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Measurement and Determinants of Financial Repression: Evidence from Developed and Developing Economies

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	Abstract
<p>Muhammad Akmal PhD Scholar at the International Islamic University, Islamabad, Pakistan. Email: muhammad.phd212@iiu.edu.pk</p> <p>Dr. Waqqas Qayyum Assistant Professor at the International Islamic University, Islamabad, Pakistan. Email: waqqas.qayyum@iiu.edu.pk</p>	<p>Financial repression (FR) has re-emerged as a relevant policy tool in both advanced and developing economies, particularly after the Global Financial Crisis and the COVID-19 pandemic. This study examines the determinants and evolution of FR across 76 countries from 1990-2022 using a newly developed Financial Repression Index (FRI) that captures multiple dimensions of financial control. Employing a fixed-effects framework, the analysis integrates fiscal, macroeconomic, and political factors to explain cross-country variation. Results show that stronger fiscal capacity reduces FR, while inflation increases it across all income groups. In developed economies, FR initially rises with public debt but declines beyond a threshold, an inverted-U pattern reflecting institutional constraints and the credibility of financial markets. In contrast, in developing economies, public debt is negatively associated with FR, suggesting that higher debt triggers external oversight and fiscal discipline, limiting the use of repressive measures. Political coordination and left-oriented governments further influence the degree of repression. Overall, FR is cyclical in advanced economies but structural in developing ones.</p>

1. Introduction

Financial repression (FR) has re-emerged as a central topic in international economics and political economy debates. Since its seminal conceptualization by McKinnon (1973) and Shaw (1973), FR has been understood as a policy regime in which governments impose financial controls to secure resources at below-market costs. These measures, such as regulated interest rates (low or negative), directed credit to the public sector, high reserve requirements, capital account restrictions, and limited central bank autonomy, allow the state to channel funds toward public debt management and fiscal objectives. Traditionally, such mechanisms were characteristic of post-war and developing economies, where shallow financial markets and limited fiscal capacity compelled governments to rely on repressive instruments instead of market-based financing. However, events such as the Global Financial Crisis (2008) and the COVID-19 pandemic have demonstrated that FR is neither historically obsolete nor geographically confined. Advanced economies, once champions of financial liberalization, have also resorted to repressive tools during periods of heightened fiscal stress, underscoring the cyclical and context-dependent nature of FR (Hoffmann, 2017; Bajaro *et al.*, 2025). The persistence of FR across diverse economic systems highlights the need to move beyond its descriptive manifestations and explore its underlying drivers.

From a public finance perspective, FR functions as an implicit form of taxation, serving as an instrument through which governments can reduce debt-servicing costs or mobilize domestic resources when explicit fiscal measures face political or institutional barriers. Conversely, political economy theories view FR as a deliberate policy decision influenced by institutional capacity, ideological beliefs, and policy coordination (Denizer *et al.*, 1998). This dual perspective indicates that FR reflects not only fiscal needs but also the strategic choices of governments within specific political and institutional contexts. Despite valuable historical and country-specific analyses, such as the use of FR in post-war Europe and Latin America (Fry, 1980; Roubini and Sala-i-Martin, 1992; Kose *et al.*, 2022), systematic evidence on its broader cross-country determinants remains limited. While recent literature has increasingly focused on measuring FR through composite indices or indicator-based approaches, relatively little attention has been paid to understanding the economic, fiscal, and political determinants driving its variation across countries and over time. Consequently, the global and comparative dynamics of FR, particularly how its intensity changes under different institutional and fiscal environments, remain insufficiently explored. In this context, the present study offers a comprehensive cross-country analysis of the determinants and evolution of FR during 1990-2022, covering 76 developed and developing economies.

