The Impact of Financial Repression on the Economy of Bangladesh

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Research Article

Abstract

Purpose: *The study's objective is to examine the impact of financial repression on Bangladesh's economy. Moreover, the impact of individual policy tools such as real deposit rate, interest rate restriction, capital account control, share of state-owned commercial bank in total advances, and statutory liquidity ratio will be investigated to find the specific policy that hampers economic activities.*

Method: *The autoregressive distributed lag (ARDL) method, originated by Pesaran and Shin (1999) and expanded by Pesaran, Shin, and Smith (2001), will be used to look at the long-term relationship. The study uses time series data for Bangladesh's economy from 1973 to 2022.*

Results: *The findings of the ARDL approach confirm that repressive policies reduce economic growth over the sample period, and the effect becomes weaker after liberalizing the foreign exchange market. However, among the repressive policies, interest rate restrictions, statutory liquidity ratio, and the share of the state-owned bank in the commercial banks have significant adverse effects on economic growth.*

Implication: *Policymakers should take proper measures to liberalize the financial sector to boost economic activity. The interest rate restrictions, which are already in effect and hamper the fair functioning of the loan market, should be withdrawn.*

Keywords: Financial Repression, Government Regulation, Economic Growth, Bangladesh Economy.

1. Introduction

Financial repression can be defined as government intervention in the financial sector that distorts the free market equilibrium of the sector. In many developing countries, it takes place in the form of reserve requirements, a ceiling on the interest rate, government ownership of commercial banks, a directed credit program, entry barriers, and restrictions on capital outflows. These policies affect the economy through various channels of the financial sector. Financial repression became popular in literature after MacKinnon (1974) and Shaw (1973) published books. They mainly focused on the neoclassical relationship between money and growth. Repressive policies distort the efficient allocation of resources by leading to suboptimal saving rates, reducing returns to severs, increasing the scarcity of funds, and limiting access to finance. If restrictions on interest rates are placed, it will increase financial vulnerability by weakening market mechanisms and encouraging rent-seeking competition. The costs and benefits of different financial sector policies on the economy are vital academic questions (McKinnon, 1974; Shaw, 1973; Fry, 1980, 1994, 1997; Stiglitz, 1989; Arestis & Demetriades, 1997, 1999).

Strong economic growth in the last two decades has made Bangladesh a lower-middle-income country. In this transformation process, the financial sector ensured the efficient allocation of resources. To ensure the stability of the financial sector, the government took different policies. Some of these policies, such as reserve requirements, entry barriers to the bank industry, capital account inconvertibility, and running state-

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owned commercial banks, are considered repressive. Recently, after the outbreak of the COVID-19 pandemic, the central bank of Bangladesh (Bangladesh Bank) imposed ceilings on the lending rate in April 2020, along with other existing repressive policies. However, despite these policy changes in the financial sector, no study has been done to explain the extent and impact of financial repression on the economy of Bangladesh. This study will minimize the research gap by answering the following research questions. I) What is the impact of repressive policies on the economy of Bangladesh at the aggregate level? and II) at the individual level, among the different policy tools that significantly hinder economic activity?

The study has carried out the analysis in two steps. Firstly, estimation of the impact of financial repression on economic growth using the ARDL approach. Secondly, we try to identify the possible mechanisms of repressive policies affecting economic growth.

The empirical analysis confirms that repressive policies reduce economic growth over the sample period, and the effect becomes weaker after liberalizing the foreign exchange market. However, among the repressive policies, interest rate restrictions, statutory liquidity ratio, and the share of the state-owned bank in the commercial banks significantly reduce economic growth, indicating that these policies distort the efficient allocation of resources. The effects of capital account restriction and the real deposit rate are insignificant, meaning these actions do not significantly distort the effective functioning of the financial sector.

