RELATING FISCAL POLICY AND LENDING BEHAVIOUR

A CASE STUDY OF PAKISTAN

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Abstract

Firms over the course of their borrowing form habits. These habits are later translated into borrowing relationships which can tactically be exploited by banks. The evidence of this study shows that banks during times of economic prosperity charge lower markups. Banks thus, gain an information monopoly over firms' who then find it exorbitant to switch to a new source of finance. The objective primarily from a banker's viewpoint is to increase the customer base and charge higher mark-ups in future. The impulse response functions were estimated to analyze the transmission mechanism of fiscal policy. The identification of the fiscal policy shocks is achieved through the recursive VAR approach. Empirical evidence suggests that the standard neoclassical assumptions hold well for the Pakistan's economy. Moreover, credit spreads were found to behave in a countercyclical fashion which signals the existence of a borrower's holdup effect in the financial markets of Pakistan.

Keywords: Lending relationships, habit formation, fiscal shocks, government spending, countercyclical markups, credit spreads, switching costs, borrower "hold-up"

INTRODUCTION

Throughout the Great Moderation the conventional business cycle literature allotted a rather restricted role to fiscal policy as a stabilizing tool. It was reasoned that fiscal policy was either ineffective on the grounds of Ricardian equivalence or fundamentally not timely, due to its inherent design and operational lags coupled with the typical short length of recessions. As output and inflation displayed a slight variability and monetary policy was able to preserve price and output steadiness, any policy tool other than the monetary policy apparatus was perceived to play only a trivial role (Blanchard et al., 1999). It was not late when crisis hit the world and

traumatized the prodigious confidence that policy makers use to bestow in monetary policy mechanisms. It was this which gave birth to a new discussion and renewed interest in the role fiscal apparatuses play in alleviating the economy.

It is also believed that the banking sector have a role to play in amplifying the consequences of crisis itself via a credit channel. Gertler and Lown, 1999; Aliga-Diaz and Olivero, 2010 discovered a positive connection between credit spreads and recessions. This was further confirmed by Villa and Yang (2011). Lending relationships have been worked upon comprehensively in the economic literature. However, very few authors have dared to carry out a direct examination on the connection concerning the fiscal stimulus and credit spreads. The only attempt made in this regard was by Melina and Villa (2014) who estimated a dynamic stochastic general equilibrium model with lending relationships and fiscal policy.

The present paper doesn't aim to fill this gap by developing a DSGE per say, but estimates of the vector auto regression model are consistent with previous studies done in this regard and serve as a proof that findings of Melina and Villa (2014) holds true for the Pakistan's economy as well.

Research Objectives

Given the empirical relevance of lending relationships and the renewed interest of policy makers and economists in fiscal policy, there is still a need to explore the relationship between fiscal policy and how it affects key macroeconomic variables. The literature also lacks a direct investigation on the connections between government spending and credit spreads. To fill this gap, the objective of the present paper is twofold:

1) To estimate the effects of an expansionary fiscal policy on key macroeconomic variables in Pakistan.
2) To investigate the existence of borrowers' hold-up effect for an economy like Pakistan.

The debate on how government spending affects macroeconomic variables has long been a subject of disagreement among the two famous economic schools of thought namely the Keynesian framework and the Neo-classical framework. The root of disagreement lies in the way a consumer behaves in response to a fiscal policy shock. While there are numerous calls for fiscal policy actions in the last few years, yet stylized facts on the macroeconomic influence of fiscal stimulus have not been predictable yet.

For instance, neoclassical models and New Keynesian models have contrasting forecasts concerning the channel via which government spending affects consumption and real wages. Neoclassical models propose that, in response to a positive government spending

shock, rational households ascertain the possibility of the government to impose higher taxes in future and thus experience a negative wealth effect. Households, inevitably respond to this by saving more and lowering present real consumption levels and curbing leisure activities which in turn increases labour supply. This increase in labour supply leads to a fall in real wages for any given labour demand.

New Keynesian models instead foretell that real wages and consumption increase in response to a positive government expenditure shock. These models often hold features that give rise to countercyclical mark-ups causing labour demand to shift up in response to a government spending shock. This results in higher wages and consumption for the households due to substitution effect or the existence of credit restraints.

