Macroeconomic dynamics in a dollarised economy: A BVAR Approach

Prudence Stephen Moyo* and Nicola Viegi‡

Abstract

This paper investigates the impact of domestic and external shocks in a dollarised economy. We estimate a Bayesian VAR model using Zimbabwean data for the period 2010M10 to 2014M12. Our results tend to suggest the presence of Contractionary Fiscal Expansion. We also show that a positive shock to the US Fed rate has no significant impact on output and inflation.

Key words: Bayesian VAR, Dollarisation, Fiscal policy, interest rate, Money

JEL Code: C11, E62, E43, E51

1 Introduction

How does a dollarised economy respond to domestic and external shocks? Answers to these important questions are scarce in literature, yet they are very useful for evidence - based policy formulation.

This paper uses a BVAR analysis to investigate macroeconomic dynamics in Zimbabwe after dollarisation. This paper specifically examines the transmission mechanism of fiscal policy shocks in a dollarised economy. Although there exist wide-ranging debates on fiscal policy in optimal currency areas such as the European Union, dollarised economies have received less attention. The keynesian theory predicts that fiscal expansion increases output and inflation, while non - keynesians suggest that positive fiscal shocks can be contractionary, if the transmission of fiscal policy through the demand channel dominated is dominated by other channels.

Empirical studies focussing on fiscal policy effects in dollarised economies are particularly important, given that evidence exists that dollarised countries are continuing to face fiscal slippages. In fact, fiscal slippages in Panama, a country with more than a century of experience with full dollarisation, have been found to be a rule rather than an exception. This paper seeks to fill this research gap.

*Reserve Bank of Zimbabwe

†South African Reserve Bank, Proffesor Chair of Monetary Economics

‡*Disclaimer: The views expressed in this paper are those of the author and do not necessarily coincide with those of the Reserve Bank of Zimbabwe

This paper also investigates the impact of shocks to domestic interest rates, US dollar supply and the Fed rate on Zimbabwe. Existing studies tend to suggest that a deterioration in domestic funding conditions weighs down output and inflation.

Rajan, (2004) posits that negative shocks on the quantity of US dollars can cause effects consequences on a dollarised economy. US dollar shortages in a dollarised economy have been found to emanate from an overvalued exchange rate, excessive government expenditures, the sudden stop of external dollar inflows, bank runs on dollars, and an unsustainable balance of payment position. Without question, if the economy has less dollars than what is demanded by economic agents, US dollar interest rates will increase resulting in a decline in both aggregate economic activity and inflation.

We also show the impact of the US Fed shock on the Zimbabwean economy. The transmission of the US Fed rate shocks on a dollarised economy depends on trade links and financial market integration. In the case of countries with high levels of integration with the US economy in goods and financial markets, the impact of shocks to US monetary shocks on macroeconomic variables would be pronounced. Consequently, a US monetary policy contraction would spill over to domestic interest rates. The responses of macroeconomic variables, however, could depend on the nature of dollarisation.

Canova, (2005) finds that the output responses of US monetary shocks in Panama are not clear; though, inflation increases slightly. Willems, (2013) investigates the effects of a US monetary policy contraction for Equador El Salvador and Panama and finds that it leads to a fall in prices. This notwithstanding, the impact on output does not show a clear response. Cordahi and Goux, (2007) opines that the impact of a US fed rate hike on Lebanese inflation and output is small and negligible.

This paper uses three variable BVAR models, derived from a large VAR model to investigate the impact of domestic and external shocks on the Zimbabwean economy. First, we find evidence supporting the Contractionary Fiscal Expansion. Second, a positive shock to government expenditure tends to increase domestic interest rates, which, in turn causes prices to fall. Third, an increase in money supply tends to cause domestic interest rates to initially increase. Fourth, a Fed rate hike has no significant impact on inflation and output.

The rest of the paper is organised as follows: Section 2 reviews stylised facts of the Zimbabwean economy. Section 3 reviews empirical literature. The discussion of methodology appear in Section 4. The description of data is presented in Section ... Section 5 analyses the empirical findings and Section 6 concludes.

2 Stylized facts of the Zimbabwean economy under dollarisation

Zimbabwe dollarised in February 2009 when government adopted the use of multi-currencies. This followed a hyperinflation episode which triggered economy wide substitution of the local currency with multiple currencies. Dollarisation halted excessive money printing by the Central Bank, and led to an abrupt end to hyperinflation. During the first year of dollarisation the country recorded negative inflation as a result of price correction, following an episode of pronounced price distortions.

Economic growth accelerated from 5.6% in 2009 to reach a peak of 11.9% in 2012 making Zimbabwe one of the fastest growing economies in the world. This was at a time when the rest of the world was in recession, with US Fed rates approaching Zero Lower Bound (ZLB).

