Exploring the Determinants of Private Sector Credit in Pakistan: A Sectoral Analysis

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Abstract

This study empirically explores the existence of any cross-sector differences in bank lending behaviour in Pakistan. A wider set of both demand- and supply-side variables are included, and the ARDL model is employed to estimate the results. The empirical findings confirm that significant cross-sector differences regarding the impact of different variables on private sector credit exist in the short run. Moreover, in the long run, the impact of various factors on credit to the private sector are the same across sectors. While domestic deposits positively influence credit, non-performing loans have a negative effect on credit. Interest rate has no significant effect on credit in either the short or long term. Lastly, government borrowing from commercial banks crowds out the private sector. The findings point towards a weaker transmission of monetary policy through the credit channel and support the idea that the availability of funds is more important for private sector credit penetration in a country such as Pakistan with limited resources, whereby effective policy measures are needed to stimulate savings in the economy.

Key words

Private sector credit, Crowding out, Money supply, Credit penetration.

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Introduction

Private sector credit is one of the key factors promoting high and sustainable economic growth in any economy. It helps to accumulate capital and increases the long-term productive capacity of the economy. The availability of long-term credit at an affordable cost helps financially constrained firms to fund their investment projects (Noth, 2011; Behr et al., 2013). Countries with a higher percentage of private sector credit as GDP were able to achieve higher income per capita, whereas countries with low private sector credit penetration are left behind. The existing literature (Osman, 2014; Marshal et al.,

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2015; Olowofeso et al., 2015; Samargandi and Kutan, 2016) confirms the crucial role of bank credit in boosting economic growth, especially in emerging markets.

Private sector credit is also important from the policy perspective due to its close and direct association with business cycles as well as policy rate. Therefore, it is considered the most powerful channel of the monetary policy transmission mechanism. As a reliable indicator, it also helps smoothen the business cycle fluctuations through the prudent adjustment of the policy rate by the central bank. The credit channel works via the following two linkages: (i) monetary policy-induced changes impact the supply of bank loans (the bank lending channel); (ii) they also affect the net worth, cash flow and liquid assets of the borrowing firms (the balance sheet channel), which, in turn, affects their level of activity (Bernanke and Gentler, 1995). Therefore, in the presence of the credit channel, the impact of changes to monetary policy on the cost of borrowing is magnified, as this channel reinforces the traditional money channel (Ignacio, 2014).

Despite its importance being endorsed by the theoretical and empirical literature, the credit-to-GDP ratio is low in many developing and emerging economies. In the case of Pakistan, the level of credit penetration is much lower than the regional economies. Furthermore, the penetration of private sector credit also deteriorated over time in Pakistan compared to regional and emerging economies. During the 1980s and 1990s, Pakistan's position was somewhat better; however, its ranking among its peers began to decline from 2000 onwards. For instance, during the period of 2011-2020, private sector credit as a percentage of GDP in Pakistan fell to 16.9%, compared to an increase to 51.3% in India, 41.5% in Sri Lanka and 44.4% in Bangladesh **(Table 1).** Private sector credit in Pakistan is not only low but also concentrated in a relatively small number of sectors.

Bearing in mind its vital role in defining the growth trajectory of the economy, it is imperative to identify the key determinants impacting credit to the private sector. Given the level of development of the financial markets and the structure of the economy, many demand-side as well as supply-side factors influence private sector credit. Furthermore, the significance of these factors may also vary across different sectors of the economy depending on the nature of their production and forward and backward linkages. Therefore, research exploring sector-wise determinants is essential to enhancing our understanding of the dynamics of private sector credit. The literature analysing this aspect is scant, however, especially in the case of emerging economies.