Depending on which school of thought the researcher follow and also on the underlying assumptions about households, the empirical literature on fiscal policy finds stylized facts that just do not add up when compared. Vector autoregressive (VAR) models these days have become the main econometric tool to evaluate the consequences of monetary and fiscal policy shocks. While a consensus view has emerged as regards the empirical effects of monetary policy shocks (see Christiano et al. 1999), the empirical literature has struggled so far to provide robust stylized facts on the effects of fiscal policy shocks (see Perotti 2007). In particular, there is no agreement on even the qualitative effects of fiscal policy shocks on macroeconomic variables (private consumption, real wage and private employment) which would be helpful to discriminate among competing theories. (Caldara & Kamps, 2008)

LITERATURE REVIEW

Empirical studies that pertain to the effects of fiscal policy shocks differentiate themselves by other studies by the methodology chosen to identify those shocks. There are four main types of identification approaches that have been used extensively in the domain of fiscal policy shocks. First, the recursive approach introduced by Sims (1980) and applied to study the transmission mechanism of fiscal policy by Fatas and Mihov (2001); second the structural VAR approach proposed by Blanchard and Perotti (2002), third the sign restrictions approach developed by Uhlig (2005) and lastly, the event study approach introduced by Ramey and Shapiro (1998) to study the effects of huge unexpected changes in government defense expenditures.

All studies agree that an increase in government spending will eventually increase output. This finding is consistent with both Neo-Classical and Keynesian frameworks. The major disagreement lies in the effect of government spending shocks on other macroeconomic variables. For instance, Fatas and Mihov (2001), Blanchard and Perotti (2002) find that positive government spending shocks leads to a positive response in private consumption while

Mountford and Uhlig (2005) find the coefficient of private consumption to be close to zero and statistically insignificant.

Ramey (2007) further backs this evidence and reports a fall in private consumption both in the short and long run in response to a government spending shock. Perotti (2007) provides evidence that real wages significantly increase while employment does not respond to shocks in government spending. In contrast, Eichenbaum and Fisher (2004) and Burnside et al. (2004) provide empirical evidence on the continuous and significant fall of real wages whereas employment persistently and significantly increases.

In Pakistan, monetary policy is considered to be a sole tool for alleviating output growth and controlling inflation rates. However, the presence of huge fiscal deficits serves as an obstacle for monetary policy to achieve those objectives. The huge fiscal deficit further adds to high inflation rates because a chunk of government expenditures comprises of aggregate expenditure that results in demand pull inflation. It also effects inflation directly as government often turns to the central bank to borrow and finance those huge deficits.

Several studies have found a significant relationship between budget deficit, money growth and inflation both for both developing and developed countries. Khalid, Wasim et al (2007) in their small macro-economic model of fiscal policy could not identify any transmission mechanism of fiscal policy for output-gap and inflation. In addition to this, they found fiscal policy to be backward looking and contemporaneous. Attiya Yasmin, M. Javed et al. (2010) uses a structural VAR approach. Their results suggest that an expansionary fiscal policy shock improves the current account deficit and depreciates the exchange rate. Ifthikar Ul Hasnain (2010) studied the precise effects of fiscal variables on economic growth and finds that the source of financing of public expenditures has a crucial role in determining its role on economic growth.

Rozina Shaheen and Paul Turner (2012) used recursive VAR as an identification approach and found a statistically insignificant role of government spending shocks in describing changes in output and inflation. However, the use of structural VAR approach in the same paper yield a significant positive role of government spending and taxes in describing changes in output and inflation in Pakistan. Ismail and Fazal (2012) studied the impact of discretionary government spending on output, inflation and employment levels. Their study reports the existence of fiscal discretion but this discretion does not affect output, employment and inflation significantly.

From the above it is clear that there exist little to no consensus on how fiscal shocks are transmitted in an economy like Pakistan. Also mainstream fiscal policy literature usually treats government spending as a homogenous compound where-as theoretical macroeconomic

discussions shows that macroeconomic variables are expected to react very differently to investment vs. consumption spending shocks of the government. From an empirical perspective therefore it is important to distinguish between fiscal variables. This is also crucial from a macroeconomic policy viewpoint: theoretical thoughts indeed propose that fiscal multipliers are very dissimilar for different fiscal variables. It would be thus be appropriate that policymakers choose those variables with the highest influence on the economy given the use of limited spending resources.

Modern macroeconomics have consensus on the well-established evidence pertaining to credit market atmosphere and business cycle dynamics. It is a well-established fact in the empirical literature that credit spreads widen during economic downturns. Aksoy et al. (2009) and Aliaga-Diaz and Olivero (2010) are the pioneers who gained insight and developed theoretical models boasting lending affairs within a framework analogous to the one developed in Ravn et al. (2006). Firms under such setting are assumed to form deep habits in their decision to borrow funds from bank. These habits are later translated into lending relationships, which can be tactically exploited by banks. It has been observed that in times of economic prosperity, firms respond to the lower mark-ups (credit spread) charged by banks. The objective primarily from a banker's viewpoint is to increase the customer base and charge higher mark-ups in future. Banks thus, gain an information monopoly over firms' who then find it exorbitant to switch to a new source of finance.