The paper is organized as follows. The finance-growth nexus focusing on the role of repressive policies from theoretical and empirical perspectives is explained in section 2. Section 3 describes the methodology and the model used in the study. The impact of financial repression on economic growth is empirically tested in section 4 using the ARDL approach. The mechanisms of the individual policy variables such as real deposit rate, interest rate restriction, capital account control, the share of state-owned commercial banks in total advances, and statutory liquidity ratio are also assessed in this section. Various diagnostic tests have been used to check the reliability of the results. Finally, section 5 concludes the paper.

2. Review of the literature

The nexus of financial repression and economic activities can be studied through the following approaches: I) The Keynesian Approach, II) The McKinnon-Shaw Approach, III) The Neo-structuralist Approach, IV) The Endogenous Growth Approach, and V) Studies in the 21st Century. The approaches are explained below.

2.1. The Keynesian approach

The dominant Keynesian (Keynes,1936) approach supported government intervention in the economy, including the financial sector, because the market forces do not always ensure efficient resource allocation and productive capital should be separated from the capital used for speculation. Under the Keynesian paradigm, the government controls the financial sector through interest rate restrictions and controlling credit flows by owning commercial banks, aiming to boost investment and economic activities through restricted low-interest rates. During the Great Depression, the capital was highly used for speculation rather than productive activities. After World War II, repression policy tools became the primary source of funds to repay the government's debt (Jafarov et al., 2019).

Gerschenkron (1962) and Patrick (1966) identified two separate ways of analysis, demand-following and supply-leading, based on different levels of development. Economic development increases financial services demand. As a result, the financial sector expanded. The demand-following approach indicates that demand is higher when the growth is robust and heterogeneous across sectors. The financial sector transfers resources from the traditional to the modern sectors and boosts the modern sectors. The supply-leading form takes place at the initial stage of development. In this case, the financial sector supplies capital to promote the modern sector. Initially, finance leads to growth, but later growth leads to financial development.

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Cameron (1967) explained that financial systems can be growth-inducing and growth-induced. An efficient financial intermediation ensures the best capital allocation from savers to investors and promotes growth.

2.2. The Mckinnon-Shaw approach

Based on previous studies, McKinnon (1973) and Shaw (1973) criticized repressive policies. They argued that financial repression reduces the funds available for investment and hinders long-term growth. McKinnon focused on developing countries, but Shaw referred to developed economies. They described financial repression as the ceilings on interest rates and high inflation. They argued that the government could achieve higher savings and investment by setting interest rates at the market clearing level.

The McKinnon-Shaw approach explains two possible channels of market inefficiency from interest rate restrictions. The imposition of deposit rate restrictions results in rent for banks at the expense of depositors. As a result, new entrants will be attracted to the financial sector. Thus, restrictions to entry are likely to be raised. Again, the ceiling on lending rates benefits the borrowers by providing credit at low costs. At a low lending rate, the demand for loans will be high. Banks have to allocate funds based on non-interest criteria, which results in inefficient allocation.

The studies of Kapur (1976), Galbis (1977), Mathieson (1980), and Fry (1980) promoted the thoughts of this approach. Mathieson (1980) and Fry (1980) demonstrated that a low deposit rate reduces money demand reducing credit flows and real GDP growth. Kapur (1976) and Mathieson (1980) showed that reserve requirements can be essential in lowering money demand. These studies postulated that economic growth could be accelerated by ensuring equilibrium in the financial market that transfers savings to investments. According to these analyses, financial deregulation can minimize the short-term adverse effect of monetary stabilization.

2.3.The Neo-structuralist approach

The neo-structuralist school criticized reckless financial deregulation and argued that solid government regulation is needed to ensure economic sustainability.

Stiglitz and Weiss (1981) demonstrated that even without government intervention, disequilibria may occur in the credit market. When the market interest rate is high, the riskiest investors will be encouraged, while the safer investors will be discouraged. This risk is multiplied when the limited liabilities borrowers take more risk at high interest rates. As a result, lending becomes riskier at high interest rates, and banks may not be willing to set interest rates at a market-clearing level, consequently generating credit rationing.