Most of the available studies on Pakistan consider the demand-side factors impacting private sector credit (Qayyum, 2002; Khawaja, 2007; Awan, 2009; Afzal and Mirza, 2010; Ali et al., 2011; Hassan and Qayyum, 2013; Bellalah et al., 2013; Zaheer et al., 2017). Only two studies (Imran and Nishat, 2012; Ahmed, 2016) take account of supply-side determinants as well. However, none of them consider sector-wise determinants of bank credit in the case of Pakistan. It is an established fact that the associations on one level of analysis may not necessarily reflect the similar strength on another level. Thus, the use of aggregate data may yield regression coefficients exhibiting considerable bias above their values at individual level (Hansan, 1971). Therefore, this study is an attempt to fill this gap. The contribution of this study is twofold: (i) to enrich the analyses by including a wider set of both demand- and supply-side determinants; (ii) to empirically identify whether any sectoral differences in bank lending behaviour exist. Biannual panel data for Pakistan from 2011 to 2021 is used in the analysis. The reason for the choice of this time span is the availability of biannual data for certain variables of interest. Nine sectors with a major share

in the credit market for which data is available are included.

The rest of the study is organised as follows: section 2 presents a review of the existing literature; trends of certain key variables are shown is section 3; data and methodology are discussed in section 4; section 5 presents the estimation and discussion of results; while section 6 concludes the study.

1. Literature

The existing literature available on bank lending behaviour may be classified into three broad categories (Tomak, 2013). The first category examines a bank's lending behaviour during a period of crisis (Gupta, 2012; Ho et al., 2012; Swamy and Sreejesh, 2012; Cull, 2012; Allen et al., 2013; Kapan and Minoiu, 2013). The second category evaluates the impact of banking ownership on the lending behaviour of banks (La Porta et al., 2002; Micco and Panizza, 2006; Poncet et al., 2010). Lastly, the third category investigates the overall drivers of bank lending (Olokoyo, 2011; Olusanya et al., 2012; Imran and Nishat, 2012; Djiogap and Ngomsi, 2012; Bellalah et al., 2013; Hassan and Qayyum, 2013; Rabab'ah, 2015; Aftab et al., 2016; Ahmed, 2016; Zaheer et al., 2017; Kasingu et al., 2020). The focus of most of the studies remains on either evidence from the cross-country level or on analysing the maturities of bank loans from the perspective of the borrower. Some of the studies explore determinants at bank level influencing long-term loans to businesses (Djiogap and Ngomsi, 2012).

a) Cross-country studies

Olokoyo (2011) evaluated the determinants of lending behaviour of commercial banks in the Nigerian economy. Variables included in the analysis are advances, deposits, banks' investment portfolios, the lending rate, the cash reserve requirements ratio and the liquidity ratio. The author found a robust relationship between bank advances and the remainder of the variables included in the analysis.

Djiogap and Ngomsi (2012) attempted to investigate the factors affecting long-term loans from banks. Their study used a sample comprising 35 banks from six African economies, and the main finding of their study was that long-term loans made by banks to businesses depend on the size of the bank, long-term liabilities, capitalisation and the rate of GDP growth. The authors pinned down the significance of supply-side factors in making long-term loans to businesses. The study finds differences in bank lending at cross-country level, suggesting that bank size, capitalisation, sources of funding and the NPL ratio are important in determining the degree of aversion to long-term lending in a recessionary environment.

Backé and Zumer (2005) investigated the dynamics of private sector credit in selected European Union countries. Their analysis included a larger set of both supply- and demand-side factors influencing private sector credit, namely bank reforms, macroeconomic stabilisation, financial sector liberalisation, inflation, interest rates, privatisation and the restructuring of the banking sector. The study suggests that public sector credit does not have the impact of crowding out private sector credit. It is also argued that the level of financial depth will promote the growth of credit as these economies grow.

Eller et al. (2010) attempted to study the factors affecting private sector credit in 11 economies in Central, Eastern and South-Eastern Europe. Their results show that a long-run relationship exists between credit and economic activity. Furthermore, they confirm the presence of significant correlation between credit growth and supply factors in the short term, with varying degrees across the sub-periods.

Chernykh and Theodossiou (2011) inspected the factors affecting the ability of banks to extend loans in the Russian economy. Their findings emphasise the

importance of supply-side factors for banks' decisions to extend long-term loans to businesses. These factors include the size of the bank, capitalisation, and the availability of long-term liabilities.

Tomak (2013) explored the effect of bank size, inflation, GDP and the interest rate on overall lending in Turkey. The author analysed bank-level data from three public banks and 15 private banks for the purposes of estimation. The empirical results suggest that total liabilities, bank size, inflation rate and NPL ratio are important determinants of loans extended to business. Furthermore, the ownership structure of a bank also matters, as private bank loans perform better compared to state-owned banks.