This evidence is in line with conclusions of Santos and Winton (2008) who confirmed that during recession's banks increase their credit spreads more for bank-hooked debtors than for those who had access to government bonds. The borrower's hold-up problem had been found prevalent in many developed loan markets as well. Aliaga-Diaz and Olivero (2010) studies the financial accelerator role of countercyclical credit spreads as a propagation mechanism in a Real Business Cycle (RBC) model. The lending affairs in these models are incorporated in a way similar to that of household decisions to consume, save and provide labor in Ravn et al. (2006)

The model in Melina and Villa (2015) when amalgamated with deep habits provided concrete evidence that credit spread falls in response to a government spending expansion. In addition to this, a number of styled facts, well established in literature were also confirmed by their findings. In particular, they found private consumption to be crowded out by government purchases, an increase in real wages as a result of increased labor hours, a government spending multiplier of greater than one and lastly a drop in price mark-ups.

Figure 1: Credit Spread & Economic Activity
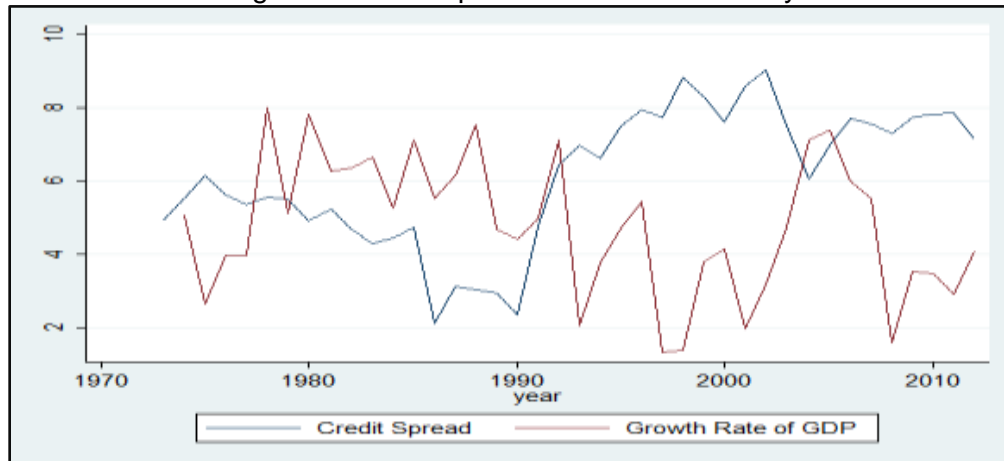
Source: Handbook of Statistics for Pakistan's Economy

It has been observed that banks respond to high levels of economic activity by lowering mark-ups (credit spreads). Figure 1 above attempts to link credit spread with levels of economic activity. The variability of credit spreads hinders to extract any apparent significant relationship between the two variables. Nevertheless, there exists a positive correlation of 0.6279 between the two variables.

RESEARCH METHODOLOGY

Data was collected via publications of the State Bank of Pakistan along with supplement issues of Pakistan's Economics survey. The macroeconomic datasets available for the Pakistan's economy goes as far back to 1960's and for some variables even further back. However, this study avoids the use of data-sets before 1970 due to the separation of East Pakistan in 1971, which is considered to be turbulent from a fiscal point of view. Researchers & academicians prefer to use time series data starting from at least 1970 to gain insight into the dynamics of the Pakistan's economy. This paper employs the same approach and so the data set used for this study contains the time frame 1973-2010.

The economic literature on the transmission mechanism of fiscal policy shocks circle around vector auto regression models. Researchers that employ this methodology make use of different identification schemes. The identification of the fiscal policy shocks is achieved via a recursive approach proposed by Fatas and Mihov (2001). A recursive VAR tries to identify the structure of the model by constructing the error term in each regression to be uncorrelated with the error term in the preceding equations. This is done by estimating the equations of the VAR by carefully including in some of the equations the contemporaneous values of other variables as repressors.

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The following reduced form VAR will be estimated:

$$X_{ti} = \sum_{i=1}^{k} C_i\, Y_{t-i} + u_t$$

Where,

X_{ti} a vector of macro-economic variables.

This paper employs annual data on government spending per capita and GDP per capita in real terms, private lending per capita, long run interest rate, debt-to-GDP ratio and credit spreads. The use of per capita variables is consistent with studies mentioned in the literature review and the results really vary don't much if one instead uses real non per capita variables. Moreover, credit spreads in theory is the difference between lending rate and borrowing rate. Nevertheless, economic studies involving the role of credit spreads have used different measures of credit spreads. Melina & Villa (2015) in their baseline specification of the model used the difference between the 3 month bank prime loan rate and the quarterly treasury bills rate as a proxy for credit spreads. The present study uses the difference between weighted average lending and borrowing rate as a proxy for credit spreads.

