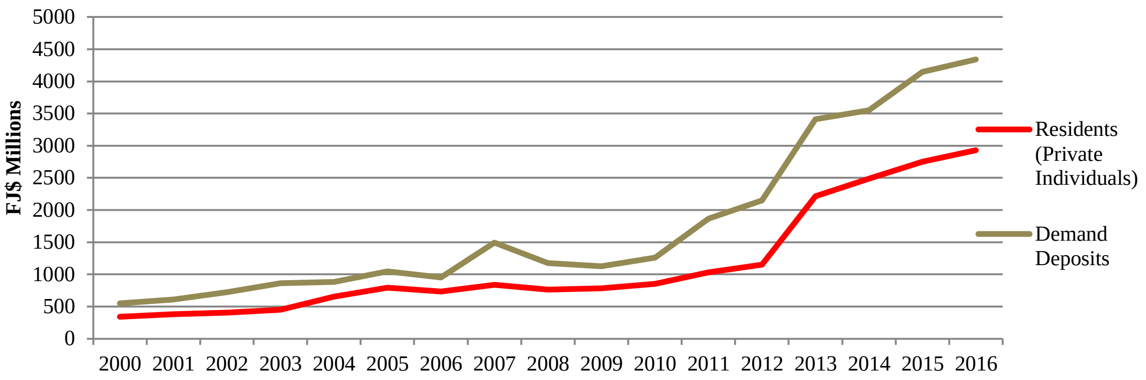
Figure 2: Fiji's Commercial Banks' Customer Deposits: 2000 – 2016



Source: Reserve Bank of Fiji Quarterly Review (2016)

Figure 2 illustrates gradual increase in the total customer deposits at commercial banks over the period with a fall around 2008. Moreover, the trend of demand deposits curve shapes majority of the total deposits curve. The rise in time deposits may be a result of FNPF payout whereby pensioners are exempted from tax payments. Furthermore, the rationale for extracting private holding of demand deposit is to assess whether small investors are capable of securing Viti Bonds. Thus, extracting private holdings exposes that individuals' accessibility to liquidity is increasing thereby signaling potential investment scope (Figure 3). The pension payout via reform by Fiji National Provident Fund (FNPF) reflects significant increase of private holdings and demand deposits for 2013. Also, it is suspected that the decline in savings deposits is attributable to tax on bank interest earned.

Figure 3: Private Holding of Demand Deposits: 2000 – 2016



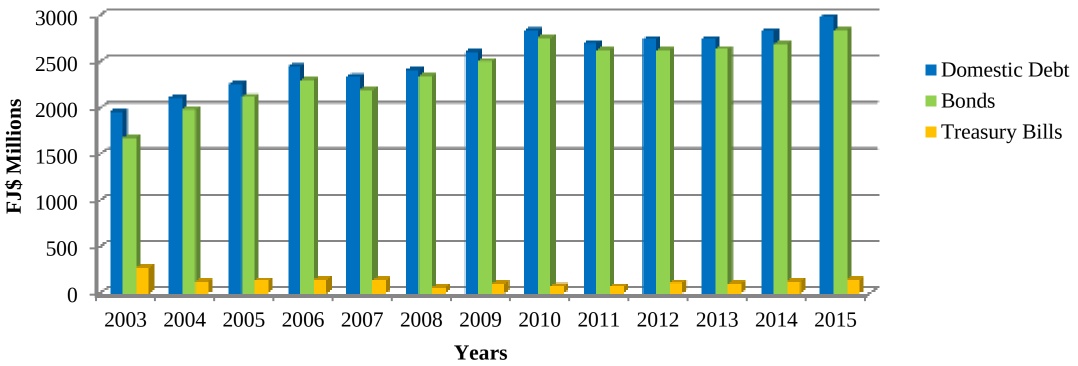
Source: Reserve Bank of Fiji Quarterly Review (2016)

4. Fiji Government's Debt and Diversification in Risk Free Financial Instruments

Public debt arises from prolonged and escalating deficits in the government budgets and to finance the shortfall the government may borrow either internally or externally. It is argued that borrowing internally can trigger crowding out effect and resorting to external borrowing is more costly due to foreign exchange risk. According to Jayaraman (2013) internal borrowing is more preferred given that the debt financing is for productive investments with the intention of generating higher taxable capacity. Thus, fostering increased public revenue and eliminating repayment burden on future generations. Moreover, domestic borrowing does not necessarily instigate crowding out private investment as long as there is excess liquidity in the banking system to manage the domestic interest rates from rising.

