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Banks' Performance and Capital Formation in Pakistan

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Abstract
In Pakistan, during the last decade, the banking sector has experienced a reduction in the number of banks and their operations. This paper investigates the impact of banks' performance on capital formation in Pakistan. The country's investment level has been low, attributed to various factors. This study specifically examines the relationship between banks' performance and capital formation. Gross Fixed Capital Formation (GFCF) is the dependent variable, while major indicators of banks' performance serve as the independent variables. The study employs time series annual data from 1981 to 2023, comprising 43 observations. Auto Regressive Distributed Lag (ARDL) tests have been conducted to analyze the long-term and short-term relationships among the variables. The results reveal both long-term and short-term relationships between GFCF and the selected indicators of banks' performance. Total deposits, bank credit to the private sector, and banks' profitability show a positive relationship with capital formation. The study concludes that banks' performance in Pakistan significantly impacts capital formation. A robust banking system in Pakistan could facilitate efficient investment in the country.

Keywords: Capital formation, Banks performance in Pakistan, Banks Credit to the private sector, Bank's Profitability, Total Deposits

Introduction
Banks play a crucial role in the capital formation of an economy by channeling funds to deficit units that invest in various projects, yielding significant returns (Ogar & Oba, 2017). Globally, deposit mobilization is one of the most critical functions of banking. Banks are a vital source of funds necessary for their efficient operation and the functioning of other economic sectors (Zarutska et al., 2023). Mobilizing deposits is essential for providing appropriate services across different economic sectors. However, the banking system's soundness, stability, and robustness determine its capacity to foster economic growth and development (Vogel, 2021). Through operations like deposit mobilization and credit creation, banks contribute to capital generation. Despite this, a public argument is that banks must do more to enhance capital formation to ensure a stable financial system (Maturu, 2021). A strong banking sector mobilizes deposits across various sectors, ensuring good returns and reflecting the financial system's soundness (Cao, 2021). Real investment, or capital formation, is vital for economic expansion. Large-scale capital formation is advantageous as it may be necessary to replace existing capital with regular depreciation (Setterfield, 2021). Factories might need to grow assets to leverage economies of scale and boost market demand, requiring the latest technology and sufficient plant assets and inventories (Kusi, Mensah, & Agbloyor, 2022).xInvestments in real estate and other projects are only possible with sufficient funding (Gatti, 2023). In Pakistan, banks have yet to operate efficiently to enhance capital generation and provide a stable financial system (Mahesar, Rathore, & Rathore, 2023). Capital formation, a key component of economic growth and development, entails significant advantages. It necessitates replacing current share capital with depreciation and

expanding factories to leverage economies of scale (Topcu, Altinoz, & Aslan, 2020). Acquiring cutting-edge technology and adequate plant assets and inventories is critical when the market or raw material supply shows significant seasonality (Gatti, 2023). From 2000 to 2008, economic growth in Pakistan accelerated in terms of income per capita, poverty reduction, and employment generation. Banks progressed, reflecting a 6% GDP growth. Post-2001, massive capital flows from the USA and other sources, such as official aid, contributed to this exceptional growth (Ishrat Hussain, 2023). However, a British researcher noted no statistical evidence linking foreign aid to public investment, corporate profitability, imports, savings, investment growth, expenditure, and debt. A more powerful government capable of organizing domestic resources and establishing institutions for economic progress would better explain the period of expansion (Ishrat Hussain, 2023). Savings are essential for economic expansion, providing the domestic resources required for investment endeavors. Capital formation's role in economic growth cannot be overstated (Drivas, Economidou, Ketteni, & Kottaridi, 2021). It has been acknowledged as a key determinant of Pakistan's economic growth. Every nation has achieved sustainable capital formation by significantly emphasizing global economic growth (Mahesar et al., 2023). Capital formation is the percentage of current income saved and invested to increase future output and income. It typically involves acquiring new factories and productive capital goods (Ogar & Oba, 2017). This study is necessary due to Pakistan's persistent decline in private savings, the need to finance investment for economic growth, and the necessity of sufficient savings for the country's needs (George, 2023)