EMPIRICAL ESTIMATES AND DISCUSSION OF RESULTS

The baseline specification of the recursive vector auto regression model contains the log of real per capital government expenditures, the log of real per capita GDP, the log of per capita private lending, long run interest rate and debt to gdp ratio. To this five-variable specification additional variables of interest are included one at a time. In particular, dynamic relationship between following variables is studied - real private investment per capita, real personal consumption per capita, public debt per capita and the bank spread.

The impulse response functions in Figure 2 provide an explanation of an expansionary government spending shock. As figure shows, government spending has an inverse impact on real personal consumption per capita and real gdp per capita. Moreover, government spending responds strongly negative and persistently to its own shock; a finding consistent with Blanchard & Perotti (2002) and Yasmin & Umaima (2009). These results propose that the impulse response of real personal consumption per capita fall promptly and also that the standard neoclassical assumptions for the effects of fiscal policy hold well for the Pakistan's economy during the period 1973-2012.

Figure 2: Estimated Impulse Responses to One SD Shock to Government Spending
Response to Cholesky one S.D. Innovations ± 2 S.E
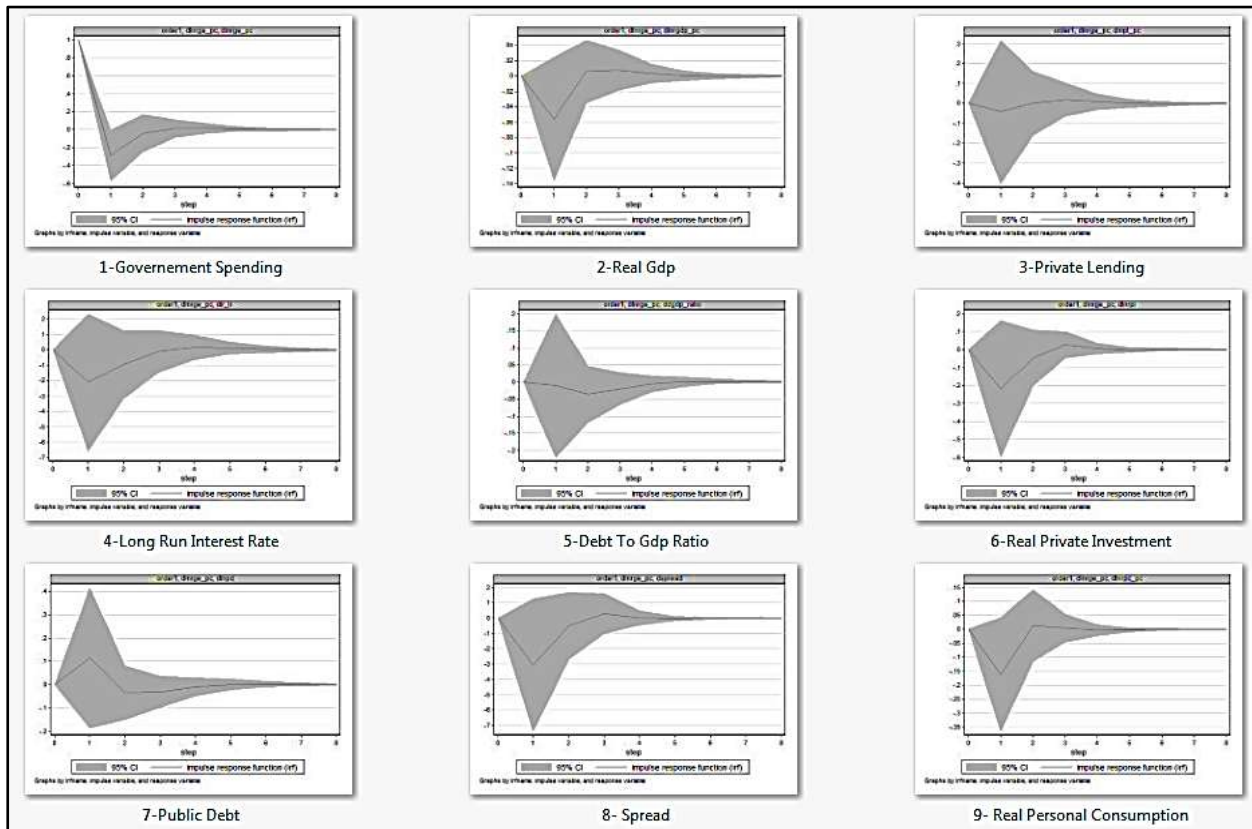
Note: Estimated impulse responses from the VAR model over sample 1973-2012 to a shock in government expenditure. The VAR model is estimated with one lag and a constant. Shaded area represents 95% confidence interval. The ordering is government spending per capita, real GDP per capita, private lending per capita, long run interest rates and debt to GDP ratio. In addition to these five variables, other variables of interest were added one at a time. All impulse responses were found to be significant for up to four lags.