Assefa (2014) examined the impact of domestic deposits, interest rate on advances, foreign liabilities, reserve requirements, inflation and money supply on bank lending in Ethiopia. The results suggest the significant impact of interest rates, foreign liabilities, domestic deposits, inflation and money supply on private sector credit in the long run. However, domestic deposits and economic growth do not influence private sector credit in the short run. Moreover, reserve requirements do not affect credit offered by commercial banks to the private sector in either the short or the long run.

Rabab'ah (2015) attempted to explore the factors affecting bank lending in the case of Jordan, analysing 10 Jordanian commercial banks during the period of 2005-2013. Further, the study used a larger set of variables, including the ratio of credit facilities to total assets, the NPL ratio, the deposit ratio, the liquidity ratio, the legal reserve ratio, the capital ratio, the lending rate, the deposit rate, asset size, economic growth and inflation. The findings suggest a significant negative impact of NPLs, liquidity and window rate on credit, and find a positive and significant impact in the case of bank size and economic growth.

Kasingu et al. (2020) estimated the impact of various demand- and supply-side factors on bank lending in Papua New Guinea. The authors argued that bank deposits, real GDP, net foreign assets and the exchange rate significantly and positively affect private sector credit in both the short and long run. However, lending rates were found to have no significant impact on credit to the private sector.

b) Pakistan

Imran and Nishat (2012) examined the determinants of bank credit in the case of Pakistan. The findings suggest that domestic deposits, economic growth, exchange rate, banks' foreign liabilities and overall monetary conditions are important determinants of private sector credit in the country in the long run, whereas inflation and the money market rate have no impact on private sector credit.

Qayyum and Hassan (2013) assessed the influence of interest rates, future expectations pertaining to economic condition, external demand and inflation on demand for loans in Pakistan. The results highlight the significance of interest rates, inflation, and economic activity as determinants of demand for bank loans. On the other hand, future expectations pertaining to economic condition and external demand have hardly any impact on demand for credit in Pakistan.

Bellalah et al. (2011) investigated the relationship between private sector credit and selected determinants, including GDP, money supply, public sector credit, and gross domestic savings in Pakistan. The authors concluded that higher government borrowing crowds out the private sector in the country.

Aftab et al. (2016) studied the impact of interest rates on credit in Pakistan. The authors found a significant negative impact of interest rates, and conversely a positive impact of inflation, on credit in both the short and long run.

Ahmed (2016) estimated the impact of demand- and supply-side factors on private sector credit in Pakistan. He found that, on the demand side, economic activity positively impacts credit, while inflation has a negative effect. On the supply front, bank lending capacity improves credit, whereas government borrowing crowds out private sector credit.

Zaheer et al. (2017) evaluated the impact of different variables on private credit in Pakistan. The results suggest that government borrowing crowds out private sector credit. Furthermore, the lending capacity of banks and industrial production have a significant positive impact on the private sector. However, CPI was found to have no influence on private sector credit.

2. Trends of certain key variables

Private sector credit is considered to be a major determinant of economic growth, especially in the case of developing countries such as Pakistan. However, the level of credit penetration in the Pakistani economy is much lower within the region, as well as when compared to other emerging economies. During the period of 2011-2020, private sector credit as a percentage of GDP in Pakistan was 16.9%, compared to 51.3% in India, 44.4% in Bangladesh and 41.5% in Sri Lanka. It was even much lower than the average (72.2%) of emerging market economies (EMEs).