Taylor (1983) and Wijnbergen (1982,1983a, b) explained that with an informal money market, A rise in deposit rates could cause assets to move from the unofficial to the official credit market. In the formal market, agents have to maintain reserve requirements. As a result, financial intermediation will be reduced. They also asserted that high interest rates encourage savings and induce cost-push inflation. This causes a reduction in demand and short-term growth. Authors assume the informal market is competitive, but this may not happen and fails to ensure efficient investment allocation. Diamond (1984) explained that asymmetric information in the banking sector makes lenders costly to measure the creditworthiness of borrowers as well as carry out a successful investment project. This motivates monitoring authorities to specialize and diversify the intermediaries.

Mankiw (1986) further showed that if banks cannot gain a minimum return from lending, the credit market could collapse because boosting interest rates will only worsen the problem. Williamson (1987) noted that even in an equilibrium situation, these costs result in credit rationing and misallocation of investment. These adverse outcomes come from credit market failure; a well-designed government policy can ensure efficiency.

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2.4. Endogenous growth approach

Productivity is the primary focus of endogenous growth, which theorizes that an efficient financial system can account for growth by increasing investment efficiency and offsetting a decline in capital's marginal productivity.

Romer (1986) showed that investment stimulates economic growth by encouraging knowledge accumulation. By creating external benefits, the government will promote this process by subsidizing the cost of capital, which may result in more efficient economic outcomes.

Bencivenga and Smith (1991) noted that if future liquidity needs are uncertain, individuals may hold liquid, unproductive, or highly productive illiquid assets. Financial institutions will channel these illiquid assets, thereby raising the share of growth-enhancing assets in the portfolio.

Roubini and Sala-i-Martin (1992) used a large cross-section of countries to find that financial repression reduced growth in the long run. They used real interest rates, inflation rates, and reserve ratios as variables for financial repression. Such policies reduce growth because individuals must maintain large monetary balances, making fewer funds available for productive investment.

Barthelemy and Varoudakis (1996) argued that financial sector expansion is facilitated by real sector growth. Therefore, the financial sector becomes more efficient and competitive. In return, expansion of the financial sector augments the return on savings and improves the capital accumulation process and growth. However, countries may remain trapped at a low stage of development.

2.5. Studies in the 21st century

In the first decade of the 21st century, especially after the Global Financial Crisis (GFC), repressive policies have become more common in many countries aiming to ensure financial stability. Financial repression is likely to intensify in the aftermath of the Covid-19 pandemic. In the post-COVID-19 world, many developed and developing countries adopted unconventional policies, including the massive purchase of government bonds and different stimulative schemes to boost economic activities.

Recently, many studies have determined the adverse effect of repressive policies on the economy. Especially ceiling on interest rates leads to reduced credit supply and reallocation of funds from small productive borrowers to large and less risky borrowers and less productive government (Safavian & Zia, 2018; Alper et al., 2019;). Such policies reduce the transparency of the financial system. Moreover, interest rate control endangers small banks' profitability and increases the chances of financial instability (Safavian & Zia, 2018; Alper et al., 2019).

Using a two-sector model Yulek (2017) showed that the government could internalize the externality by using repressive policy tools. Such policies are welfare improving. He explains the financial policy in light of industrial policy. Using provincial-level data for China, Huang and Wang (2011) empirically confirmed that repressive policies promoted economic growth at the initial stage of economic development. However, the effect became adverse at the high stage of development when the financial sector became vibrant, indicating a loss of efficiency at the high stage.

Jafarov et al. (2019) empirically confirmed that financial repression (measured by interest rate restrictions) significantly reduced economic growth by distorting market mechanisms and resulting in inefficiency and rent-seeking in the financial sector. However, they also found that repressive measures lessen the likelihood of a debt crisis in a specific time frame. Calice et al. (2020) calculated the degree of the interest rate control's bindingness based on survey data, considering the different types of controls, the legal basis, the desired objectives, methodology, and enforcement mechanisms. The bindingness is associated with higher state-owned commercial banks, and the correlations become stronger when outliers are excluded.