In those models, a rise in government spending generates an adverse wealth effect and households decrease their present consumption and increase labor supply. The Ricardian consumer may forestall a forthcoming rise in taxes if government expenditures are backed by increasing debt. Hence private consumption may fall, counteracting the positive effects of increased government expenditures on aggregate demand. Likewise, a rise in government expenditure that is backed by public debt raises the total market demand for private lending and also the overall public debt in a country. So higher government spending is certain to crowd out private investment as a result of increased borrowing cost (interest rates). This is in agreement with the findings of this study i.e. real private investment is crowded out in response to a

government spending shock. Also aggregate levels of public debt increases as a result of a government spending shock which signals the government's activity of borrowing from various resources to finance deficits and present expenditures. Cagon et al (2009) finds the impact of government spending shock to be very small in year one and a multiplier less than one as private consumption and private investment are crowded out. Mountford and Uhlig (2002) report a 1.3 percent growth in output in response to a 1 percent unexpected government spending shock, hence though successful in stimulating the economy but weakly. A number of factors trigger the crowding out effect in response to expansionary fiscal spending. Greater interest sensitivity of investment demand rises crowding out. An accommodating monetary policy would counterbalance the propensity of the interest rate to rise following an expansionary government spending shock and thus decrease the possibility of crowding out. This might be one of the reasons why the response of long run interest rate in Figure 2 is not in accordance with the Neo-Classical theory.

Blanchard and Perotti (2002), Ramey and Shapiro (1998) along with several other studies in the domain of fiscal policy literature find contrasting results. In those studies, a rise in government spending is followed by an increase in private consumption and real output which is in line with Keynesian framework but challenges the Neo-Classical as well as the standard new Keynesian framework.

The fiscal literature offers other explanations to a negative response of output and private consumption. For instance, Bailey (1971) suggests a degree of substitutability between government spending and private consumption. Barro (1980) incorporated this degree of substitutability between government spending and private consumption in a macro-economic general model to study the direct relationship between government spending and private consumption. If deficit is financed by borrowing via internal sources or by raising the total debt of the country, then in the short run debt-to-GDP-ratio falls. This finding is consistent with Yasmin & Umaima (2009). In the long run, the stabilization effect of debt comes into play and debt to gdp ratio starts rising (Favero 2007). The response of credit spread falls and persistently remains negative and is at its peak at longer horizons. In sum, this analysis shows that in Pakistan data, in response to a government spending shock, credit spreads behave in a countercyclical fashion; consistent with Melina & Villa 2011.

Figure 3: Estimated Impulse Responses To One SD Shock to Credit Spread
Response to Cholesky One S.D. Innovations ± 2 S.E