Table 1. Regional Comparison of Key Macroeconomic Indicators

	Savings (% of GDP)					PSC (% of GDP)					Per Capita Income (USD)				
Period	Pak	Ind	Ban	Sri	EMEs	Pak	Ind	Ban	Sri	EMEs	Pak	Ind	Ban	Sri	EMEs
1981-1990	17.8	17.2	21.9	24.9	25.4	25.3	24.4	12.1	20.0	42.3	355	313	248	375	1,601
1991-2000	18.0	25.4	23.8	23.1	25.7	23.8	24.3	18.4	21.5	63.0	467	376	355	713	3,267
2001-2010	18.4	33.4	34.0	22.9	26.8	24.1	40.6	30.5	30.7	53.7	780	811	544	1,499	4,770
2011-2020	14.5	32.5	37.1	28.2	26.9	16.9	51.3	44.4	41.5	72.2	1,297	1,724	1,358	3,738	9,001

Source: World Bank

Although private credit levels in Pakistan were relatively higher in South Asia in the 1980s and remained stable until 2010, they declined sharply during the 2010s. On the other hand, other countries in the region were able to increase their credit levels substantially. Many factors, both domestic and global, contributed to the decline of private sector credit in Pakistan, including the uncertainty triggered by the global financial crisis, the condition of law and order in the country and the implementation of the Basel Accords, etc. In addition, the savings rate in Pakistan fell to 14.5% during 2011-2020, down from 18.4% in 2001-2010. This decline came despite the rise in per capita income in Pakistan, albeit at a slower pace compared to its regional counterparts. The declining trend in national savings is a serious challenge to the sustainable growth and prosperity of the country. Therefore, there is a dire need to initiate policy measures on the part of government and SBP to address this crucial issue. However, the achievement of this goal would be a challenging task due to the multi-causal relationship between national income, the savings rate, and credit to the private sector.

Another problem in addition to low credit penetration in Pakistan is that a large share of credit is short-term in nature, i.e. working

capital loans rather than longer-term investment loans. Some policy measures are required to incentivise the private sector to invest in long-term projects, which is essential to enhancing the productive capacity of the economy.

Table 2. Sectoral Contribution – Loans by Type of Finance

Variables	Textile	Sugar	Rice	Fertiliser	Cement	Refined Petroleum	Electric Power	Construction	Wholesale & Retail Trade
Total loans	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Working Capital	66.5	62.7	95.9	62.7	37.4	79.8	43.5	12.3	77.2
Fixed Investment	33.2	37.2	4.1	37.3	61.8	20.2	56.3	18.6	22.0
Construction Financing	0.3	0.1	0.1	–	0.8	–	0.2	69.1	0.8

Source: State Bank of Pakistan

Table 3 presents sector-wise summary statistics of certain key variables. These statistics show considerable cross-sector differences in credit growth, LSM growth, NPL ratio and weighted average lending rate (WALR).

Table 3. Summary Statistics Mean (Standard Deviation)

Variables	Textile	Sugar	Rice	Fertiliser	Cement	Refined Petroleum	Electric Power	Construction	Wholesale & Retail Trade
Credit Growth	8.4 (7.4)	13.0 (13.1)	13.0 (16.8)	7.1 (19.5)	13.5 (31.2)	15.4 (19.5)	8.3 (12.2)	10.9 (20.3)	8.7 (9.3)
LSM Growth	1.5 (3.6)	5.5 (16.5)	5.5 (16.5)	4.6 (8.9)	6.5 (9.4)	4.8 (14.8)	5.7 (13.0)	6.7 (8.2)	3.7 (6.4)
NPLs Ratio	22.2 (6.3)	10.5 (6.5)	9.6 (1.8)	6.7 (1.9)	13 (10.1)	9.6 (1.8)	4.4 (1.0)	9.6 (1.8)	9.6 (1.8)
WALR	7.7 (1.7)	9.4 (1.9)	9.4 (1.9)	9.4 (2.0)	9.1 (1.8)	9.1 (2.3)	9.9 (2.2)	10.0 (2.0)	9.9 (2.0)

Source: State Bank of Pakistan, and authors' calculation

3. Data/Methodology

The study explores factors affecting credit to the private sector in the economy of Pakistan. A panel comprising nine sectors is included in the analysis for which data is available, namely textiles, sugar, rice, fertiliser, cement, refined petroleum, electric power, construction, and wholesale & retail trade. Disaggregated data from June 2011 to June 2021 is used on a biannual frequency. The reason for the choice of these time periods and frequency was the unavailability of sectoral data for some variables on monthly basis. The data was obtained from the State Bank of Pakistan. The existing literature on determinants of PSC indicates that both bank-level variables (for example, size, ownership structure, capitalisation and access to funds) and some of the major market-based variables (for example, inflation, interest rate, and GDP) affect PSC as