Finally, we can say that the growth-finance relationship is still an essential area of empirical study. The findings of the studies indicate an inconclusive decision. Most studies indicate an adverse impact of repressive policies (McKinnon,1973; Haslag& Koo, 1999; Huang & Wang, 2011; Safavian & Zia, 2018; Jafarov et al., 2019), while a few indicate a positive impact on growth (Yulek, 2005).

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We summarized the above discussion in the following table.

Table 1: Summary of the Approaches and corresponding empirical studies

	Main Idea	Empirical Studies
I) The Keynesian Approach	This approach supported government intervention in the economy, including the financial sector, because market forces do not always ensure efficient resource allocation.	Gerschenkron (1962), Patrick (1966), and Cameron (1967).
II) The McKinnon-Shaw Approach	McKinnon (1973) and Shaw (1973) argued that financial repression reduces the funds available for investment and hinders long-term growth.	Kapur (1976), Galbis (1977), Mathieson (1980), and Fry (1980), Mathieson (1980) and Fry (1980), Kapur (1976) and Mathieson (1980).
III) The Neo-structuralist Approach	The neo-structuralist school criticized reckless financial deregulation and argued that solid government regulation is needed to ensure economic sustainability.	Stiglitz and Weiss (1981), Taylor (1983) and Wijnbergen (1982,1983a, b), Diamond (1984), Mankiw (1986).
IV) The Endogenous Growth Approach	Productivity is the primary focus of endogenous growth, which theorizes that an efficient financial system can account for growth by increasing investment efficiency and offsetting a decline in capital's marginal productivity.	Romer (1986), Bencivenga and Smith (1991), Roubini and Sala-i-Martin (1992), and Berthelemy and Varoudakis (1996).
V) Studies in the 21st-Century	After the Global Financial Crisis (GFC), repressive policies have become more common in many countries aiming to ensure financial stability. In addition, they intensified in the aftermath of the COVID-19 pandemic as many countries adopted unconventional policies and different stimulative schemes to boost economic activities.	Yulek (2005, 2017), Huang & Wang (2011), Safavian & Zia (2018), Jafarov et al.(2019), Calice et al. (2020).

3. Methodology

The study uses time series data for Bangladesh's Economy covering 1973-2022. Data were collected from the World Development Indicators (WDI) data set of the World Bank, Bangladesh Bureau of Statistics (BBS), and Bangladesh Bank (BB).

Testing the basic characteristics of the data is crucial as we employ time series data. According to Nelson and Plosser (1982), most macroeconomic series have unit roots, making them non-stationary. Regression testing on a non-stationary series may produce erroneous results.

The Dickey-Fuller test is the most popular test to determine if a variable is stationary. Only when the error term is white noise is the DF test valid. In the absence of autocorrelation in the first difference of the series, which we have not represented, the error term will be autocorrelated. According to Cheung and Lai (1995), the solution is to "augment" the test utilizing p delays of the dependent variable. Heteroscedasticity is not considered by the model in ADF tests. By directly changing the DF test statistics in a non-parametric manner, Phillips, and Perron (1988) provided a test that directly corrects for any serial correlation (like ADF) and heteroskedasticity in the errors, eliminating the limitation of the ADF test.

To ensure the reliability of the result, we use both ADF and PP tests to check the unit root. The following model can be used to estimate the impact of financial repression on the economy.

$$GDPPC_t = \delta_0 + \delta_1 FRI_t + \delta_2 X_t + \varepsilon_t$$

GDPPC is GDP per capita's growth rate, FRI is the Financial Repression Index, X_t is the control variable set, and ε_t It is the error term.