Fiji government's potential internal tools of borrowing are Treasury bills (short term government securities yielding no interest rate but issued at discount price) and Bonds (a debt security where the bondholder is entitled to receive fixed interest at specified intervals with principle payment and interest at maturity date). In addition, government bonds are classified as default risk free implying that the financial obligations to the bondholders are always honored. Figure 4 illustrates the predominance of bond financing for domestic debt and FNPF is the major financer for Fiji government's domestic debts. Bond financing for domestic debt has ranged 85% to 97% over the period 2003 to 2015. Government's Treasury bills and Bond issues have been undoubtedly oversubscribed (tendered request outweighed allotment) implying debt instrument is significant but supply is minimal (Ministry of Economy, 2007).

Figure 4: Composition of Fiji Government's Domestic Debt: 2003 – 2015



Source: Ministry of Economy (2016)

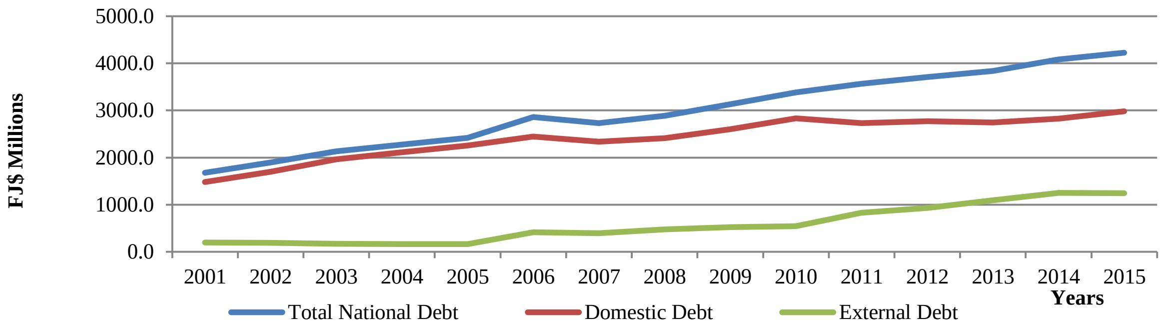
Reddy (2006) using time series analysis (data set from 1992 – 2004) found that Fiji's debts have reached an unsustainable level. The findings of the research was to foresee the need to manage rising debts through government control on central expenditure, boosting economic activity (In Ireland the debt to GDP ratio was 96% in 1991 but with economy growth around 4-5% and managed budget deficit well below 4% of GDP the current debt is now 28% of GDP) and wise and timely borrowing. The national debt levels have continued to steadily rise and the two international bonds influenced the national debt curve in 2006 and 2011 respectively (Figure 5). However, the external debts have increased from 2010 at a faster pace in comparison to domestic debt that has been stagnant from 2010 to 2013. Ministry of Economy (2016) disclosed that Fiji's major external creditors are China Development Bank (CDB), EXIM Bank of Chain, EXIM Bank of Malaysia, the Japan International Cooperation Agency (JICA) and the Asian Development Bank (ADB).

Fiji issued its first international bond in 2006[6] amounting to US$150 million at 6.875 percent interest rate maturing in September of 2011. However, to fulfill the financial obligations of 2006 issued bonds, the Bainimarama government summoned for second bond of US$250 million at an interest rate of 9%. The higher interest rate in the world financial market was attributed to the global financial crisis. Critics to Fiji's second bond issue commented that the government had options of consulting other financing avenues like International Monetary Fund (IMF) and Asian Development Bank (ADB) or revisiting the need to reform (USP, 2011). In 2016 Fijian government engaged in new bond issue of US$200 million at 6.625 percent to repay the maturing bonds of 2011 while the balance of US$50 million was sourced from sinking fund.