In 2013 the economic growth started slowing down and that also coincided with the end of the Government of National Unity. Signs of economic distress emerged. The country's exports started declining, partly as a consequence of a slump in global commodity prices and the appreciation of real effective exchange rates, following the strengthening of the US dollar against major global currencies. Domestic output fell causing a decline in inflation. Figure 2 shows some key macroeconomic indicators:

Figure 1:

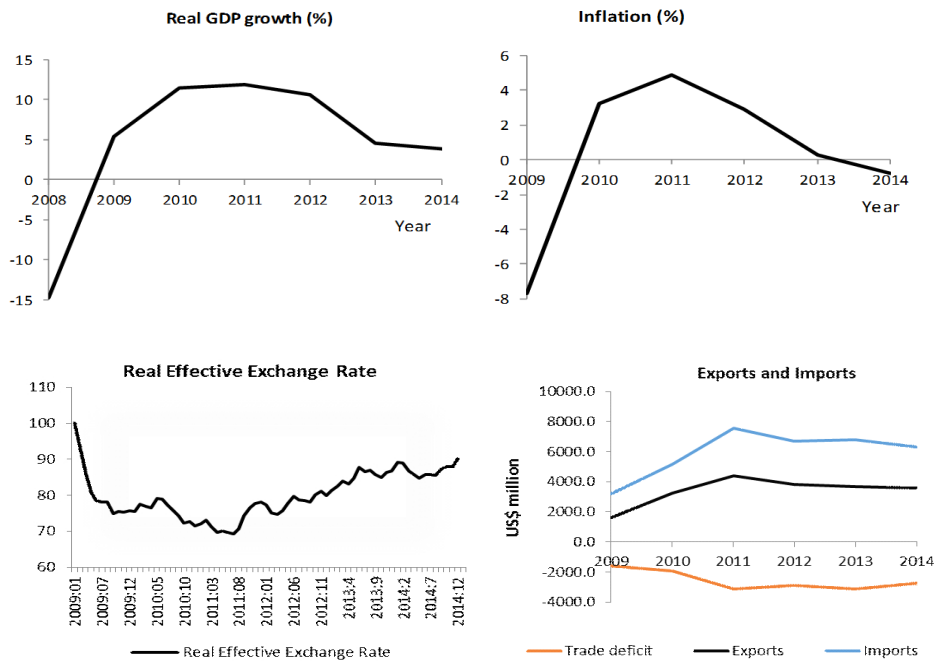


Figure 2: Key macroeconomic indicators: Source RBZ and ZimStat

Figure 3:

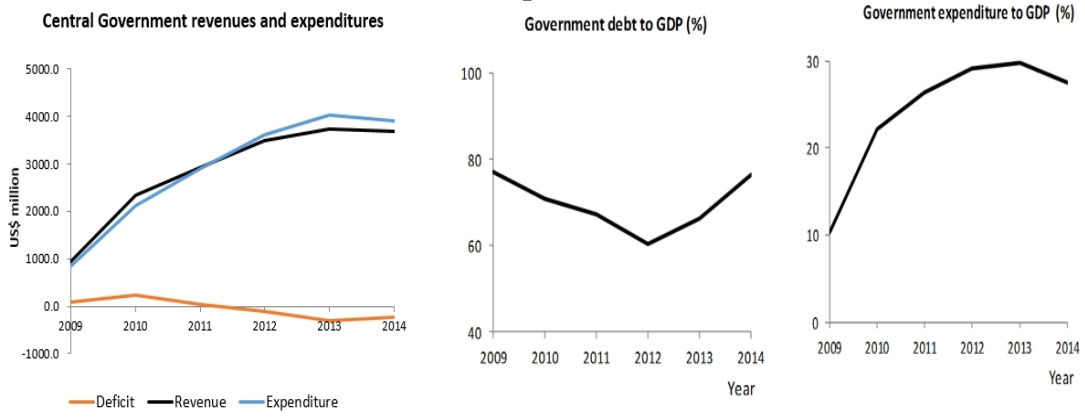


Figure 4: Fiscal indicators: Source Ministry of Finance and Economic Development (MoFED)

2.1 Government Finances

Dollarisation in Zimbabwe was not supported by meaningful economic stabilisation financing. Zimbabwe, however, benefited from a decision by the IMF to boost the reserves of qualifying member countries and was allocated SDR500 million in 2009. Zimbabwe remained in arrears on its domestic and external debt obligations and that impacted on the country's sovereign risk profile. In addition there was no evidence of an irreversible commitment to change the level and structure of government expenditures. The rapid economic growth for the period 2010 to 2012 resulted in a rise in both the government revenues and expenditures leading to adecline in the country's debt - to GDP - ratio. The slowdown of economic growth in 2013 and 2014 resulted in slower government revenue. Government expenditures, however, remained largely rigid and that widened fiscal deficits. Fiscal indicators are shown in Figure 4 below.

2.2 Liquidity developments

Following the dollarisation of the Zimbabwean economy, sources of money for the banking system have mainly been exports, foreign direct investment, aid, grants and diaspora remittances. Those amplified the fragility of the economy in the event of a sudden stop of dollar inflows. As shown by Table 1, foreign currency inflows increased from 2009 to 2012, before declining sharply in 2013 and 2014. Table 1 shows that when foreign currency inflows fell, external payments surged partly as a result of a higher import bill.

As expected, the banking sector in Zimbabwe benefited immensely from a massive growth of US dollar inflows in the first four years of dollarisation, as shown in Figure 5. The decline in economic activity and the the ensuing net US dollar outflows, however, amplified banking sector fragility, as shown in Figure 5.