Following Huang and Wang (2011), the specific form can be written as

$$GDPPC_t = \delta_0 + \delta_1 FRI_t + \delta_2 GCF_t + \delta_3 Trade_t + \delta_4 Enrl_t + \delta_5 GE_t + \delta_6 SOIP_t + \varepsilon_t$$

Where,

Variable	Definition	Source
GDPPC	Growth rate of GDP per capita	WDI
FRI	Financial Repression Index	Author's Calculation
GCF	Gross Capital Formation to GDP Ratio	WDI
Trade	The sum of export-import to GDP ratio	WDI
Enroll	Gross enrollment ratio at the primary level	WDI
GE	Government Expenditure to GDP ratio	WDI
SOIP	Growth of State-Own industrial Production	BBS

We use the autoregressive distributed lag (ARDL) bound test method, originated by Pesaran and Shin (1999) and expanded by Pesaran, Shin, and Smith (2001) to examine the long-term relationship. We shall calculate the effect of financial restraint on economic growth while accounting for some macroeconomic factors.

The ARDL bound test approach has significant benefits compared to conventional cointegration tests. In the ARDL technique, different variables can be stationary at various levels and with various lag lengths. Additionally, the ARDL bound allows the use of dummy variables in the model.

For the ARDL Bound test Approach, the equation can be written as

$$GDPPC_t = \delta_0 + \sum_{i=1}^{q} \alpha_i \, \Delta GDPPC_{t-i} + \sum_{i=0}^{q} \beta_i \, \Delta FRI_{t-i} + \sum_{i=0}^{q} \gamma_i \, \Delta GCF_{t-i} + \sum_{i=0}^{q} \theta_i \, \Delta Trade_{t-i} + \sum_{i=0}^{q} \varphi_i \, \Delta Enrl_{t-i} + \sum_{i=0}^{q} \omega_i \, \Delta GE_{t-i} + \sum_{i=0}^{q} \tau_i \, \Delta SOIP_{t-i} + \lambda_1 FRI_{t-1} + \lambda_2 GCF_{t-1} + \lambda_3 Trade_{t-1} + \lambda_4 Enrl_{t-1} + \lambda_5 GE_{t-1} + \lambda_6 SOIP_{t-1} + \varepsilon_t$$

Here, Δ represents the first difference, and q represents the maximum lag length. Pesaran et al. (2001) developed the F-test with two sets of critical values (lower and Upper bound) to test the null hypothesis. $H_0: \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6$ against the alternative hypothesis $H_a: \lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq \lambda_6$. If the F-value is higher than the upper critical value, the long-term relationships among the regressors are present. Once more, if the F-value is below the lower critical value, there is no evidence of a long-term relationship between the regressors. However, the decision will only be inconclusive if the F-value is between the critical values.

If the bound test shows that a long-term relationship exists, we can estimate that relationship using the equation below.

$$GDPPC_t = \delta_0 + \sum_{i=1}^{p} \alpha_{1i} \; GDPPC_{t-i} + \sum_{i=0}^{k} \beta_{1i} \; FRI_{t-i} + \sum_{i=0}^{q} \gamma_{1i} \, GCF_{t-i} + \sum_{i=0}^{l} \theta_{1i} \, Trade_{t-i} + \sum_{i=0}^{j} \varphi_{1i} \, Enrl_{t-i} + \sum_{i=0}^{z} \omega_{1i} \, GE_{t-i} + \sum_{i=0}^{w} \tau_{1i} \, SOIP_{t-i} + \varepsilon_{1t}$$

Here, p, k, q, l, j, z, and w are the optimal lags of the respective variables. Furthermore, since critical values for bound testing are still valid in the presence of a dummy variable, we can modify the ARDL model to include it.

4. Data analysis

4.1.Time series results

In the empirical analysis, we use time series data. First, we describe the data's basic characteristics. Table 2 shows the descriptive statistics of each variable.