per the dynamics of the respective economy. According to the literature and economic theory, economic activity, the inflation rate, monetary conditions, domestic deposits, and exchange rate positively affect credit, whereas the interest rate, non-performing loans, and government borrowing from commercial banks shrink private credit. Therefore, the following variables are included in the analysis: private credit (PC), domestic deposits (DD), exchange rate (ER), LSM Index (Y), weighted average lending rate (R), non-performing loans ratio (NPL), relative price, i.e. the ratio of sector-specific CPI to general CPI (RP), money supply (M2), and government borrowings from commercial banks (GB).

The model used in the study is presented as follows:

$$PC_t = \alpha_0+\alpha_1 Y_t + \alpha_2 RP_t + \alpha_3 M_t + \alpha_4 DD_t + \alpha_5 YR_t + \alpha_6 NR_t + \alpha_7 GB_t + \alpha_8 ER_t + \varepsilon_t \quad (1)$$

All the variables are taken in log-growth form, except WALR and NPL. To determine the long-run association among variables, this study applies the Autoregressive Distributed Lag (ARDL) approach developed by Pesaran (1997). This technique has several advantages over other conventional methods of co-integration such as that of Johansen and Juselius (1990). One of the major advantages of this approach is that it offers a view of both the short-run and long-run relationships between variables. Furthermore, it is capable of tackling the problem of endogeneity (Pesaran and Shin, 1999). It is equally useful with a small sample size. In addition, it can be applied irrespective of the order of integration of variables, i.e. whether they are I (0) or I (1) (Pesaran and Pesaran, 1997).

Equation (1) can be written in ARDL form as follows:

$$\begin{aligned}\Delta PC_t = {} & \alpha_0 + +\alpha_1 Y_{t-1} + \alpha_2 RP_{t-1} + \alpha_3 M_{t-1} + \alpha_4 DD_{t-1} + \alpha_5 YR_{t-1} + \\ & \alpha_6 NR_{t-1} + \alpha_7 GB_{t-1} + \alpha_8 ER_{t-1} + \sum_{i=1}^{n} \beta_k \Delta PC_t + \sum_{i=1}^{n} \gamma_k \Delta Y_t + \\ & \sum_{i=1}^{n} \delta_k \Delta RP_{t-i} + \sum_{i=1}^{n} \sigma_k \Delta M_{t-i} + \sum_{i=1}^{n} \rho_k \Delta DD_{t-i} + \sum_{i=1}^{n} \tau_k \Delta NR_{t-i} + \\ & \sum_{i=1}^{n} \tau_k \Delta R_{t-i} + \sum_{i=1}^{n} \omega_k \Delta GB_{t-i} + \sum_{i=1}^{n} \varphi_k \Delta ER_{t-i} + \mu_t \end{aligned} \quad (2)$$

4. Discussion of empirical results

a) Combined results

The estimated combined results of all sectors are given in Table 4. The results show that in the long run, LSM, inflation, government borrowing from commercial banks, exchange rate depreciation, and non-performing loans all have a negative and statistically significant impact on private sector credit. The negative impact of LSM/GDP on private sector credit is contrary to the results of earlier studies on Pakistan (Imran and Nishat, 2012; Qayyum and Hassan, 2013; Ahmed, 2016; Zaheer et al., 2017). However, it is possible that the growth of LSM may reduce the borrowing needs of businesses due to an improvement in their liquidity position in the long run. The signs of coefficients with inflation, government borrowing from commercial banks and non-performing loans are consistent with economic theory.

Studies on Pakistan show mixed results regarding the impact of inflation on private sector credit. For instance, Qayyum and Hassan (2013) and Ahmed (2016) show a negative association between inflation and private sector credit, while Imran and Nishat (2012), Zaheer et al. (2017) and Aftab et al. (2016) indicate the positive effect of inflation on private sector credit. Bellalah et al. (2013), Ahmed (2016) and Zaheer et

al. (2017) show that government borrowing from commercial banks crowds out the private sector. However, the negative impact of exchange rate depreciation on private sector credit is contradictory to the results obtained by Imran and Nishat (2012). As movements in the exchange rate may impact different sectors differently and through different channels, there is a likelihood of a negative impact on aggregate. Domestic deposits are positively associated with private sector credit, which is in accordance with the theory and studies on Pakistan (Imran and Nishat, 2012; Aftab et al., 2016). The impact of the weighted average lending rate is not significant in statistical terms, which supports the findings of Imran and Nishat (2012). However, Qayyum and Hassan (2013) and Aftab et al. (2016) find a negative impact of interest rates on credit in Pakistan.