[6] The international bond was issued under the Soqosoqo Duavata ni Lewenivanua (SDL) government.

ISSN: 2643-9670
Vol. 4, Issue 6, June – 2020, Pages: 26-37

Figure 5: Fiji Government's National Debt, Domestic Debt and External Debt: 2001 – 2015



Sources: Reserve Bank of Fiji Quarterly Reviews (Various Issues), Fiji Bureau of Statistics and Fiji Government's National Budgets.

The Fijian government in April of 2012 introduced Viti Bonds in addition, to the existing infrastructure bonds. The rationale for Viti bonds was to; (1) provide an alternative investment option to investors, (2) encourage retail investors participation and (3) cushion the rise in liquidity with the first batch payment of pensioners under the new age based pension scheme by FNPF[7]. In the case of the Viti Bonds, the investor is the general public, Government of Fiji is the issuer and register of bonds is the Reserve Bank of Fiji. Initially the minimum amount of investment in Viti bonds was $1000 with maximum of $100,000. Later the maximum amount was pegged to $200,000. Moreover, Viti bonds assure returns of 4% per annum for 5 years maturity, 4.5% per annum for 7 years maturity and 5% per annum for 10 years maturity. Furthermore, the benefits of investing into Viti bonds are (1) interest on bonds are quarterly earned and exempted from income tax, (2) default risk free, (3) the return on bonds are competitive and (4) transferable whereby the bondholder can sell part or all of the holding bonds with exemption for stamp duty.

5. Results and Analysis

The diagnostic is limited with introduction of Viti Bonds in 2012. This research utilizes descriptive statistics together with summary on bond investors. Furthermore, Viti bonds return is compared with domestic commercial banks return on savings and time deposits. The rationale for such comparison is to the present limelight on the perceived financial knowledge of saving only in the trading banks by novice investors.

5.1 Descriptive Statistics

Table 2 and 3 presents comparative returns and descriptive statistics of the study respectively.

Table 2: Comparative Rate of Return (%) per Annum, 2012 - 2018

	Savings Deposit	Time Deposit	Viti Bonds
2012	0.74	2.28	4.00
2013	0.72	1.79	4.00
2014	0.57	2.15	4.00
2015	1.01	2.71	4.00
2016	0.97	2.95	4.00
2017	1.34	3.21	4.00
2018	1.32	3.61	4.00

Notes:
1. The deposit rates have been extracted as average of all commercial banks in Fiji in the respective year.
2. The Viti bonds rate has been pegged at 4% reflecting the lowest possible return from Viti bonds.

Source: Reserve Bank of Fiji Quarterly Report, March 2018.

[7] In February 2012 FNPF had anticipated that there will be a pay out of about FJ$100 million in both lump sum and pension options under the new age based pension scheme.

Table 3: Descriptive Statistics - Return per Annum, 2012 - 2018

	Savings Deposit Rate	Time Deposit Rates	Viti Bonds Rates
Mean	0.952857	2.671429	4.000000
Median	0.970000	2.710000	4.000000
Maximum	1.340000	3.610000	4.000000
Minimum	0.570000	1.790000	4.000000
Std. Dev.	0.298424	0.639282	0.000000
Skewness	0.198573	0.081414	NA
Kurtosis	1.645607	1.824495	NA
Jarque-Bera	0.581030	0.410762	NA
Probability	0.747878	0.814337	NA
Sum	6.670000	18.70000	28.00000
Observations	7	7	7

Source: Authors' estimation in Eviews version 8.

Instinctively, risk averse (not willing to participate in investment games) or novice investors are bound to access risk factor of any financial action. As such, it has been a convention to accumulate liquidity with commercial banks to avoid investment risks. In Table 3 the average returns per annum on savings and time deposits are 0.95% and 2.67% respectively. Theses returns are 3.05% and 1.33% respectively short off the return ascertained from Viti bonds. Furthermore, the highest return in savings deposit is 1.34% and 3.61% in time deposits for the study period. It is noteworthy that Fijian investors' access to savings is rising (Table 1 and Figure 3) and the returns on the time and savings deposit are lower than Viti Bonds. Thus, the response to Fiji government's Viti bonds is anticipated to be highly favourable for risk averse and novice investors. In addition, Viti bonds are default risk free, returns are exempted from tax, flexible and transferable with exemption of stamp duty (Table 4).