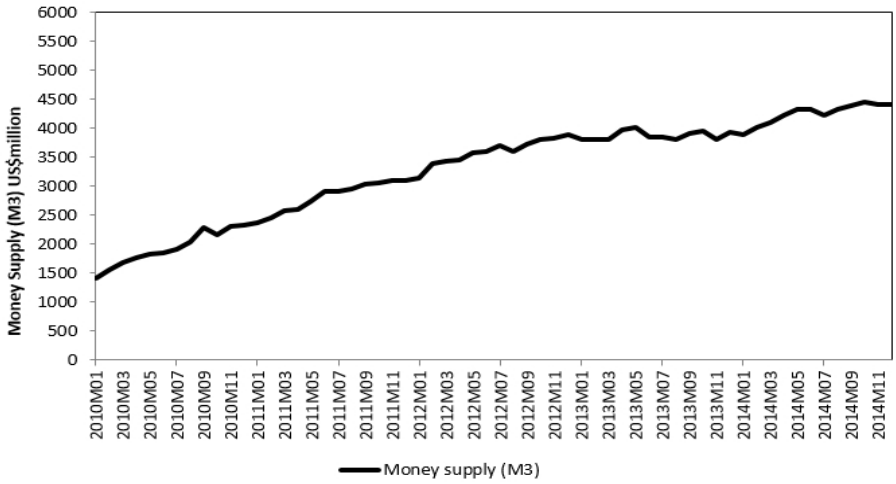


Figure 5: Broad money supply: RBZ

2.3 Domestic interest rate

The Reserve Bank of Zimbabwe had limited control over domestic interest rates. Interest rates were determined by banks, based on domestic pricing conditions. Given that the US dollar was a dominant currency in Zimbabwe during the study period, it would be expected that the US Fed rate would be closely related to domestic interest rates, but this was not the case. This was expected, because the US Fed kept interest rates low and made no significant changes to the rates during our period of analysis. Therefore, the high domestic interest rates largely reflected inherent risk factors. Part of the risk could be sovereign, given that the Government of Zimbabwe accumulated arrears on its external debt since 1999. Figure 6 below shows domestic interest rates and the Fed rate for the period 2010 to 2014.

	2009	**2010**	**2011**	**2012**	**2013**	**2014**
Total foreign currency inflows (US$m)	**2,486**	**3,389**	**5,668**	**7,502**	**7,648**	**6,498**
Banked export receipts	1,618	2,287	3,281	4,454	4,535	3,678
International remittances	727	993	1,831	2,030	1,822	1,756
External loans	28	43	167	477	688	825
Income receipts	104	66	237	291	203	77
Foreign investments	9	0	152	250	400	162
Total foreign currency outflows (US$m)	**2,486**	**2,496**	**6,100**	**8,200**	**8,887**	**8,706**

Table 1: Foreign currency inflows and outflows

3 Methodology

This study uses BVARs proposed by Koop and Korobolis, (2010) to analyse macroeconomic dynamics in Zimbabwe. Bayesian estimation for VAR models addresses the criticisms of VAR models. The VAR models were popularised by Sims (1980) as a tool for macroeconomics modeling due to; their ability to allow all the variables to be endogenous in the system and their ability to accommodate the imposition of restrictions on the system dynamics to improve the forecasting performance. However, VAR models are often criticised for ignoring underlying theoretical assumptions and institutional knowledge in their identification . In addition, the models suffer from the dimensionality curse. As the number of variables in the model increase, the number of parameters to be estimated increases, there is loss of degrees of freedom and this increases data requirements for the model to be solved. This creates challenges for estimating VAR models for countries with short data series such as Zimbabwe. The Bayesian implementation of VAR models, however, overcomes overparameterisation, Litterman (1980). Precisely, Bayesian VARs shrink an over parameterised VAR by introducing prior distributions, Banbura, Giannone, and Reichlin , (2010). Resultantly, BVAR models have gained wide usage the models in literature, as an alternative for VAR techniques, Litterman, (1980).

3.1 Standard Vector Autoregressive model

We describe the macroeconomic dynamics of the Zimbabwean economy using a dynamic system presented as follows:

$$Ay_t = c + \Omega_1 y_{t-1} + \Omega_2 y_{t-2} + ...\Omega_p y_{t-p} + B\varepsilon_t \tag{1}$$

where, y_t is an $M \times 1$ vector of M macroeconomic variables for $t = 1...T$; A is a matrix of coefficients that describes the contemporaneous relationships of the macro-