Banks set targets to achieve deposit mobilization at a certain ratio, reflecting their role in total financing. Prudential regulations require banks to be cautious while financing through customer deposits (Maturu, 2021). Banks' income, known as the banking spread, focuses on expanding the income spread while adhering to central bank regulations (Lopez et al., 2020). Efficiency in banks matters as those capable of collecting large deposits at low interest rates can generate more income by diversifying their portfolios in profitable sectors (Ketteni & Kotardi, 2019). There is an obvious relationship between deposit collections and capital formation, considered two sides of the same coin. This research also examines the effect of deposit mobilization and credit financing of commercial banks on capital formation in Pakistan. The low level of savings in Pakistan, driven by high consumption and low-income levels, has hindered capital formation (Ishrat Hussain, 2023). This limits banks' ability to create money through intermediation and contributes to the need for investible funds. Businesses need more funding for ongoing operations and expansion. Banks need help raising enough public deposits, leading to financial shallowness and discouraging financial innovation. This cycle of fund channelization affects firms' ability to meet funding requirements, impeding operations and new projects. Consequently, industrial production, market growth, and job creation are negatively impacted, reducing savings deposits, a source of credit creation in the financial sector. Financial institutions must also consider regulatory requirements for further business investment (Ketteni & Kottaridi, 2019). Banks generate income primarily from lending, with public deposits as a major funding source, establishing an association between deposit mobilization and financing (Lopez et al., 2020). Banks must prudently mobilize deposits, considering solvency and liquidity criteria. Data shows that many people in developing economies are reluctant to save with banks (Nagam & Ganapathy, 2017). Central banks must formulate policies to build depositors' confidence in commercial banks (Lopez et al., 2020).zIn Pakistan, loan creation, a source of capital provision, has been declining. To facilitate capital creation, banks need to enhance their performance and efficiency.

Research Questions

To address the issue of bank investments in Pakistan, this research seeks to answer the following questions:

1. Does bank credit to the private sector facilitate gross capital formation in Pakistan?
2. Does the rate of interest influence capital formation in Pakistan?
3. Do total deposit liabilities of banks influence investments in Pakistan?
4. Does bank profitability facilitate Gross Fixed Capital Formation in Pakistan?

Research Objectives

The primary objectives of this research are to identify the leading causes impacting bank credit financing and investment expansion in Pakistan. Specifically, this research aims to:

1. Determine how bank credit expansion to the private sector affects gross fixed capital formation in Pakistan.
2. Analyze the impact of lending rates on gross fixed capital formation in Pakistan.
3. Examine the effect of total deposit liabilities on gross fixed capital formation in Pakistan.
4. Identify the relationship between bank profitability and Gross Fixed Capital Formation.

Literature Review

Concept of Capital Formation

Capital formation refers to a country's net capital accumulation for a financial year, including additions to fixed assets such as tools, plants, machinery, vehicles, and other long-term investments. Bakare (2011) explains capital formation as an increased percentage of revenue saved and invested to boost future output and income. This typically involves purchasing or adding new fixed assets and equipping businesses with the necessary machinery and capital for manufacturing. Countries with rising capital formation indicate increased physical capital stock for investment and other economic activities. Renowned economists Beddies (1999) and Gbura (1997) highlight the importance of capital formation for economic development and growth. Capital formation is associated with wealth creation, accumulating valuable assets or generating additional wealth in a country. The Central Bank of Pakistan (2007) defines capital formation as the increase in the value of productive assets, either by adding new stock or replacing obsolete ones, represented as a percentage of GDP or as a change from previous years. Lopez et al. (2020) describe capital formation as the increase in physical capital stock within a state during an accounting period. This includes capital expenditures on factories, transport vehicles, mineral extraction, plants, and other materials for producing goods and products.