Table 2: Descriptive statistics

	GDPPCG	FRI	ENROLL	GCF	GE	SOIP	TRADE
Mean	3.0821	0.0029	91.4006	21.0035	4.9323	1.4972	27.4953
Median	3.2221	-0.6729	90.4247	21.8162	5.0226	1.5065	26.3255
Maximum	6.8833	2.6299	119.5564	32.2137	6.2838	12.6724	48.1109
Minimum	-6.3384	-2.0630	68.4234	6.1479	3.1638	-12.5219	10.9956
Std. Deviation	2.4015	1.5653	15.6155	7.0609	0.6848	5.0276	9.4855
Observation	50	50	50	50	50	50	50

Before running the regression model, we must check the stationarity of the time series data. To do this, we use the Augmented Dicky-Fuller (ADF) and Phillips-Parron (PP) Test to check the unit root.

Table 3: Unit Root Test

	ADF Test			**PP Test**		
VARIABLES	**LEVEL** (Constant & Trend)	**FIRST DIFFERENCE** (Constant & Trend)	**DECISION**	**LEVEL** (Constant & Trend)	**FIRST DIFFERENCE** (Constant & Trend)	**DECISION**
GDPPCG	-10.709***		I (0)	-15.8380***		I (0)
FRI	-2.2871	-4.531***	I (1)	-2.2657	13.4483***	I (1)
GCF	-3.049	-8.115***	I (1)	-3.7759**		I (0)
GE	-3.487	-8.082***	I (1)	-3.5847**	-8.2082***	I (1)
TRADE	-1.670	-7.220***	I (1)	-1.7300	-7.220***	I (1)
SOIP	-9.0284***		I (0)	-9.0014***		I (0)
ENROLL	-2.7104	-6.6175***	I (1)	-2.6223	-6.6027***	I (1)

Table 3 represents the result of the unit root tests. Among the seven variables, the ADF test shows that two variables, GDPPC and SOIP, are stationary at an integrated order zero I (0) level. The remaining five variables, GCF, FRI, ENROLL, TRADE, and GE, are stationary at the first difference that is integrated into order one I(1). According to the PP test, three variables, GDPPC, SOIP, and GCF, are stationary at level, meaning these variables are integrated of order zero I(0). The other variables, FRI, ENROLL, TRADE, and GE, are stationary at the first difference, which means variables are integrated of order one I(1).

Table 4: Cointegration/Bound Test for Long Run Relationship

Test Statistic	Baseline	Augmented Model	Significance Level	Lower Bound I (0)	Upper Bound I (1)
F-test	30.0221	28.6916	10%	1.75	2.87
			5%	2.04	3.24
			1%	2.66	4.05

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Since some variables are I(0) and others are I(1), the appropriate econometric model to find the long-run relationship is the ARDL bound test approach. Table 3 reports the result of the bound test. For both models, the estimated values of F-statistic are 30.0221 and 28.6916, which are larger than the Upper bound value at any significance level. The result indicates the existence of a long-run relationship among the variables.

Table 5: ARDL Long Run Relationship

Variables	Baseline	Augmented Model
	Coefficient	**Coefficient**
FRI	-0.6585*** (0.1935)	-0.5602* (0.3194)
Fx_Dummy		1.7443** (0.6746)
GCF	0.0710 (0.0648)	-0.0084 (0.0612)
GE	0.2789** (0.1150)	0.3365** (0.1750)
TRADE	0.0412* (0.0233)	0.0127 (0.0243)
SOIP	0.0482 (0.0369)	0.1260** (0.0514)
ENROLL	-0.0089 (0204)	-0.0282 (0.0213)
Adjusted R^2	0.786	0.812

The estimates of the long-run ARDL model with robust standard errors are reported in Table 5. The baseline model shows that financial repression adversely impacts economic growth measured by GDPPCG. On average, financial repression significantly reduces growth by 0.66 percentage points. On the contrary, trade openness promotes growth by 0.04 percentage points and is statistically significant at 10%. The coefficient of government expenditure is 0.28, which is statistically significant at a 5% significance level. That is, government expenditure promotes economic growth, supporting Keynesian macroeconomic thoughts. The effects of other variables are not significant. The value of R^2 is 0.78, which indicates a 78 percent variation in the dependent variable, which can be explained by the regression model.