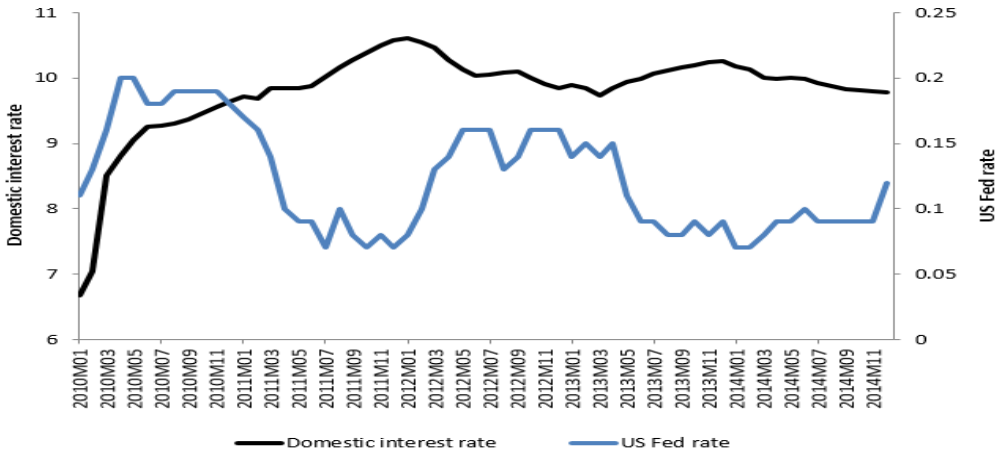


Figure 6: Domestic interest rate and Fed rate: Source own calculations and FRED

economic variables; Ω_i is an $M \times M$ matrix of coefficients of lagged macroeconomic variables for $i = 1...p$; ε_t is an $M \times 1$ vector of uncorrelated errors that are white noise and B is an $M \times M$ matrix, with non- zero diagonal elements, that allow for direct effects of some shocks to macroeconomic variables in the system. Following Koop and Korobolis, (2010) we present Equation 1 as follows:

$$y_t = \Phi_0 + \sum_{x=1}^{p} \Pi_i y_{t-i} + \mu_t \tag{2}$$

where $\Phi_0 = A^{-1}c$; $\Pi_i = A^{-1}\Omega_i$ and $\mu_t = A^{-1}B\varepsilon_t$, where $\mu_t \tilde{} iidN(\Sigma, 0)$. The vector y_t is a vector made up of the our monthly data series; Π_i is a matrix of auto-regressive coefficients, while μ_t denotes a matrix of errors that are normally distributed with zero mean and constant variance.

After estimating Equation 2 and obtaining estimates of the reduced form VAR we can separate structural shocks from the estimated reduced form residuals by imposing restrictions on parameters on matrices A and B in the following equation:

$$A\mu_t = B\varepsilon_t \tag{3}$$

3.2 Identification of the structural model

We use Cholesky decomposition, discussed in Sims (1980), on matrix A. Matrix B consists of diagonal elements. The ordering of variables for matrices A and B is following proposals by Favero, (2001), who posits that the most endogenous variable is ordered last. Our identification structure assumes that Fed rate has no effect on money supply, output has no effect on money supply, prices have no immediate effect on output, and government expenditure has no effect on prices and domestic interest rates. We present a system that separates the reduced form shocks and structural disturbances, as shown below:

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ a_{13} & a_{23} & 1 & 0 & 0 & 0 \\ a_{14} & a_{24} & a_{34} & 1 & 0 & 0 \\ a_{15} & a_{25} & a_{35} & a_{45} & 1 & 0 \\ a_{16} & a_{26} & a_{36} & a_{46} & a_{56} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^{FR} \\ \mu_t^{M\$} \\ \mu_t^{Y} \\ \mu_t^{CPI} \\ \mu_t^{G} \\ \mu_t^{R} \end{pmatrix} = \begin{pmatrix} b_{11} & 0 & 0 & 0 & 0 & 0 \\ 0 & b_{22} & 0 & 0 & 0 & 0 \\ 0 & 0 & b_{33} & 0 & 0 & 0 \\ 0 & 0 & 0 & b_{44} & 0 & 0 \\ 0 & 0 & 0 & 0 & b_{55} & 0 \\ 0 & 0 & 0 & 0 & 0 & b_{66} \end{pmatrix} \begin{pmatrix} \varepsilon_t^{FR} \\ \varepsilon_t^{M\$} \\ \varepsilon_t^{Y} \\ \varepsilon_t^{CPI} \\ \varepsilon_t^{G} \\ \varepsilon_t^{R} \end{pmatrix} \tag{4}$$

Our ordering of money supply and the Fed rate take into account that Zimbabwe is a dollarised economy. In fact, foreign interest rate and money supply are exogenous variables. The third and fourth equations suggest that output responds with a lag to government expenditure and domestic interest rate. Government expenditure is assumed to be affected by all variables, save for domestic interest rates. The Government of Zimbabwe borrows at market interest rates because the Central Bank

cannot print money. We follow the standard modelling of domestic interest rates in structural auto-regression models and assume that domestic interest rates are affected by government expenditure, prices, ouput, money supply and the Fed rate, see also Ngalawa and Viegi, (2011).

3.3 Estimation and scope of analysis

Given the short nature of the Zimbabwean data used in this study we analyse macroeconomic dynamics in Zimbabwe by estimating 5 trivariate Bayesian VAR Models using different data combinations using Koop and Korobolis, (2010). We shrink the parameter using the the minesota prior. Precisely, we investigate how the economy responds to domestic and external shocks. First, we analyse the effect of government expenditure shock on output and prices. Second we investigate the impact of fiscal expenditures on domestic interest rates and output. Third, we study the effect of domestic interest rates on output and prices. Fourth, we investigate the the impact of money supply shock on domestic interest rates and government expenditure. Our last analysis investigates the effect of a Fed rate shock on output and inflation.