Using a newly developed, standardized Financial Repression Index (FRI) that captures various dimensions of financial control, the paper investigates how fiscal capacity, debt levels, inflation, and political institutions collectively shape the degree of FR. Employing a fixed-effects approach and testing for non-linear and political factors, the study differentiates between structural reliance on repressive finance in developing economies and cyclical policy responses in advanced economies. This research makes three key contributions to the literature. First, it broadens the empirical scope of FR by providing a long-term, multidimensional index that chronicles its development across income groups. Second, it uncovers non-linear relationships between public debt and FR, indicating an inverse U-shaped pattern in advanced countries. Third, it incorporates political and institutional determinants, demonstrating that policy coordination and ideology significantly influence the fiscal use of repression. By integrating fiscal, macroeconomic, and political perspectives, this study offers a more comprehensive understanding of why FR persists as a policy tool and how its drivers differ between economies with structural constraints and those with well-established institutions. Using a fixed-effects methodology and testing for non-linear relationships, the analysis reveals contrasting patterns across development levels, suggesting that FR is a persistent feature of fiscal systems in developing countries. At the same time, in advanced economies, it often functions as a temporary response to episodes of fiscal strain.

2. Literature Review

The literature broadly identifies two categories of determinants of FR: economic factors, which capture fiscal and macroeconomic pressures, and political factors, which reflect institutional and ideological influences.

a. Economic Determinants of Financial Repression

The literature highlights fiscal stress as the central driver of FR. In empirical studies, fiscal stress is typically proxied by low government revenue, high public debt burdens, persistent fiscal deficits, and inflationary pressures, as each of these conditions creates incentives for governments to rely on financial controls rather than transparent taxation or costly market borrowing. Rooted in the public finance approach, FR is viewed as a hidden form of taxation used when conventional revenue sources are insufficient or politically costly (Besley and Persson, 2009, 2013; Battilossi, 2004). Weak revenue capacity encourages governments to mobilize resources through controls on interest rates, credit allocation, or mandatory bond holdings, whereas stronger fiscal systems reduce such reliance (Jinjark, 2013). High public debt has historically provided a powerful incentive for repression, as governments seek to contain debt-servicing costs through interest-rate caps, captive bond markets, and negative real rates, a practice observed after World War II

and during the euro area debt crisis (Reinhart and Sbrancia, 2015; van Riet, 2018). Persistent budget deficits exacerbate this pressure, prompting states to turn to non-market financing rather than politically costly taxation or expensive market borrowing (Sargent and Wallace, 1981). Inflation further reinforces repression by reducing real interest rates and eroding the debt burden through the so-called “inflation tax,” a mechanism historically employed by both advanced and developing economies (Hilscher *et al.*, 2014). Collectively, weak revenues, rising debt, persistent deficits, and inflation form the fiscal conditions under which governments are most likely to resort to FR.

b. Political Determinants of Financial Repression

Beyond fiscal stress, political economy perspectives highlight how institutions and governance structures influence the level of FR. Factors such as policy coordination, the degree of executive concentration, and ideological orientation shape how governments design and sustain repressive financial regimes. Among these, policy coordination indicates how well governments can integrate financial policy with broader economic management. Countries with stronger coordination mechanisms may have greater institutional capacity to implement controls like interest-rate ceilings or directed credit. However, whether coordination leads to market liberalization or deeper intervention depends on broader political traditions and policy objectives. Historically, Northern European systems tended toward liberalization, while Southern European ones often relied on state intervention through banks and enterprises (Lijphart, 1999; Quinn & Inclán, 1997).

Political orientation represents another key institutional factor shaping the extent and form of financial repression. Left-wing governments, with their emphasis on redistribution and public spending, are more inclined to adopt repressive financial policies, including inflationary finance, captive bond markets, and credit rationing (Alesina & Tabellini, 1988). In such contexts, financial controls can also become instruments of political consolidation, as observed in transition economies where repression served to channel credit toward political allies (Perotti, 1998). Recent models further suggest that FR often emerges as an alternative to default under fiscal dominance (Chari *et al.*, 2020; Jeanne, 2023).