In the short run, the negative coefficient of the equation confirms that co-integration exists among variables in long run. However, no variable has any influence on credit in the short run.

Table 4. Results of ARDL Model Biannual Data from 2011 to 2021

Long-run Relationship (Combined)		Short-run Relationship (Combined)	
Variables	**Coefficient**	**Variables**	**Coefficient**
Y	-0.2**	COINTEQ01	-0.5***
Inf	-0.4***	D(Y2)	0.03
DD	1.7***	D(Y3)	-0.2
GB	-0.1**	D(Y5)	-0.1
ER	-0.4***	D(Y6)	-0.1
R	0.5	D(Y7)	0.3
NR	-0.6***	D(R)	1.6
-	-	D(NR)	0.2
-	-	C	2.0

Note: *** and ** indicate a 1% and 5% level of significance, respectively.

Source: own elaboration

Domestic deposits positively influence private sector credit, showing that the availability of funds is more important for private sector credit penetration. In fact, this is true in the case of countries with limited resources such as Pakistan where the government also competes with the private sector on the credit market, negatively affecting private sector credit. In Table 4, the negative sign associated with government borrowing from commercial banks confirms the crowding-out effect due to government borrowing. Likewise, non-performing loans are negatively associated with private sector credit, which supports the argument that the presence of the government in the credit market provides a risk-free lending opportunity to banks, instead of lending to the private sector with an associated high risk of default. Further, the weighted average lending rate has no significant impact on private sector credit in Pakistan. These findings support the idea that the availability of funds is more important than the cost thereof. Moreover, the findings also indicate a weaker transmission of monetary policy through the credit channel.

b) Sector-wise short-run results

The sector-wise short-run estimates are presented in **Table 5**. The results show that significant cross-sector differences regarding the impact of different variables on PSC exist in the short run. The results also differ from the combined short-run results given in **Table 4**. The negative and statistically significant coefficients of the co-integration equation for most sectors (with the exception of the fertiliser and power sectors) show that part of any short-term deviation from the long-run equilibrium is corrected each period, though the speed of adjustment varies across the sectors.

Economic activity, for which LSM can be perceived as a proxy, has a significant positive impact on credit to the sugar, petroleum, and wholesale & retail trade sectors. On the other hand, it negatively influences credit to the textile, rice, and construction sectors. The former group, especially the sugar sector, requires working capital loans to fulfil its financial needs during the production phase. The petroleum sector also requires funds to increase production in response to increased demand. The negative impact in the case of the latter group could be due to an improvement in their liquidity position. In the case of the cement sector, LSM has no significant impact on credit in statistical terms.

In terms of inflation, it has a negative impact on credit to the sugar and construction sectors, while positively affecting credit to the textile and wholesale & retail trade sectors. Notably, the impact on construction and textiles is larger in magnitude. It has no significant impact on other sectors. In the case of the former group, the higher profitability of the sectors, especially the sugar sector, may reduce the borrowing needs. On the other hand, higher input costs could be a reason for the positive effect of inflation on credit, such as in the case of the textile industry.

Domestic deposits significantly influence credit to the sugar and construction sectors. The impact is significant in both sectors, with a positive association with the former and a negative one in the case of the latter, which is somewhat counterintuitive. The weighted average lending rates have no significant impact on credit. Non-performing loans have only a positive relationship with credit to the textile and sugar industries. In the case of other sectors, no significant influence was found.

Government borrowing crowds out credit to most sectors including the textile, sugar, rice, refined petroleum, construction, and wholesale & retail trade sectors. However, it has positive impact on the sugar and cement sectors. The differences across sectors could be due to links between government spending and these sectors. For example, subsidies to the agriculture sector and spending on infrastructure have a close association with the cement sector.