In the Augmented model, we add the foreign exchange dummy variable to capture the impact of exchange rate liberalization on economic growth. In this model, financial repression, on average, significantly reduces growth by 0.56 percentage points (0.10 percentage points lower). The coefficient of the Foreign Exchange Dummy is 1.74 and statistically significant at even 5 percent level. That is, exchange rate liberalization supports economic growth by ensuring efficiency in the foreign exchange market. The coefficient of government expenditure is 0.68, which is statistically significant at even a 1% significance level. That is, government expenditure promotes economic growth, which supports the Keynesian approach. Finally, the state-owned industrial production growth coefficient indicates that it significantly promotes economic growth.

The other variables are not statistically significant. The value of R^2 is 0.81, which indicates that 81 percent variation in the dependent variable can be explained by the regression model. To check the reliability of the result, we use different diagnostic tests, and the results are shown in Table 6. Since the models are estimated with robust standard errors, we do not need to check for heteroskedasticity. The LM test of serial correlation indicates that both models are free from the problem of autocorrelation. Finally, the Ramsey RESET test results are statistically insignificant, which means that the null hypothesis of no misspecification in the model cannot be rejected. That is, the models are correctly specified.

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Table 6: Diagnostic Tests

	Test Statistic	Baseline	Augmented Model
Serial Correlation LM test	F-statistic	0.6557 (0.5255)	2.1376 (0.1350)
	χ^2	1.7454 (0.4178)	5.6963 (0.0579)
Ramsey RESET Test	F-statistic	1.9142 (0.163)	0.3291 (0.7220)

4.2. Possible mechanisms of the individual repressive policies

We add individual policy variables in the baseline model to understand the individual policy. We use five policy variables to estimate the financial repression index. Since five policy variables are collinear, we do not include all five variables in one equation. Instead, we alternatively use one by one variable in the estimated equation.

Table 7: Bound Test for Long-Run Relationship

Test Statistic	Model-1	Model-2	Model-3	Model-4	Model-5	Significance Level	Lower Bound I (0)	Upper Bound I (1)
F-test	28.2437	33.2727	28.7138	29.1019	36.9200	10%	1.75	2.87
						5%	2.04	3.24
						1%	2.66	4.05

Table 7 summarizes the result of the ARDL Bound test for long-run relationships. For all six models, the estimated values of F-statistic are statistically significant at even a 1% significance level. The null hypothesis of no long-term relationship is rejected, indicating a long-term association between the variables. Table 8 shows estimates of the ARDL long-run coefficients' results. In Model 1, the impact of the real deposit rate (RDR) is insignificant, meaning that the increase in the RDR does not hamper economic growth. This may happen because the higher RDR does not significantly hamper the efficient allocation of funds in the loan market.

Model 2 shows the adverse impact of interest rate restriction (IRR) on economic growth, and the coefficient is statistically significant at a 5% significance level. That is, restriction on interest rates distorts economic growth by hindering the efficient functioning of the financial flows.

The impact of capital account control (CAC) on economic growth is statistically insignificant, as reported in Model 3. The results suggest that regulation of capital flows has not become a restraining factor for the economy. This is because the restriction on capital flows does not distort the efficient functioning of the capital flows. Model 4 depicts the impact of state-owned banks' share in total loans (SCB_A) on economic growth. The coefficient estimates are negative and statistically significant, even at 1% significance level. The dominance of the state-owned banks on total loans implied robust government control on the loan allocation, resulting in inefficient financial flow allocation and impediments to economic growth.

Model 5 reports the impact of statutory reserve requirements (SLR). The estimated coefficient is negative and statistically significant at even the 1% level of significance. An increase in the ratio reduces commercial banks' lending opportunities. As a result, the opportunity to provide more efficient funds to the small productive sector will decrease. In all models, the GCF and Trade openness coefficients are statistically significant.