Finally, executive concentration matters for policy outcomes. Governments with strong centralized authority, such as majoritarian systems, are better positioned to implement fiscal reforms or raise taxes, thereby reducing reliance on FR. By contrast, coalition or fragmented governments often experience political deadlock, delaying fiscal adjustment and increasing the likelihood of repression as a short-term financing tool (Alesina *et al.*, 1993; Woldendorp and Keman, 2006; Dickson 2016).

3. Measurement Framework for Financial Repression

This study measures FR through six key indicators that capture government intervention in financial markets.

3.1. Indicators of Financial Repression

(i). Real Interest Rate (Lower-More Repression): Negative or consistently low real interest rates are clear signs of FR. When nominal interest rates are kept below the rate of inflation, savers get lower real returns, while the government benefits from reduced real debt payments. This process is often called an “inflation tax,” which shifts resources from the private sector to the public sector. Evidence shows that periods of negative real interest rates often happen during major fiscal adjustments or when debt levels are high, showing their role as a form of FR. (Roubini and Martin, 1992; Czudaj, 2020; Demiralp *et al.*, 2021).

(ii). Interest-Rate Spreads (Higher- More Repression)

A wide gap between lending and deposit rates reflects financial distortions caused by interest rate caps or directed credit programs. Governments often use these tools to influence how credit is allocated, fixing deposit rates at artificially low levels while keeping lending rates higher for preferred sectors. This practice allows them to collect quasi-fiscal resources through state-controlled banks and direct funds toward politically or strategically important activities (Giovannini & de Melo, 1993; Demirgüç-Kunt & Detragiache, 2018). Larger spreads, therefore, signal inefficient financial intermediation and government control over credit pricing, both signs of financial repression (Njeri *et al.*, 2013).

(iii) Private Credit to GDP (Lower-More Repression)

A smaller share of private credit in GDP indicates crowding out of private borrowers by the public sector. Under FR regimes, domestic savings are often diverted toward government financing through state-controlled banking systems, leaving limited credit available for households and businesses (McKinnon and Grassman, 1981; Lu and Yao, 2009; Yulek, 2017). Therefore, a decline in private-sector credit signifies a higher level of financial repression, as it reflects restricted financial development and increased government dominance in credit markets (Fisseha, 2023).

(iv) Capital- Account Restrictions (Higher-More Repression)

Capital controls are essential to FR because they prevent the outflow of domestic savings to higher-yielding foreign assets, creating a pool of funds for the government (Grilli Milesi-Ferretti, 1995; Quinn et al., 2011). By restricting cross-border capital movement, authorities can keep domestic interest rates artificially low without causing capital flight. Therefore, tighter capital-account restrictions signal stronger repression, reflecting the state's ability to shield domestic financial markets from global competition.

(v) Reserve Requirements (Higher-More Repression)

High reserve ratios compel banks to hold a larger portion of their deposits in low-yielding liquid assets, typically government bonds or central bank deposits. This policy effectively channels private savings into public financing and generates seigniorage revenue for the government (Fry, 1980; Easterly, 1994). Recent studies show that elevated reserve requirements remain a key tool for quasi-fiscal funding in emerging markets (Cantu *et al.*, 2024). Consequently, higher reserve ratios are seen as an indicator of greater FR.

(vi) Central Bank Autonomy (Lower-More Repression)

Limited central-bank independence allows the government to influence monetary policy for fiscal aims, such as keeping interest rates artificially low or directly financing public debt. A weak or politically controlled central bank weakens market discipline and enables repressive actions (Chauffour and Gobezie, 2019). Empirical evidence shows that greater institutional independence limits fiscal dominance and decreases the likelihood of FR. As a result, lower autonomy scores are linked to increased repression (Jácome and Pienknagura, 2022).

3.2. Construction of Financial Repression Index

The following steps are followed for constructing the FR index using the Standardization Approach (Batlossi, 2004; Prasetyowati and Meiria, 2021).