Deposit Mobilization

Mobilization of deposited funds is integral to banking operations (Kusi et al., 2022). Banks circulate deposited savings into a broader portfolio of investment preferences, offering various types of accounts and facilities, from basic accounts to term deposits and fixed deposits, from non-interest to high-interest-bearing accounts (Kuc, 2023). Oudat and Ali (2021) note that banks' investment strategies depend on the country's investment growth rate. To boost deposits, banks focus on increasing the number of branches, adopting green marketing and banking, upgrading technology, training staff for marketing, expanding services and loan products, and providing door-to-door services (Kiburu & Mungai, 2022). Oniani, Diasamidze, and Ghoghoberidze (2022) define deposit mobilization as transferring funds from surplus units to those requiring funds for business projects, thus fostering capital production. Collecting deposits from the public offers a lower cost of capital than other funding sources available to banks. Lumpkin and Schich (2020) highlight the significance of banks' efforts to gather deposits through tailored products for clients. Devereux, Engel, and Wu (2023) argue that maintaining multiple foreign currency accounts is connected to significant funds movement for investment and capital production. While deposit mobilization is a core function of commercial banks, they must comply with regulatory policies. Empirical literature supports the relationship between bank credit financing, deposit mobilization, and capital formation (Kusi et al., 2022). However, structural variations due to factors like past trends and seasonal patterns, particularly in developing countries, also influence this relationship (Kinini, 2023). The percentage of capital formation relative to GDP varies among countries due to internal and external factors, with China being among the highest (Xia, Qamruzzaman, & Adow, 2022). This study incorporates variables to examine the long-term relationship between banks' performance and investment increases in Pakistan, aiming to fill a gap in the literature.

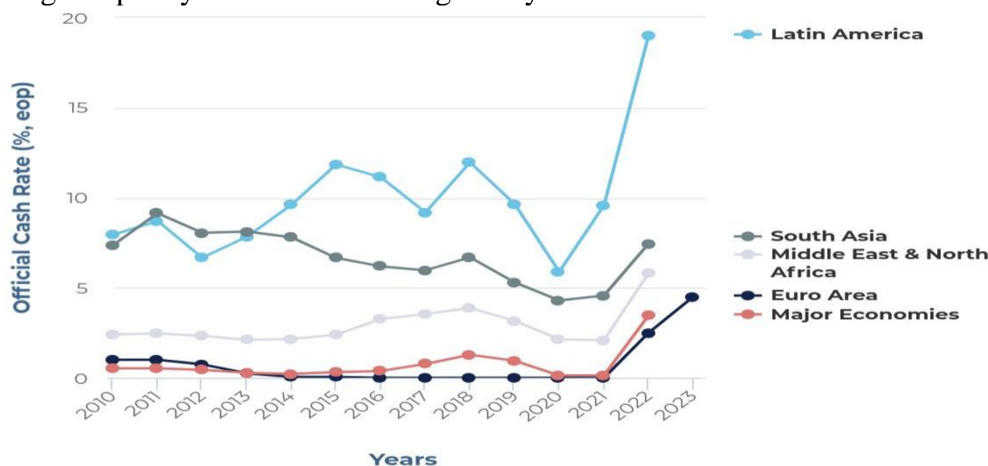
Banks Credit to Private Sector

Understanding banks' credit to the private sector in Pakistan draws significant insights that can help comprehend the targeted state's economic landscape. Pakistan's banking system comprises a central part; hence, the banks act as vital funding providers for private ventures. Over the years, the credit provided by the banks to the private sector has shown fluctuating trends depending on macro factors, regulatory changes, and the banking sector's health. Previous works also support that credit increase in the private sector is crucial for economic development. According to the same source by Hussain, Quddus, Pham, Rafiq, and Pavelková (2020), the effect of bank credit on the finance and growth of private firms positively affects investment and productivity. From the policies mentioned earlier, the State Bank of Pakistan (SBP) has come up with several policies that regulate the credit flow to the private sector, including but not limited to the following: The policy rate has been adjusted downwards, and refinancing facilities have also been provided particularly for the SMEs sector. However, it should be understood that the development of such a sector is threatened by factors such as high interest rates, strict loan requirements, and political and economic uncertainty that can slow down credit activity. A paper conducted by Jahan, Iftikhar, Ahmed, and Hussain (2022) shows that political instability and policy instability affect banks' lending process, hence restricting credit to private companies. In addition, the credit share reaching SMEs is still relatively small since, historically, the banking sector's interest has been primarily directed at large businesses. The long process of credit distribution diversification continues, and new measures are being pursued to improve SMEs' access to funding. Bank credit to the private sector is crucial to Pakistan's economic development. However, the trends result from coordinated actions regarding regulatory norms, financial situations, and sectoral issues. The government and other policy formulation organs need to sustain support and implement more reforms in the credit sector to enhance balanced credit distribution for sustainable economic growth.