1. Government Spending

2. Real Gdp

3. Private Lending

4. Real Personal Consumption
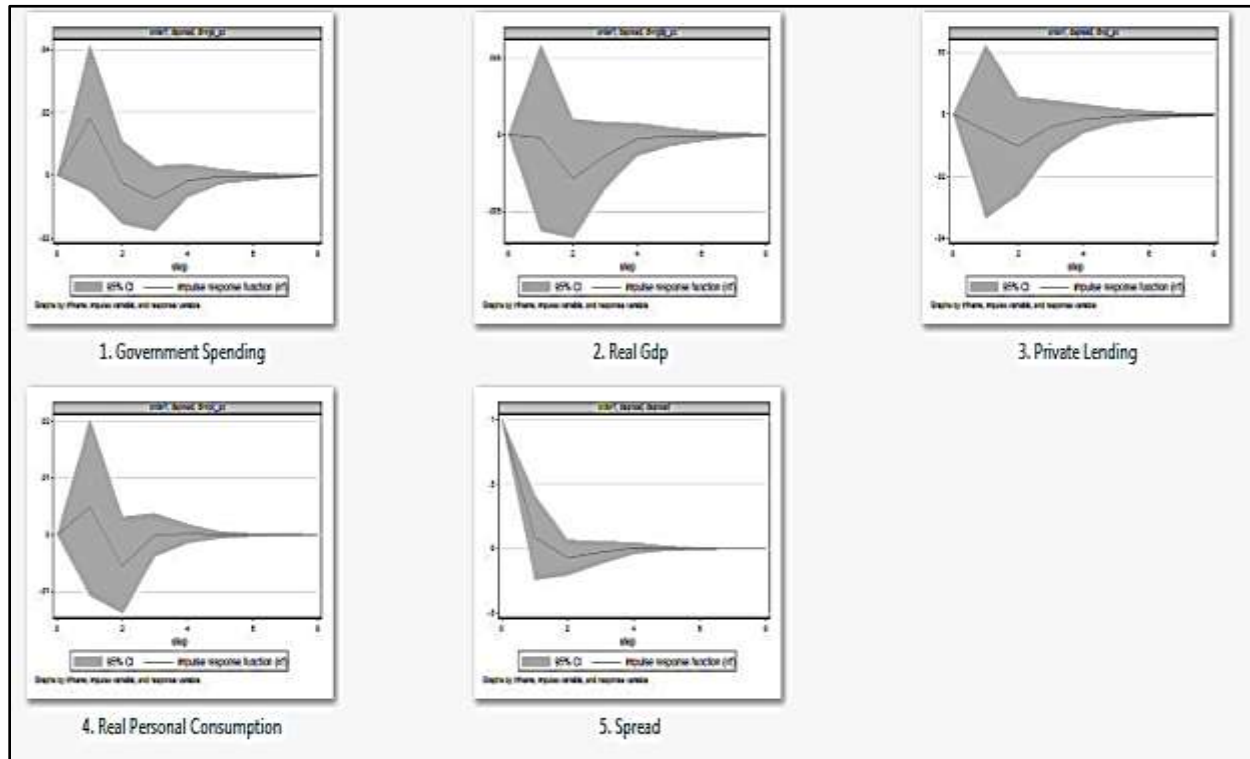
5. Spread

Note: Estimated impulse responses from the VAR model over sample 1973-2012 to a shock in credit spreads (difference between weighted average lending and borrowing rates). The VAR model is estimated with one lag and a constant. Shaded area represents 95% confidence interval. The ordering is government spending per capita, real gdp per capita, private lending per capita, credit spread and real personal consumption per capita. All impulse responses were found to be significant for up to four lags.

A rise in credit spreads (difference between lending rates and borrowing rates) can be achieved through either a rise in lending rates or a fall in deposit rates. The existing studies on credit spreads focus more on the financial side of the economy. Also different authors have taken different measures of credit spread which hinders a comparative analysis across studies. The present study defines credit spreads as the difference between weighted average lending and borrowing rates. A preliminary analysis of the impulse response functions in Figure 3 show that in response to a fall in deposit rates (a shock in credit spreads), real personal consumption per capita increases on impact as consumer savings no longer seems attractive. Private lending decreases as a result of increased borrowing cost (increase in lending rates). This will also decrease the overall investment levels of the country and hence will affect growth negatively as evident by a gradual fall of real gdp per capita in response to a credit spread shock. The focus

on credit spreads is inspired partially by a departure from the frictionless financial markets theories voiced by Modigliani and Miller (1958). The recent financial crisis (2008) in the US economy resulted in a global downturn since the Great Depression. It has elevated concerns about the aptitude of financial indicators to predict movements of the aggregate economy, and about the effects of financial indicators on key macroeconomic variables and their role in propagating economic fluctuations. Studies in the past have concluded that credit spreads have the ability to predict output, growth in levels of investment, stock returns and volatility in stock market. Credit spreads are both large, unstable, and usually behave in a countercyclical fashion. Fluctuations in credit spreads may also signal shifts in the supply of funds made available by financial institutions, which, in the presence of financial market frictions, have significant repercussions for the usefulness of credit spreads in predicting future economic activity. There had been attempts to provide an integrated discussion of these issues in a modern setting but the economic literature still lacks agreement upon a framework that can capture the essential features of the data. It is this which makes the transmission mechanism of credit spread an area of great importance which demands further exploration.

CONCLUSION

The objective of the study was to develop a relationship between fiscal policy and the banking sector. It is believed that banks having information monopoly, in times of economic prosperity decrease deposit rates which results in lower credit spreads. This phenomenon was tested for the economy of Pakistan using a vector auto regression Model. The identification of the fiscal policy shock was achieved via the recursive VAR approach. Macroeconomic effects of fiscal policy in Pakistan for the period 1973-2012 were analyzed via impulse response functions. Results of impulse responses suggest that consumption and output, and investment respond negatively in respond to a government spending shock. This is consistent with the assumptions of the standard neo-classical model. The empirical investigation demonstrates that the effect of government spending varies with the source of financing. In the short run debt to gdp ratio declines whereas in the long run stabilization effect of debt occurs and debt to gdp ratio starts rising (Favero 2007). Real private investment is crowded out by expansion in spending and total public debt increases in response to a government spending shock. This mimics the reality of the government borrowing from internal sources. Moreover, the effect of government expansion on loan market conditions was consistent to what Melina and Villa (2011) reported. A rise in government spending lowers the credit spread and this credit spread behaves in a countercyclical fashion for the Pakistan's economy.

The caveats of this study firstly include the employment of a recursive VAR approach to analyze the dynamics of the government spending shock. It would be more appropriate to analyze the dynamics of fiscal policy shocks for a broad range of variables using other approaches like the Blanchard-Perotti approach introduced by Blanchard and Perotti (2002) which relies on the timing of tax collection to analyze government spending and tax shocks in the economy or the sign restriction introduced by Uhlig (2005) approach which identifies fiscal policy shocks via sign restrictions on the impulse responses. The thing that differentiates sign restriction approach from the other two (Recursive & Blanchard-Perotti) is the non-requirement of the number of shocks to be equal to the number of variables.