Step 1: Standardization of Indicators

Each of the six indicators was first converted into a standardized Z-score by subtracting the sample mean and dividing by the sample standard deviation. This creates a unit-free measure centered at zero with a dispersion of one.

$$Z_{k,c,t} = \frac{X_{k,c,t} - \mu_k}{\sigma_k}$$

Where $X_{k,c,t}$ is the value of indicator j for country c in year t , and μ_k and σ_k are the mean and standard deviation of that indicator across the whole panel. In this study, standardization was conducted separately for developed and developing country groups. This group-level standardization places all countries within each development category on a standard scale while preserving comparability across groups.

Step 2: Linear Rescaling

To facilitate interpretation, standardized values were rescaled so that the mean observation is anchored at 50 and each standard deviation corresponds roughly to a 20-point shift. The transformation is:

$$S_{k,c,t} = 50 + 20 * Z_{k,c,t}$$

This step maps all indicators to a 0-100 style scale, where values above 50 indicate above-average repression relative to the group distribution.

Step 3: Reversing Indicators Where Higher Values Imply Less Repression

Indicators that are inversely related to FR, real interest rates, private credit depth and capital account openness were reversed by subtracting the normalized score from 100, ensuring that all six components move consistently in the same direction. Higher values therefore uniformly represent stronger FR. Indicators inherently aligned with repression (interest rate spreads and reserve requirements) were left unchanged.

Step 4: Aggregation into the Composite Index

The six harmonized indicators were then combined into a composite index by taking their simple, unweighted arithmetic mean:

$$FRI_{c,t} = 1/K \sum_{k=1}^K S_{k,c,t}$$

where $S_{k,c,t}$ denotes the normalized (and, if needed, reversed) score of indicator j , and $K = 6$.

Step 5: Clipping to 0–100 Bounds

Because extreme values in the underlying distribution could occasionally push the aggregated index slightly below zero or above 100, the final index was clipped to remain within these bounds using: This adjustment ensures that the FRI remains interpretable as a bounded measure, with 0 indicating minimal repression and 100 representing maximal repression within the observed distribution.

4. Theoretical Justification for Determinants

4.1. Economic Determinants of Financial Repression

According to the public finance approach, governments usually turn to FR when traditional fiscal revenues are insufficient or when debt sustainability becomes a major concern. In such cases, measures like interest rate ceilings, directed credit, and mandatory holdings of government securities enable states to extract resources from the financial system at below-market costs. Four main macroeconomic variables typically reflect these fiscal incentives: government revenue, public debt, fiscal balance, and inflation.

1. Government Revenue (% of GDP)

The revenue-to-GDP ratio indicates a country's fiscal ability and tax effectiveness. A higher fiscal ability reduces dependence on hidden or non-market methods like FR. Conversely, when fiscal ability is limited, governments might rely on FR as an alternative to low taxation by diverting domestic savings to fund public needs. Therefore, a negative relationship is expected between government revenue and FR (Besley and Persson, 2007, 2013).

2. Government Debt (% of GDP)

High debt burdens increase governments' incentives to secure low-cost financing. Measures such as interest rate caps, captive bond markets, and negative real rates help contain debt service costs. Historical evidence from the post-World War II period to the euro area debt crisis shows that FR has been deliberately used to lower debt ratios (Reinhart and Santos, 2016; van Riet, 2018; IMF, 2021). Therefore, a positive relationship between debt and FR is logically expected.

3. Fiscal Deficit (% of GDP)

Persistent fiscal deficits create immediate financing pressures. When borrowing at market rates becomes expensive, governments may resort to FR as a form of “financial taxation,” compelling domestic institutions to absorb public debt under controlled rates. Accordingly, higher fiscal deficits are predicted to increase FR (Sargent and Wallace, 1984; IMF, 2019).