Interest Rate

The policy interest rate is a tool used by monetary authorities (e.g., the central bank) to control money supply, capital inflow, and outflow. Interest rates also impact the consumer price index and exchange rates, which are other macroeconomic variables. Financial institutions' total business depends on interest rates, as they borrow and lend based on these rates (Jacob et al., 2019). Financial products and securities in markets are priced according to the policy interest rate, influencing businesses' ability to obtain funds for further investments. Central banks use contractionary and expansionary monetary policies by adjusting the policy interest rate (Spielau, 2023). Conversely, reducing the interest rate can stimulate economic growth, increase business and production, foster credit expansion, and potentially depreciate currency (Egilsson, 2020) .

The following is a policy interest rate trend globally.



Source: World Bank

Banks Profitability

Bank profitability is a macroeconomic variable that shows the efficient investment decisions in the country(Saif-Alyousfi, 2022). An Efficient Banking sector creates a competitive business environment. It is also an indicator of a socially progressive environment (Farooq, Ahmed, & Khan, 2021). Banks' performance is measured through its return on Assets and return on Equities. These returns on assets and equities improve if banks have adequate capital, credit quality, operating efficiency, and liquidity (Oino, 2021). Banks' profitability shows that there is economic progress in the country(Arikpo & Adebisi, 2017). Funds are being channelled into businesses and other projects. Also, it indicates that there is business innovation and efficient tax collection. A bank branch in a rural area supports and expands business activities there. So, it can be claimed that banks' performance is vital for capital and economic growth (Anwar, Nidar, Komara, & Layyinaturrobaniyah, 2020).

Theoretical Framework

The relationship between the banking sector and capital formation can be analyzed through several major economic and financial theories. These theories collectively underscore the critical role of the banking sector in driving capital formation and, by extension, economic development.

Financial Intermediation Theory	1. This theory posits that banks serve as intermediaries between savers and borrowers, facilitating the efficient allocation of resources. By pooling savings and channelling them into productive investments, banks enhance capital formation and contribute to economic growth (Bethune, Sultanum, & Trachter, 2022).
Endogenous Growth Theory	2. This theory emphasizes the role of financial development in fostering long-term economic growth. According to this theory, well-functioning financial institutions, such as banks, increase the efficiency of capital allocation, promote innovation, and boost investment in human and physical capital, thus driving economic growth(Heintz & Folbre, 2022).
Keynesian Theory of Investment	3. Keynesian economics suggests that investment is a key determinant of aggregate demand and economic output. Banks influence investment by providing credit to businesses and individuals. An efficient banking system, with higher profitability and greater credit availability, stimulates investment and thus enhances capital formation (King, 2022).
Modern Portfolio Theory (MPT):	4. MPT highlights the role of financial institutions in diversifying risk and optimizing investment portfolios. By offering various financial products and services, banks help investors achieve better risk-adjusted returns, encouraging more investment in physical capital (Surtee & Alagidede, 2023).
Supply-Side Economics	5. This theory asserts that lower taxes and less regulation, including in the financial sector, can stimulate investment and economic growth. Efficient banking operations can lower transaction costs and provide easier access to capital, fostering capital formation (Rabinovich, 2021).

Hypotheses Development

Based on the review of previous literature and past studies, the following hypotheses are formulated:

H1: There is significant relationship between credit financing to the private sector and gross fixed capital formation in Pakistan.