Table 4: Checklist of Investment Instruments

	Savings Deposit	Time Deposit	Viti Bonds
Returns exempted from Income tax	×	×	✓
Default Risk Free	✓	✓	✓
Flexibility	✓	×	✓
Transferable	×	×	✓

5.2 Future Value Simulation Analysis

In this section, using the respective rate of returns from table 2 and 3, we forecast the closing balance with a minimum investment of FJ$1000 for 10 years. Historical interest rates are applied respectively for years 2012 – 2018, while average returns is utilized thereafter. Furthermore, Viti bonds return rate has been fixed at 5% for 10 years.

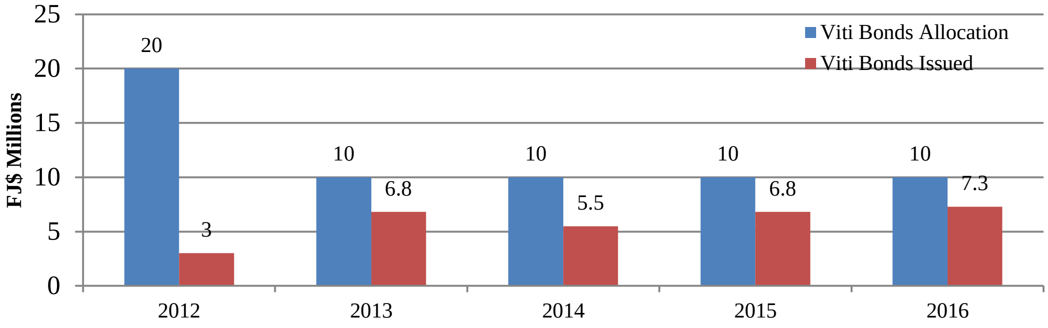
Table 5: Future Value Analysis

	Savings Deposit			Time Deposit			Viti Bonds		
Year	Investment	Interest	Balance	Investment	Interest	Balance	Investment	Interest	Balance
2012	1000.00	7.40	1007.40	1000.00	22.80	1022.80	1000.00	50.00	1050.00
2013	1007.40	7.25	1014.65	1022.80	18.31	1041.11	1050.00	52.50	1102.50
2014	1014.65	5.78	1020.44	1041.11	22.38	1063.49	1102.50	55.13	1157.63
2015	1020.44	10.31	1030.74	1063.49	28.82	1092.31	1157.63	57.88	1215.51
2016	1030.74	10.00	1040.74	1092.31	32.22	1124.54	1215.51	60.78	1276.28
2017	1040.74	13.95	1054.69	1124.54	36.10	1160.63	1276.28	63.81	1340.10
2018	1054.69	13.92	1068.61	1160.63	41.90	1202.53	1340.10	67.00	1407.10
2019	1068.61	10.15	1078.76	1202.53	32.11	1234.64	1407.10	70.36	1477.46
2020	1078.76	10.25	1089.01	1234.64	32.96	1267.60	1477.46	73.87	1551.33
2021	1089.01	10.35	***1099.35***	1267.60	33.85	***1301.45***	1551.33	77.57	***1628.89***

Source: Authors' estimation in Microsoft Excel 2013.

As anticipated the dollar future return by Viti Bonds surpass the closing balance of savings and time deposits. In addition, Viti bonds assure a 25 percent higher return than time deposit and 48 percent higher than savings deposit with a minimum $1000 investment. Indisputably, diagnostics in descriptive statistics and future value analysis reconfirm that Viti Bonds guarantee a higher benefit while being default risk free investment instrument. Furthermore, the authors expect highly favourable response from domestic Fijian investors.