Table 8: Impact of Individual Repressive Policy

Variables	**Coefficient**	**Coefficient**	**Coefficient**	**Coefficient**	**Coefficient**
	Model-1	Model-2	Model-3	Model-4	Model-5
RDR	0.9504 (0.7759)				
IRR		-0.5415** (0.2310)			
CAC			-0.3638 (1.5567)		
SCB_A				-5.2300*** (0.8343)	
SLR					-0.0825*** (0.0356)
GCF	0.2220*** (0.0731)	0.1595*** (0.0567)	0.1457** (0.0544)	-0.0247 (0.0556)	0.1653*** (0.0547)
GE	0.1753 (0.3065)	-0.0429 (0.3179)	-0.4623 (0.2926)	0.6874*** (0.2465)	0.1783 (0.2341)
TRADE	0.0387* (0.0210)	0.0238* (0.0135)	0.0435** (0.0207)	0.0321* (0.0167)	0.0542** (0.0217)
SOIP	0.1198* (0.0604)	0.0201 (0.0340)	0.0085 (0.0371)	0.0072 (0.0247)	0.0064 (0.0305)
ENROLL	0.0110 (0.0327)	0.0059 (0.0211)	-0.0108 (0.0223)	0.0181 (0.0165)	0.0003 (0.0189)
Adjusted R^2	0.840	0.790	0.786	0.853	0.786

To check the reliability of the result, we use different diagnostic tests, and the results are shown in Table 9. The LM test of serial correlation indicates that all models are free from the problem of autocorrelation. Finally, the Ramsey RESET test results are statistically insignificant, which means that the null hypothesis of no misspecification in the model cannot be rejected. That is, the models are correctly specified.

Table 9: Diagnostic Tests

	Test Statistic	Model-1	Model-2	Model-3	Model-4	Model-5
Serial Correlation LM test (p-value)	F-statistic χ^2	0.0024 (0.9976) 0.0071 (0.9964)	1.5649 (0.2234) 3.9560 (0.1453)	1.4715 (0.2434) 3.6456 (0.1616)	0.2706 (0.7646) 0.7585 (0.6844)	0.6710 (0.5177) 1.7355 (0.4199)
Ramsey RESET Test (p-value)	F-statistic	2.2431 (0.1231)	1.9224 (0.1614)	0.7204 (0.4936)	0.5173 (0.6009)	2.3443 (0.1108)

5. Conclusions

This study empirically examines the impact of repressive policies on economic growth in Bangladesh over the last 50 years. Repressive policies are usually undertaken to fulfill some public objective.

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Using the ARDL approach and controlling for macroeconomic variables, the results show an adverse impact of financial repression on economic growth, supporting the findings of the other studies (McKinnon,1973; Haslag& Koo, 1999; Huang & Wang, 2011; Safavian & Zia, 2018; Jafarov et al., 2019). Empirical findings indicate that, on average, financial repression lowers growth by about 0.56-0.66 percentage points. The results became weaker, especially after the liberalization of the foreign exchange market of Bangladesh in 2004. The reliability of the results was checked by using different diagnostic tests.

We run the regression model using individual policy variables to find the possible mechanism of repressive policies. The findings reveal that three of the five policy variables significantly reduce growth. These variables are interest rate restriction, the share of State-owned banks in total loans, and the statuary liquidity ratio. This result suggests that the government should focus on liberalization in these areas to enhance economic growth. The impact of real deposit rates and capital account control policy variables is insignificant, meaning that higher real deposit rates and control of capital accounts do not significantly hinder economic activities. These policies maintain the efficient allocation of resources in the economy. Finally, this study supports the findings of most previous research that repressive policies inhibit economic growth by analyzing the economy of Bangladesh. Policymakers should take proper measures to liberalize the financial sector to boost economic activity. The interest rate restrictions should especially be withdrawn, as they are already in effect and hamper the fair functioning of the loan market.

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