H2: There is a significant relationship between Pakistan's lending rate and gross fixed capital formation.
H3: Pakistan has a significant relationship between total deposit liabilities and gross fixed capital formation.
H4: There is a significant relationship between bank profitability and gross fixed capital formation in Pakistan.

Research Methodology

Empirical Model

The nature of the relationship, either in the long or short run, is analysed through co-integration analysis. The method of Autoregressive Distributive lag (ARDL) is more appropriate among other co-integration methods because it provides a better arrangement of data as it can be applied to a combination of variables*(0), I(1)*(Ghouse, Khan, Rehman, & Bhatti, 2021). Secondly, it estimates the properties of a small sample better than other co-integration methods. It is an essential technique in econometrics to gauge the relationship between dependent and independent variables, but before the analysis, the variables under study are checked for stationarity(Ilyas, Banaras, Javaid, & Rahman, 2023). Intercepts have been defined through betas while Gross Fixed Capital is represented through GFCF; Total Deposits have been peroxide by TD, which means total deposits in the Banking Sector, banks Credit to private sector has been demonstrated through CPS, lending rate is peroxide by TDL which means total Lending rate.

GCF=*f(*TD, CPS,LR,BP)- (1)

Econometric equation:

$lGFCF_t = X + \beta_1\, lTD_t + \beta_2 lCPS\ t + \beta_3 lLRt + \beta_4\, lBPt +$ - - - - - - - - - - - - - - - - (2)

ARDL Model

$\Delta\ GFCF_t = X + \beta_1 \sum \Delta\ GFCF_{\ t-1} + \beta_2 \sum \Delta TD_{t-1} + \beta_3 \sum \Delta CPS_{\ t-1} + \beta_4 \sum \Delta\ LR_{\ t-1} + \beta_4 \sum \Delta\ BP_{\ t-1} + \beta_1 GFCF_{t-1} + \beta 2\ TD_{\ t-1} + \beta_3 CPS_{\ t-1} + \beta_3 LR_{\ t-1} + \beta_4\ BP_{\ t-1} +$ -(3)

The following variables are chosen as they are supported by literature and considered the important factors that could impact banks' performance and Capital formation. As such, their Positive contribution should lead to an increase in Gross Fixed Capital Formation.

Table I: Description of variables

Variable	Definitions	Source	A prior anticipation
GFCF	Total invested assets in a year, also termed as investments	World Bank	
TD	Total deposits of commercial Banks in Pakistan	Easy data SBP	Positively connected
CPS	Banks Lending to private businesses in Pakistan	Easy data SBP	Positive association
LR	An average of the rate at which lending and borrowing occur by commercial banks in Pakistan.	Easy data SBP	Positive relationship with investment in the country.
BP	Banks Profitability is normally measured in terms of Return on Assets and Equities.	Easy data SBP	Positive relationship with investment in the country.

Results & Discussions

Table II: stationarity test results with ADFs

	ADF Test Statistics					
	I(0)		**I(I)**		**Null Hypothesis**	**Apriori Expectation**
	C	**C&T**	**C**	**C&T**		
GFCF	-1.86	-2.22	-3.52	-3.67	Rejected	Positive Relationship
TD	-0.19	-2.49	-3.77	-3.68	Rejected	Positive Relationship
CPS	-0.04	-2.21	-4.06	-3.97	Rejected	Positive Relationship
LR	-2.17	-2.23	-6.11	-5.88	Rejected	Positive Relationship
BP	-1.56	-2.26	-5.89	-4.56	Rejected	Positive Relationship

Results of table 2 shows the stationarity of all variables & 1st difference.