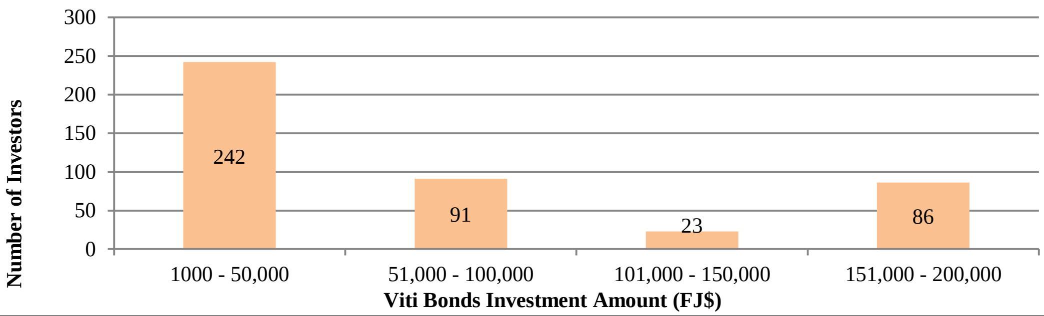
Figure 6: Viti Bonds Allocation and Issue 2012 – 2016



Sources: Reserve Bank of Fiji Quarterly Reviews (Various Issues).

Viti bond allocation (the amount of bonds available for the general public) by Fiji government had been FJ$20 million in 2012 and FJ$10 million from 2013 till 2016 (Figure 6). Moreover, bonds issued signify the value of bonds purchased by the Fijian investors that are outstanding (not yet redeemed by the Fijian government) capturing investors' response. The initial response by Fijian investors was under subscription (bonds allocated are more than bonds issued) of FJ$13 million. Furthermore, the lag effect of new old age pension payment may have triggered a 127% rise in investors' response for 2013 holding other things constant (Figure 6). However, investors' response declined contrary, to the rising private holding of demand deposit in 2014. The investors' response had strengthened for 2015 and 2016. However, under subscription is apparent for all years of Viti bonds allocation possibly challenging the financial literacy programs in Fiji. In addition, Ministry of Economy (2016) in the Fijian Government Debt Report acknowledged that the cumulative response to Viti Bonds had been FJ$22.2 million till the 2015 fiscal year and stated a need for greater public awareness on Viti Bonds (tailor made for pensioners and retail investors).

Figure 7: Investors of Viti Bond, 2012 - 2016



Source: Reserve Bank of Fiji

A meticulous review of the Viti bond investors reveal that 55% of bond investors are holding investment between FJ$1000 – FJ$50,000, 21% are holding between FJ$51,000 – FJ$100,000, 5% are holding between FJ$101,000 – FJ$150,000 and 19% are holding between FJ$151,000 – FJ$200,000 respectively (Figure 7). The higher response for FJ$1000 – FJ$50,000 investment depicts that either there are many small investors participating in the bond market or many investors are weighing the risk of investment (hesitant to commit a lot to Viti bonds). In addition, Table 6 discloses that 78% of investors preferred a 10 year maturity term compared to 20% preference for 5 years maturity and 2% preference for 7 years maturity respectively. Intuitively, long term investment guarantee higher rate of return. Thus, the 78% preference for 10 year maturity may be due to the 5% return or a result of the flexibility provided by Viti bonds for easy transferable (the RBF will redeem the Viti bond upon request of the bond holder).

Table 6: Investment by Maturity Terms, 2012 – 2016

Maturity Terms	Fixed Coupon Rate (% per annum)	Number of Investors	%
5 years	4.00	87	20
7 years	4.50	10	2
10 years	5.00	345	78

Source: Reserve Bank of Fiji

6. Conclusion and Policy Implications

The financial markets no longer operate in isolation and with limited financial instruments. Thus, globalisation enables greater access to global markets, diversified financial tools, technology driven exchanges (over the counter exchange) and streamlined investment opportunities (individual specific products beyond national borders). However, the benefit realized by potential investor is subjected to the financial knowledge, skills and behaviour. In 2012 the Fijian government diversified the bond market with Viti bonds specifically for pensioners and small retail investors. The retail bonds had benefits ranging from tax exemption, relatively higher guaranteed return, flexibility in holding bonds and risk free. Moreover, private holding of demand deposit signalled sufficient liquidity for small investors. However, the response by Fijian investors had been restrictive with under-subscription from initial year of issue.