4 Data

The variables used for our study are as follows: Three months Fed rate (FR_t); banking sector broad money supply ($M\$_t$); both with unrelated exogenous processes; output (Y_t), proxied by the manufacturing index; prices (CPI_t); inflation is represented by (INF_t), government expenditure (G_t) and domestic interest rate (R_t).All the variables used for estimating the trivariate BVAR models are in levels. This allows for implicit cointegrating relations among the macroeconomic variables. All variables have monthly frequency for the period from 2010:M1 to 2014:M12. All variables are seasonally adjusted and expressed in logarithms except for domestic interest rates and the Fed rate that are expressed in percentages. Our measure of output is the manufacturing index[1], Consumer Price Index and inflation are all sourced from the ZimStat Quarterly Digest of Statistics. Money supply is the M3 data sourced from the Reserve Bank of Zimbabwe monetary survey. The source of government expenditure is the Ministry of Finance and Economic Development Government government outturn. The domestic interest rate is the weighted domestic interest rate derived from own computations. Our source of the US Fed rate rate is the Federal Reserve Bank of St Louis (FRED) database.

[1]Monthly GDP data is unavailable in Zimbabwe.

5 Results and Analyis

We estimate a Bayesian VAR model using Zimbabwean data for the Period 2010M1 to 2014M12. We set lag order to one due to the short nature of the Zimbabwean data. We shrink parameters using the Minnesota prior[2] with hyper-parameters set as $(a_1, a_2) = (0.5, 0.5)$ and $a_3 = 100$ and iterate over 10000 draws. We report the results for one standard deviation shock to the Fed rate, government expenditure, money supply and domestic interest rate.

5.1 Government spending

5.1.1 Government spending shock

We analyse the macroeconomic dynamics of a fiscal expenditure shock, using a trivariate BVAR model, comprising of the following variables:

$$y_t^{'} = [Y_t, CPI_t, G_t] \tag{5}$$

Following the identification scheme outlined in (5), the fiscal policy model is identified as follows:

$$\begin{pmatrix} 1 & 0 & 0 \\ a_{34} & 1 & 0 \\ a_{35} & a_{45} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^Y \\ \mu_t^{CPI} \\ \mu_t^G \end{pmatrix} = \begin{pmatrix} b_{33} & 0 & 0 \\ 0 & b_{44} & 0 \\ 0 & 0 & b_{55} \end{pmatrix} \begin{pmatrix} \varepsilon_t^Y \\ \varepsilon_t^{CPI} \\ \varepsilon_t^G \end{pmatrix} \tag{6}$$

We find that government expenditure effects in Zimbabwe are non-Keynesian. Giavazzi and Pagano (1990) and Blanchard (1990) were the first to find non-Keynesian effects of fiscal policy when they popularised the Expansionary Fiscal Contraction (EFC) terminology. These were followed by McAleese (1990), Alesina and Ardagna (1998), Blanchard (1990), Barry and Devereux, (1992), Sutherland (1997), Alesina, Perotti and Tavares, (1998), and others. These studies found that a fiscal contraction can result in an increase in output and inflation. Our paper finds the opposite of this terminology i.e. Contractionary Fiscal Expansion. Evidently, a one standard

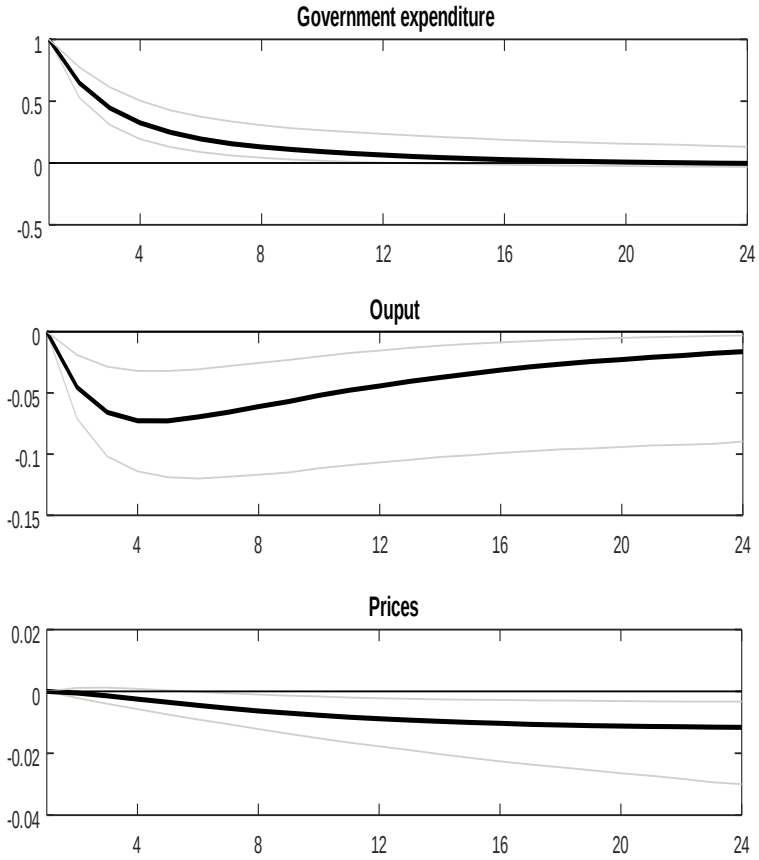
[2]The Minnesota prior idea was originally developed by Bob Litterman to shrink certain coefficients of b to zero and reduce overfitting challenges, Doan, Litterman and Sims, (1984) and Litterman, (1986).Since then variants of the Minnesota prior have been used in literature, see Banbura, Giannone and Reichlin (2010) and Korobolis and Koop, (2010) among others. This paper uses the Minnesota prior version discussed in Korobollis and Koop, (2010) summarised below: The Minnesota prior assumes that

$$b \tilde{} N(0, \underline{V}_{MIN})$$

Where, $\underline{V}_{MIN}$ is a diagonal co-variance matrix which has ii diagonal elements denoted by: The shrinkage simplifies the specification of $\underline{V}_{MIN}$ elements with a vector of pres-selected hyper-parameters a_1, a_2, and a_3, where $(a_3 \geq a_2 \geq a_1)$. Noticeably, the prior shrinks the VAR by imposing a penalty for increasing lag length and also ensures that own lags are important, compared to lags of other variables i.e $a_2 \geq a_1$. Further, the prior requires Σ to be known in advance and the posteriors take the prior distribution form.