Table III: Long-run relationship

Long–run results using the ARDL approach

Variables	**Coeff**	**t-stats**	**Prob.**
C	-0.599	105.89	0.470
GFCF	4.76	19.08	0.48
TD	0.36	0.091	0.015
TD(-1)	-0.153	0.906	0.166
CPS	0.275	0.908	0.003
CPS(-1)	0.092	0.468	0.368
LR	1.516	0.500	0.470
LR(-1)	-1.44	0.038	0.484
LR(-2)	-1.081	0.115	0.015
BP	0.073	0.092	0.166
BP(-1)	0.179	0.906	0.003
Adj.R^2	79.856	**F. Statistics**	123.56(0.000)
D.W	2.003		

The results of Table 3 show a significant positive relationship between Total deposits and Gross Fixed capital formation, indicating that if deposits increase, more financial products are available to borrowers. This is logical. The ARDL model results indicate a significant positive relation with GFCF in Pakistan other than the lending rate. An ARDL is a general model that analyses the long and short-run dynamics among variables. But to see more precisely how variables return to their long-run equilibriums, an error correction Model regression is used. A model has been run with the lag of ECT as an independent variable to see the short-run dynamics of variables.

Table IV. Short Run Analysis

Variable	**Coefficient**	**t-Statistic**	**Prob.**
GFCF	0.940	19.080	0.000
ΔTD	0.360	0.091	0.000
ΔTD(-1)	0.153	0.906	0.166
ΔCPS	0.275	3.412	0.003
ΔCPS(-1)	0.092	0.468	0.036
ΔLR	-1.516	0.500	0.470
ΔLR(-1)	-1.440	0.038	0.480

ΔLR(-2)	1.081	0.115	0.015
ΔBP	0.019	0.092	0.166
ΔBP(-1)	0.179	0.906	0.003
ECM(-1)	0.274	4.542	0.006
Adjusted R-squared	0.623		5.495
Durbin-Watson statistic	1.980		0.002

Source: Estimations on e-views

Table 4 represents the short-run relationship between Bank Performance and Capital formation. The ECM coefficient shows 27.4, suggesting that 27 % of disequilibrium is adjusted. Results indicate a significant positive relationship between Bank performance and capital formation. Using an Auto Regressive Distributive Lag (ARDL) model, the analysis indicates a significant relationship between specific banking performance indicators and Gross Fixed Capital Formation (GFCF). Total Deposits (TD) and Credit to the Private Sector (CPS) show a positive and significant impact on GFCF, while the two-period lagged Lending Rate (LR(-2)) has a negative influence. Additionally, the previous period of Banks' Profitability (BP(-1)) positively affected GFCF. The model explains 79.86% of the variance in GFCF, demonstrating high robustness and significance. These findings suggest that enhancing deposit mobilization, credit provision to the private sector, and maintaining profitable banking operations are crucial for fostering capital formation in Pakistan. Policymakers should focus on strengthening these banking functions to stimulate investment and economic growth in the country.

Conclusion

This study investigates the impact of banks' performance on capital formation in Pakistan from 1981 to 2023. This study examines the relationship of Banks performance in Pakistan with investment, so this ongoing research analyzes the relationship between bank performance and gross capital formation. The study concluded the significant relations of financial institutions with investment and capital formation. The policymaker should focus on the bank's performance in Pakistan to increase its efficiency and profitability, further accelerating economic growth by more investments. If the banking sector's performance is not improved, it will impact the whole investment chain in the country. The banking sector is shrinking in Pakistan, and so is the investment. Policymakers should develop aggressive strategies to boost investment in the country. Also, there should be a line of action for the growth and efficiency of the banking sector in Pakistan.

Practical and Theoretical Implications

The findings of this study have significant implications for future economic policies in Pakistan. Policymakers should prioritize strategies that enhance the banking sector's efficiency in deposit mobilization and credit provision to the private sector. Strengthening regulatory frameworks to ensure banks maintain healthy profitability while supporting investment activities can foster sustainable economic growth. The negative impact of lagged lending rates suggests the need for stable and predictable monetary policies to avoid detrimental effects on capital formation. Future research should explore the role of technological advancements in banking and their potential to further improve financial inclusion and capital mobilization. By focusing on these areas, Pakistan can create a more robust financial environment conducive to higher investment rates and overall economic development. These insights are crucial for developing targeted interventions that address the unique challenges faced by the Pakistani banking sector and its role in capital formation.

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