The cautious behaviour of Fijian investors may be attributed to: (1) new financial instruments are inelastic and with lapse of time it may foster greater participation, (2) perceived financial norm of savings in the bank (3) accessibility of Viti bonds as the trading is non-electronic and only facilitated at the RBF and (4) the lowest denomination of Viti bond available is FJ$1000. Moreover, the causation between financial literacy programs and accelerated investment activity is open to wide scope of interpretation. In this study the conceptual model of financial literacy is the inter-connectedness between actual financial knowledge; perceived knowledge and financial behavior. Thus, to strengthen perceived knowledge the literacy programs need to community specific to reconstruct ideology towards investing in financial tools and outside the traditional savings schemes of commercial banks

In isolation of financial literacy programs, few short run remedies to brew interest in trading of Viti bonds in light of the success of the America's Liberty bonds (1) Viti bonds should be more readily available whereby domestic commercial banks can facilitate the trading and at the same time, commercial banks can accept these bonds as collaterals, (2) the lowest denomination for trading of Viti bonds can be pegged at FJ$100 to build the motivation for diversifying investment options, (3) massive promotion campaign on Viti bonds with motive of patriotic partnership – *'Investing in Fijian Made'* (engaging Fiji Sevens Men Team[8] as official ambassadors) and (4) current Viti bonds holders can be interviewed to compile a case study in collaboration with the Reserve Bank of Fiji that would serve as success stories of investing..

The long run approach may focus on financial literacy programs as investment skills are no longer confined within the workplace programs or captured by the school curriculum whereby, financial literacy programs need to be behavior and population specific as there is no one shoe that fits all. In addition, financial counseling centers can be established in each towns and cities (shared office in government building). Furthermore, financial behaviors are lag effects of financial literacy program thus; the current financial literacy efforts will boost future market participation. On the same note, the young Fijian adults (15 – 20 years) who are presently financially excluded (Fiji Financial Inclusion Demand Side Survey) will emerge as well-educated and rational investors of tomorrow. In addition, poor financial decision is not economy specific that is; it exists in developed and developing countries. However, financial failures are not instant and builds up unobserved like a sitting time bomb with huge cleanup cost.

Further research on Viti bonds may utilize improved data set that would permit regression analysis as Viti bonds were introduced in 2012 and this study has exploited only 5 years data with deceptive statistics. In addition, this research can be expanded with primary data collection on actual savings behavior that would permit assessing linkage with financial literacy programs.

References

[1] Cole, S., Sampson, T. and Zia, B. (2009), *Financial Literacy, Financial Decisions, and the Demand for*

[8] Fiji sevens team is one of the most successful rugby sevens teams in the world. Fiji sevens team won the first ever Olympic gold medal in 2016 games.

Financial Services: Evidence from India and Indonesia. [online] Available at: http://www1.worldbank.org/prem/poverty/ie/dime_papers/1107.pdf [Accessed 13 Apr. 2017].

[2] Davis, K., Higgins, R. and Ralston, D. (2011), Household Saving and Investing for Life-Cycle Events: Government incentives and Insurance Bonds. *The Australasian Journal of Applied Finance*, [e-journal] 3, 32-37.Available through: ProQuest [Accessed 13 June 2019].

[3] Geetha, N. and Ramesh, M. (2011), *A Study on People's Preference in Investment Behavior*.[online] Available at: http://ijemr.in/A%20Study%20on%20People%20Preferences%20in%20Investment%20Behaviour.pdf [Accessed 4 May 2017].

[4] Gounder, N. (2012), *Financial Development and Economic Growth in Fiji: New Empirical Evidence*. [online] Available at: https://www120.secure.griffith.edu.au/research/file/284741e2-ce97-4ff2-a90f-b0c941523db7/1/2012-11-financial-development-and-economic-growth-in-fiji.pdf [Accessed 2 Apr. 2017].

[5] Hilgert, M., Hogarth, J. and Beverley, S. (2003), *Household financial management: The connection between knowledge and behavior*. Federal Reserve, pp.309-322.