deviation increase in government expenditure leads to lower output and prices. The possible explanantions for our result is: The accumulation of arrears by government with domestic and foreign creditors is likely to be amplifying the dominance of the transmission of fiscal policy through the sovereign risk premium over the demand channel in Zimbabwe. Figure 7 shows the impulse responses of the fiscal policy shock.

Figure 7: Government Spending Shock responses



5.1.2 Government spending shock

We investigate the macroeconomic dynamics of an unanticipated government expenditure shock on domestic interest rate and output, using a trivariate BVAR model. The endogenous variables included in y_t are presented below:

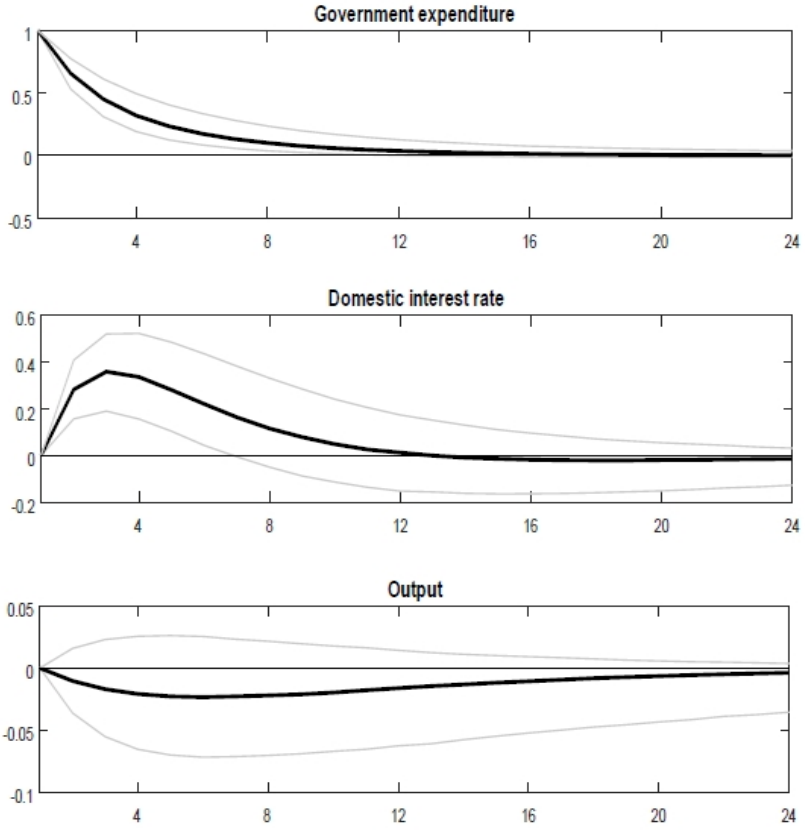
$$y_t^{'} = [Y_t, G_t, R_t] \tag{7}$$

Our identification for the fiscal model follows the identification scheme outlined in 7 and is presented as follows:

$$\begin{pmatrix} 1 & 0 & 0 \\ a_{35} & 1 & 0 \\ a_{36} & a_{56} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^Y \\ \mu_t^G \\ \mu_t^R \end{pmatrix} = \begin{pmatrix} b_{33} & 0 & 0 \\ 0 & b_{55} & 0 \\ 0 & 0 & b_{66} \end{pmatrix} \begin{pmatrix} \varepsilon_t^Y \\ \varepsilon_t^G \\ \varepsilon_t^R \end{pmatrix} \tag{8}$$

We find additional evidence that supports the presence of non-Keynesian effects of fiscal policy in Zimbabwe. Our results show that fiscal policy is transmitted through the sovereign risk premium channel. A positive government expenditure shock leads to higher domestic interest rates and lower output. Overall, we find that the transmission of fiscal policy through the sovereign risk premium channel dominates the demand channel. Figure 8 shows the impulse responses of a government expenditure shock.

Figure 8: Response to Government Spending Shock



5.2 Domestic interest rate shock

We investigate the effect of domestic interest rate on output and prices using BVAR model. Our variables are shown below:

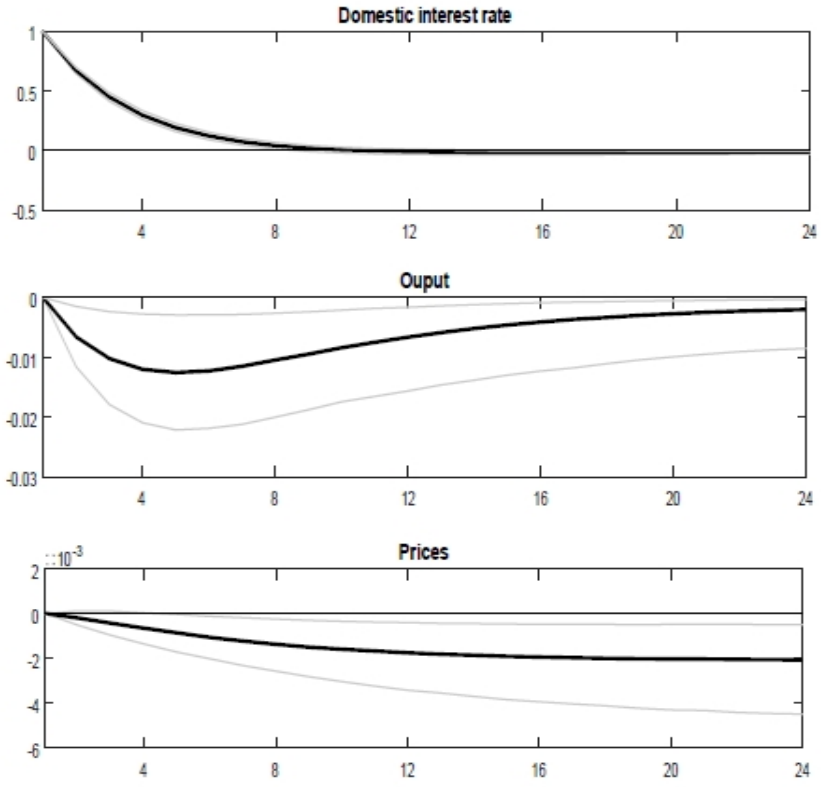
$$y_t^{'} = [Y_t, CPI_t, R_t] \tag{9}$$

Using the identification scheme in 9, our identification for the interest rate model is as follows:

$$\begin{pmatrix} 1 & 0 & 0 \\ a_{34} & 1 & 0 \\ a_{36} & a_{46} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^Y \\ \mu_t^{CPI} \\ \mu_t^R \end{pmatrix} = \begin{pmatrix} b_{33} & 0 & 0 \\ 0 & b_{34} & 0 \\ 0 & 0 & b_{66} \end{pmatrix} \begin{pmatrix} \varepsilon_t^Y \\ \varepsilon_t^{CPI} \\ \varepsilon_t^R \end{pmatrix} \tag{10}$$

Our results on domestic interest rate shock are in line with broad anecdotal empirical findings. Specifically, a one-standard deviation increase in the domestic interest rate, leads to a decline in output and inflation. These findings support propositions by Rajan, (2004) who finds that an increase in US dollar domestic interest rates negatively affects output and inflation. In addition, these results are in line with conventional wisdom. The impulse responses of a positive shock to a domestic interest rate shock are shown in Figure 9.

Figure 9: Response to domestic interest rate shock



5.3 Money supply shock

We investigate the dynamics of a money supply shock, using a three variable BVAR model. The model variables are money supply, government expenditure and domestic interest rate, as shown below:

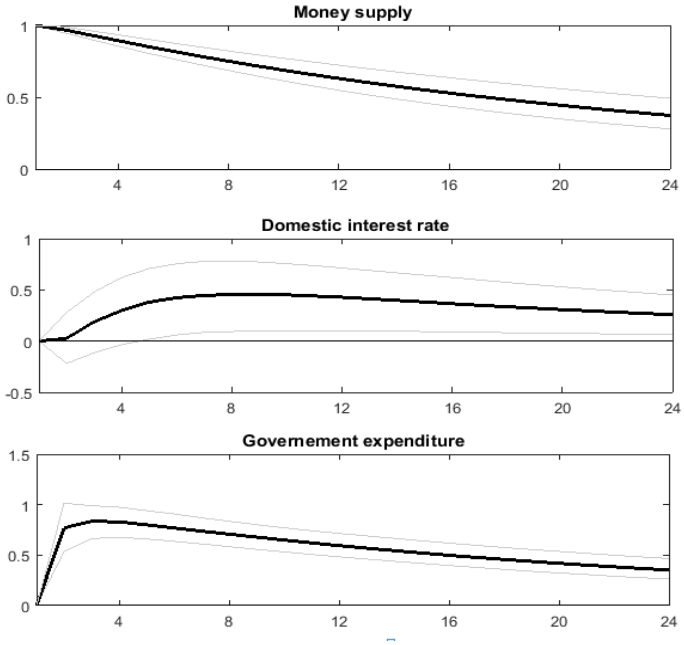
$$y_t^{'} = [M\$_t, G_t, R_t] \tag{11}$$

Following the identification scheme presented in 11, the identification of the money supply model is presented as shown below:

$$\begin{pmatrix} 1 & 0 & 0 \\ a_{25} & 1 & 0 \\ a_{26} & a_{56} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^{M\$} \\ \mu_t^{G} \\ \mu_t^{R} \end{pmatrix} = \begin{pmatrix} b_{22} & 0 & 0 \\ 0 & b_{55} & 0 \\ 0 & 0 & b_{66} \end{pmatrix} \begin{pmatrix} \varepsilon_t^{M\$} \\ \varepsilon_t^{G} \\ \varepsilon_t^{R} \end{pmatrix} \tag{12}$$

Our results tend to suggest that the quantity of US dollars has a role to play in explaining macroeconomic dynamics in Zimbabwe in the short run. We find that a positive increase in the supply of US dollars initially increases the domestic interest rates for 8 months followed by a and gradual decline thereafter. In addition, the increase in the domestic interest rate is statistically significant. The causes of the increase could be twofold. Firstly, an increase in money supply leads to an increase in government expenditure, which in turn lead to a rise in the sovereign risk premium which spills over to domestic interest rates. Secondly, an increase in the quantity of US dollars in a dollarised economy increases money demand, causing domestic interest to increase if money supply outstrips demand. In summary, we find that the domestic interest rate tends to be affected by the supply of US dollars as well as government spending. Figure 10 shows the impulse responses of a money supply shock.