Secondly, due to non-availability of quarterly datasets, annual dataset was used from publications of State Bank of Pakistan and issues of Pakistan Economics Survey. Usage of quarterly datasets is largely known for capturing the short run dynamics of the macro economy. To use quarterly datasets and analyze the dynamics of the government spending shocks is an exercise worth exploring. An ideal exercise would be to use restricted VAR techniques and use the restrictions calibrated from a dynamic stochastic general equilibrium models which mimics closely the structure of the Pakistan's economy.

REFERENCES

Aksoy, Y., Basso, H. S., & Coto-Martinez, J. (2009). Lending relationships and monetary policy. Economic Inquiry, 51(1), 368-393.

Aliaga-Díaz, R., & Olivero, M. P. (2010). Macroeconomic implications of "deep habits" in banking. Journal of Money, Credit and Banking, 42(8), 1495-1521.

Barro, R. J. (1980). Output effects of government purchases: National Bureau of Economic Research Cambridge, Mass., USA.

Blanchard, O., & Perotti, R. (1999). An empirical characterization of the dynamic effects of changes in government spending and taxes on output: National bureau of economic research.

Burnside, C., Eichenbaum, M., & Fisher, J. D. (2004). Fiscal shocks and their consequences. Journal of Economic theory, 115(1), 89-117.

Eichenbaum, M., & Fisher, J. (2004). Fiscal Policy in the Aftermath of 9/11: National Bureau of Economic Research.

Favero, C., & Giavazzi, F. (2007). Debt and the effects of fiscal policy: National Bureau of Economic Research.

Gertler, M., & Lown, C. S. (1999). The information in the high-yield bond spread for the business cycle: evidence and some implications. Oxford Review of Economic Policy, 15(3), 132-150.

Ismail, M., & Husain, F. (2012). Fiscal Discretion and Its Impact on Pakistan Economy. The Pakistan Development Review, 51(4), 339-364.

Melina, G., & Villa, S. (2014). Fiscal policy and lending relationships. Economic Inquiry, 52(2), 696-712.

Mountford, A., & Uhlig, H. (2009). What are the effects of fiscal policy shocks? Journal of applied econometrics, 24(6), 960-992.

Perotti, R. (2007). In search of the transmission mechanism of fiscal policy: National Bureau of Economic Research Cambridge, Mass., USA.

Ramey, V. A. (2009). Identifying government spending shocks: it's all in the timing: National Bureau of Economic Research.

Ramey, V. A., & Shapiro, M. D. (1998). Costly capital reallocation and the effects of government spending. Paper presented at the Carnegie-Rochester Conference Series on Public Policy.

Ravn, M., Schmitt-Grohé, S., & Uribe, M. (2006). Deep habits. The Review of Economic Studies, 73(1), 195-218.

Ravn, M. O., Schmitt-Grohé, S., & Uribe, M. (2012). Consumption, government spending, and the real exchange rate. Journal of monetary Economics, 59(3), 215-234.

Santos, J. A., & Winton, A. (2008). Bank loans, bonds, and information monopolies across the business cycle. The Journal of Finance, 63(3), 1315-1359.

Schmitt-Grohé, S., & Uribe, M. (2007). Optimal simple and implementable monetary and fiscal rules. Journal of monetary Economics, 54(6), 1702-1725.

Shaheen, R., & Turner, P. (2010). Measuring the dynamic Effects of Fiscal Policy shocks in Pakistan. 25Th Agm Pide Pakistan.

Sims, C. A. (1980). Macroeconomics and reality. Econometrica: Journal of the Econometric Society, 1-48.

Sims, C. A., & Zha, T. (1999). Error bands for impulse responses. Econometrica, 67(5), 1113-1155.

Uhlig, H. (2005). What are the effects of monetary policy on output? Results from an agnostic identification procedure. Journal of monetary Economics, 52(2), 381-419.

Villa, S., & Yang, J. (2011). Financial intermediaries in an estimated DSGE model for the United Kingdom.