Finally, exchange rate depreciation has a positive effect on credit to the majority of sectors such as textiles, cement, refined petroleum, and wholesale & retail trade in the short run. Contrary to the aggregated results, the exchange rate has a positive impact on credit to the sectors producing export-oriented goods or competing with imported goods to expand their supply to meet increased demand in the short run. It negatively affects credit to the rice and construction sectors, as profitability increases due to exchange rate depreciation.

Table 5. Results of ARDL Model Biannual Data from 2011 to 2021 (Sector-wise Short-run Relationship)

Variables	Textile	Sugar	Rice	Fertiliser	Cement	Refined Petroleum	Electric Power	Construc-tion	Wholesale & Retail Trade
COINTEQ01	-1.0**	-1.3***	-1.1***	-0.1	-0.5***	-0.4***	0.1	-0.1***	-0.4***
D(Y)	-1.1***	0.03**	-0.3***	1.0**	-0.2	0.2**	0.1***	-0.4***	0.3***
D(Inf)	2.2***	-0.4***	-0.1	0.4*	0.1	-2.4	-0.1***	-2.0**	0.1*
D(DD)	-0.3	3.0**	1.2	-0.4	0.7	0.4	-1.6	-3.2**	-0.6
D(GB)	-0.1***	0.2***	-0.3***	0.2	0.5***	-0.6*	-0.8***	-0.2***	-0.1***
D(ER)	0.7***	0.1	-0.7**	-0.5	2.5***	0.9**	-0.8***	-0.2*	0.7***
D(R)	-0.2	5.7	8.3	4.4	-1.6	-0.2	0.1	-3.4	1.2
D(NR)	0.2**	0.5***	2.4	-8.5	-2.1	2.9	3.7	3.1	-0.4
C	8.2	4.3	2.9	-1.3	0.6	1.8	0.5	1.5	-0.2

Note: ***, ** and * indicate a 1%, 5% and 10% level of significance, respectively.

Source: own elaboration

Conclusion

This study attempts to empirically identify the existence of any cross-sector differences in bank credit behaviour. To enrich the analyses, a wider set of both demand- and supply-side variables are included. Panel data for nine sectors with a major share in the credit market for which data is available are included in the analysis. Biannual data from 2011 to 2021 is used in the analysis.

The estimated results show that significant cross-sector differences regarding the impacts of different variables on private credit exist in the short run. Therefore, any policy designed to impact private sector credit will have different outcomes for different sectors of the economy.

The results show that domestic deposits have a significant positive effect on private credit in the long run. This support the idea that the availability of funds is more important for private sector credit penetration in a country such as Pakistan with limited resources. The presence of government on the credit market as a potential borrower has negative implications for private sector credit. The negative sign associated with government borrowing from commercial banks conforms the existence of the crowding-out effect due to government borrowing. Similarly, non-performing loans have a negative impact on private sector credit, which shows that the presence of government on the credit market provides a risk-free lending opportunity to banks rather than lending to the private sector when there is a high risk of default. Lending rates have no significant effect on private sector credit in Pakistan. This also indicates weaker transmission of monetary policy through the credit channel, which is a matter of concern from the perspective of the central bank.

Therefore, based on the findings of this study, our recommendations are as follows. As the availability of funds is important for credit penetration, certain policy measures are needed to stimulate the saving rate in the economy. Since the interest rate has no significant impact on private sector credit, interest rate spread may be narrowed down by increasing the rate on deposits and linking it to certain benchmarks, such as the

yields on government securities. Further, the spread of Islamic banking is higher than conventional banking because of the lower level of sensitivity of depositors and borrowers. This discourages the exploration of the already limited investment opportunities for Islamic banks. Therefore, the creation of a more competitive environment between the two types of banking system is required.

Lastly, due to the crowding-out effect and smaller fiscal multiplier of government spending in the case of Pakistan (Raashid et al., 2020), one may suggest that the government use other fiscal options available (such as increasing revenues through taxes or reducing expenditure). Therefore, financing the fiscal deficit by borrowing from commercial banks is a double-edged sword, which does not contribute to economic growth. In fact, it constrains long-term growth by crowding out the private sector.

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