[6] Hilt, E., & Wendy, M. R. (2016), Turning citizens into investors: Promoting savings with liberty bonds during world war I. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 2(6), 86-108. Available through Proquest [Accessed 17 July 2019].

[7] Hung, A., Parker, A. and Yoong, J. (2009), *Defining and Measuring Financial Literacy RAND*. [online] Rand.org. Available at: http://www.rand.org/pubs/working_papers/WR708.html [Accessed 2 Apr. 2017].

[8] International Monetary Fund and The World Bank (2007), *Financial Sector Assessment Fiji*. [online] Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/7620/SecM200700477.pdf?sequence=1&isAllowed=y [Accessed 3 May 2017].

[9] Jayaraman, T. (2013), Understanding Viti Bonds 2013. *Fiji Sun*. [online] Available at: http://fijisun.com.fj/2013/01/12/understanding-viti-bonds-2013/ [Accessed 3 May 2017].

[10] Karlan, D., Ratan, A. and Zinman, J. (2014), *Savings by and for the Poor: A Research Review and Agenda*. [online] Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/roiw.12101 [Accessed 17 July 2019].

[11] Klapper, L., Lusardi, A. and Oudheusden, P. (2015), *Financial Literacy around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey*. [online] Available at: http://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf [Accessed 9 Apr. 2017].

[12] Lusardi, A. and Mitchell, O. (2017), *Financial Litercay and Retirement Preparedness and Implications for Financial Education*. [online] Available at: http://www.dartmouth.edu/~alusardi/Papers/Financial_Literacy.pdf [Accessed 4 May 2017].

[13] Lusardi, A. and Mitchell, O. (2014), The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature*, 52(1), pp.5-44.

[14] Ministry of Economy (2016), *Fijian Government Debt Report for the Year Ending December 2015*. Available at: www.economy.gov.fj/s/newsletters-inside-fmr-2.html?...2015-government-debt-report [Accessed 13 April 2017].

[15] Reddy, M. (2006), *Assessing Sustainability of Fiji's Public Debt: A Cointegration Analysis Approach*. [online] Available at: http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=83E9812CDD741301EDE8F72464C04371?doi=10.1.1.510.4060&rep=rep1&type=pdf [Accessed 15 May 2017].

[16] Reserve Bank of Fiji, (2015), *Financial Services Demand Side Survey Republic of Fiji*. Suva: Reserve Bank of Fiji. Available at: http://www.pfip.org/wp-content/uploads/2016/08/Fianancial-Services.pdf [Accessed 3 July 2019].

[17] Reserve Bank of Fiji, (2015), *Reserve Bank of Fiji Annual Report 2015*. Suva, Reserve Bank of Fiji. Available at: https://www.rbf.gov.fj/getattachment/8fcbe7e0-9b82-4b6e-99c6-536e04dbca82/RBF-AR-2015-19.pdf.aspx [Accessed 29 April 2019].

[18] Reserve Bank of Fiji, (2017), *Reserve Bank of Fiji August 2016 – July 2017 Report*. Suva, Reserve Bank of Fiji. Available at: https://www.rbf.gov.fj/getattachment/Publications-(1)/Reserve-Bank-Annual-Reports/RBF-AR-16-17.pdf?lang=en-US [Accessed 29 April 2019].

[19] The World Bank, (2016), *World Bank Country and Lending Groups – World Bank Data Help Desk*. [online] Datahelpdesk.worldbank.org. Available at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519 [Accessed 2 Apr. 2017].

[20] The World Bank (2008), *Global Development Finance 2008 (Vol I. Review, Analysis, and Outlook)- The Role of International Banking*. 1st ed. Washington, D.C.: The World Bank.

[21] USP (2011), *Story - The University of the South Pacific News*. [online] Available at: http://www.usp.ac.fj/news/story.php?id=763#.WQpv5Te4rIV [Accessed 4 May 2017].

[22] Waqabaca, C. (2004), *Financial Development and Economic Growth in Fiji*. [online] Available at: http://www.rbf.gov.fj/docs/2004_03_wp.pdf [Accessed 3 May 2017].