APPENDICES

Recursive VAR-I

	Government Spending	Real Gdp	Private Lending	Long Run Interest Rate	Debt To GDP Ratio
Real Government Spending	-0.287	-0.056	-0.042	-2.119	-0.011
	(1.98)**	(1.37)	(0.23)	(0.93)	(0.10)
Real Gdp	1.353	0.278	0.772	10.895	0.171
	(2.42)**	(1.77)*	(1.09)	(1.24)	(0.42)
Private Lending	0.213	0.071	0.289	3.071	-0.056
	(1.82)*	(2.17)**	(1.95)*	(1.67)*	(0.65)
Long Run Interest Rate	0.020	-0.004	-0.021	0.411	0.014
	(2.17)**	(1.51)	(1.85)*	(2.87)***	(2.05)**
Debt To GDP Ratio	-0.342	0.001	0.219	-4.156	0.216
	(1.96)**	(0.03)	(0.99)	(1.51)	(1.67)*
Constant	-0.029	0.011	0.066	-0.542	0.003
	(1.55)	(2.18)**	(2.82)***	(1.88)*	(0.22)
RMSE	0.06	0.02	0.08	0.97	0.05
R-Square	0.35	0.30	0.24	0.29	0.17
SBIC	-9.02				
HQIC	-9.85				
AIC	-10.31				
FPE	0.00				

*$p<0.1$; ** $p<0.05$; *** $p<0.01$*

Recursive VAR-II

	Government Spending	Real Gdp	Private Lending	Long Run Interest Rate	RealPrivate Investment
Real Government Spending	-0.271	-0.058	-0.026	-1.876	-0.253
	(1.88)*	(1.45)	(0.17)	(0.82)	(1.31)
Real Gdp	1.606	0.294	0.404	13.559	1.340
	(2.89)***	(1.90)*	(0.70)	(1.53)	(1.80)*
Private Lending	0.280	0.080	0.134	3.661	-0.204
	(2.31)**	(2.38)**	(1.07)	(1.90)*	(1.26)
Long Run Interest Rate	0.022	-0.003	-0.028	0.428	0.007
	(2.39)**	(1.36)	(2.90)***	(2.91)***	(0.59)
Real Private Investment	-0.220	-0.029	0.518	-1.921	0.070
	(2.02)**	(0.97)	(4.58)***	(1.10)	(0.48)
Constant	-0.039	0.010	0.085	-0.642	0.016
	(2.08)**	(1.99)**	(4.40)***	(2.16)**	(0.64)
RMSE	0.06	0.02	0.06	0.98	0.08
R-Square	0.35	0.32	0.50	0.27	0.11
SBIC	-8.63				
HQIC	-9.46				
AIC	-9.92				
FPE	0.00				

*$p<0.1$; ** $p<0.05$; *** $p<0.01$*

Recursive VAR-III

	Government Spending	Real Gdp	Private Lending	Long Run Interest Rate	Public Debt
Real Government Spending	-0.319	-0.054	-0.044	-1.779	0.078
	(2.14)**	(1.29)	(0.23)	(0.74)	(0.50)
Real Gdp	1.549	0.276	0.669	12.546	-0.036
	(2.77)***	(1.77)*	(0.94)	(1.40)	(0.06)
Private Lending	0.169	0.073	0.300	3.062	-0.051
	(1.41)	(2.17)**	(1.96)**	(1.59)	(0.41)
Long Run Interest Rate	0.024	-0.004	-0.022	0.406	0.016
	(2.54)**	(1.51)	(1.82)*	(2.62)***	(1.63)
Public Debt	-0.263	0.010	0.070	-0.141	0.213
	(1.80)*	(0.24)	(0.38)	(0.06)	(1.40)
Constant	0.003	0.010	0.059	-0.560	0.096
	(0.11)	(1.35)	(1.73)*	(1.31)	(3.46)***
RMSE	0.06	0.02	0.08	1.00	0.06
R-Square	0.34	0.30	0.22	0.25	0.17
SBIC	-8.32				
HQIC	-9.16				
AIC	-9.62				
FPE	0.00				

*$p<0.1$; ** $p<0.05$; *** $p<0.01$*

Recursive VAR-IV

	Government Spending	Real Gdp	Private Lending	Spread	Real Private Consumption
Real Government Spending	-0.171	-0.094	-0.255	-3.076	-0.161
	(1.09)	(2.30)**	(1.36)	(1.39)	(1.54)
Real Gdp	1.044	0.488	1.768	4.002	0.280
	(1.53)	(2.73)***	(2.16)**	(0.42)	(0.61)
Private Lending	0.247	0.080	0.321	2.256	0.157
	(1.91)*	(2.35)**	(2.07)**	(1.24)	(1.82)*
Spread	0.018	-0.000	-0.005	0.086	0.005
	(1.55)	(0.06)	(0.38)	(0.51)	(0.61)
Private Consumption	0.183	-0.121	-0.619	-1.168	-0.417
	(0.69)	(1.75)*	(1.96)*	(0.31)	(2.37)**
Constant	-0.030	0.008	0.054	-0.214	0.009
	(1.47)	(1.57)	(2.23)**	(0.75)	(0.69)
RMSE	0.07	0.02	0.25	0.09	0.19
R-Square	0.28	0.32	0.08	0.92	0.04
SBIC	-9.73				
HQIC	-10.56				
AIC	-11.02				
FPE	0.00				

*$p<0.1$; ** $p<0.05$; *** $p<0.01$*