Figure 10: Response to money supply shock



5.4 Fed rate shock

We investigate the macroeconomic dynamics of a US Fed rate shock using a three variable BVAR model with the following variables: Fed rate, output and inflation, as shown below.

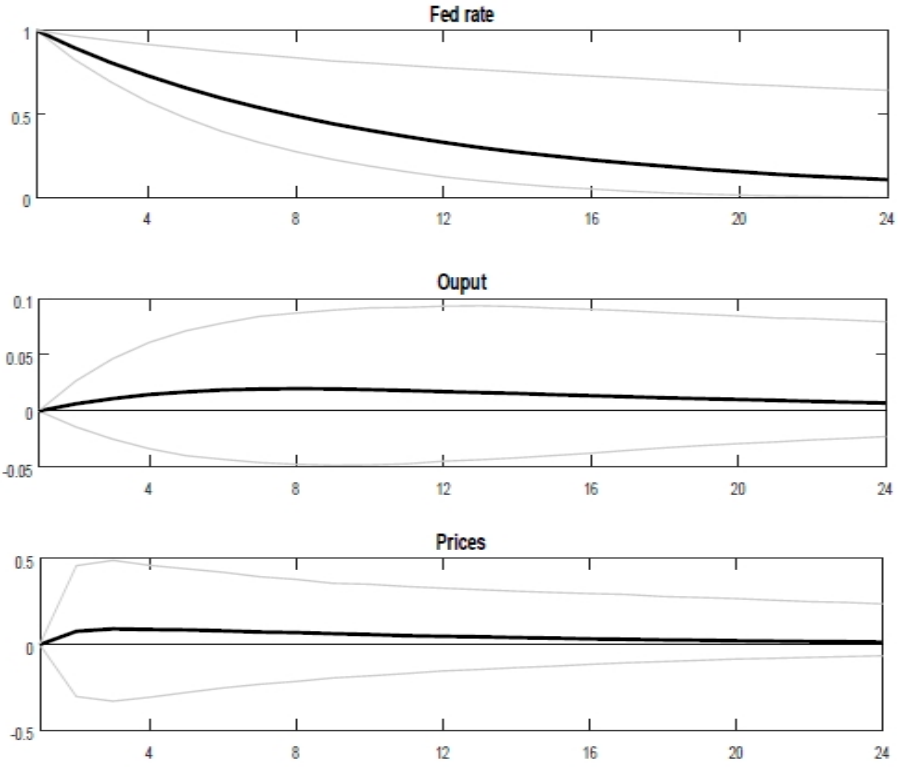
$$y_t^{'} = [FR_t, Y_t, INF_t] \tag{13}$$

Using Equation 13 we present a relationship between the model structural shocks and estimated residuals in reduced form as shown below:

$$\begin{pmatrix} 1 & 0 & 0 \\ a_{13} & 1 & 0 \\ a_{14} & a_{34} & 1 \end{pmatrix} \begin{pmatrix} \mu_t^{FR} \\ \mu_t^{Y} \\ \mu_t^{P} \end{pmatrix} = \begin{pmatrix} b_{11} & 0 & 0 \\ 0 & b_{33} & 0 \\ 0 & 0 & b_{44} \end{pmatrix} \begin{pmatrix} \varepsilon_t^{FR} \\ \varepsilon_t^{Y} \\ \varepsilon_t^{CPI} \end{pmatrix} \tag{14}$$

Our results show that following a one standard deviation shock to the US Fed rate shock, the responses of output and prices are small and statistically insignificant. Our results are unsurprising. This is, partly, on account of the weak integration linkages between the economies of Zimbabwe and the US economy. Another reason is that the US Fed rate did not register significant changes during our period of analysis. Figure 11 shows impulses responses of a US Fed rate shock.

Figure 11: Response to a Fed Rate Shock



6 Conclusions

This paper investigates the macroeconomic dynamics of domestic and external shocks in a dollarised economy during the period 2010M1 to 2014M12. We use trivariate Bayesian VAR models with different combinations of macroeconomic time series. Our results show that the responses of output and inflation a Fed rate hike are statistically insignificant. We find evidence of non - Keynesian effects of fiscal policy. In particular, we observe Contractionary Fiscal Expansion. Our findings show that an increase in domestic interest rate causes output and prices to decline. Lastly, we do not find evidence of a liquidity effect. Money has a role to play in a dollarised economy. Empirical findings from this study have policy implications. If the transmission of fiscal policy through the sovereign risk premium dominates the transmission of fiscal policy through the demand channel, this may suggest that procyclical fiscal policy could be having destabilising effects on the Zimbabwean economy. Although the BVAR models produce important characteristics of the Zimbabwean economy, a structural DSGE model could provide more insight into macroeconomic dynamics in Zimbabwe under dollarisation.

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