4. Inflation

Inflation interacts with FR by determining real interest rates. When nominal rates are administratively capped while inflation rises, real rates become negative, reducing the real value of public debt and transferring wealth from savers to borrowers. This “inflation tax” complements FR and has historically been a key debt-liquidation tool (Cochrane, 2023; Bajaro *et al.*, 2025). Thus, a positive association between inflation and FR is expected.

Political Determinants of Financial Repression

Beyond fiscal motives, political structures and, crucially, shape governments' reliance on FR. Political economy theories emphasize that policy coordination, ideological orientation, and executive concentration determine the extent of state intervention in financial markets.

Policy Coordination

Policy coordination reflects the state's capacity to engage diverse stakeholders in collective economic management. In systems with high coordination, often observed in corporatist or participatory democracies, FR can serve contrasting roles. It may function as an instrument of macroeconomic management through coordinated interest rate and credit policies, or, conversely, strong institutional coordination may foster transparency and market discipline, thereby constraining FR (Ligphart, 1999; Siaroff, 1999; Dickson 2016). Policy coordination is measured using the V-Dem Participatory Democracy Index (v2x_partipdem), which ranges from 0 to 1 and captures the extent of participatory decision-making and consultative governance (Coppedge *et al.*, 2024). Given these competing theoretical mechanisms, the direction of its relationship with FR cannot be determined a priori and is instead explored through empirical analysis.

Political Orientation

Political orientation influences fiscal and financial behavior. Left-leaning governments tend to emphasize redistribution, employment, and social spending, objectives that often rely on expansionary or inflationary policies and greater financial control. Such governments may employ FR to fund deficits, manage debt, or channel credit toward preferred sectors (Perotti, 1998). Consequently, FR is expected to be higher under left-wing administrations, while centrist governments are likely to occupy an intermediate position. In

the empirical analysis, political orientation is captured using two dummy variables: one identifying left-wing governments and another representing centrist governments. The underlying data come from the *Database of Political Institutions (DPI2020)* compiled by the Inter-American Development Bank (IDB), which reports institutional and electoral indicators for about 180 countries from 1975 to 2020.

Executive Concentration

Executive concentration, also referred to as a majoritarian system, captures the extent to which political power is centralized within the ruling executive and its ability to command legislative support. In systems with high executive concentration, decision-making is more cohesive because the ruling party or coalition controls a legislative majority, allowing fiscal and financial policies to be enacted swiftly and consistently. Such governments face fewer veto players and can mobilize explicit revenues through taxation or expenditure reform, thereby reducing their dependence on implicit taxation mechanisms such as FR.

In contrast, low executive concentration, characteristic of coalition or minority governments, is often associated with fragmented decision-making and policy deadlock. Divergent political interests within coalitions can delay fiscal adjustments and lead to compromise policies. These governments may therefore resort to FR as a politically less costly means of financing deficits or managing debt, especially when consensus on explicit fiscal measures is difficult to achieve (Choi and Luo, 2019; Savoia *et al.*, 2023). In this study, executive concentration is derived from the legislative party cohesion variable (*v2pscohesv_ord*) in the V-Dem dataset. The variable is recoded into a binary form equal to 1 for highly cohesive, majoritarian systems, and 0 for fragmented or coalition systems. A value of 1 indicates centralized executive authority with stronger legislative control, typically associated with lower reliance on FR, whereas a value of 0 represents dispersed authority and weaker cohesion, where governments are more likely to resort to repressive financial measures.

5. Data and Methodology

5.1. Data Description

This study uses an unbalanced panel dataset covering 33 developed and 43 developing countries from 1990 to 2022. The Financial Repression Index (FRI) constructed in Section 3 serves as the dependent variable, with a set of economic and political variables as its determinants. All data are annual and sourced from reputable international databases, ensuring comparability across countries and years. Table I shows the indicators used to build the multidimensional Financial Repression Index, while Table II summarizes the variables representing its economic and political determinants, along with their measurements and sources.

Table 1: *Description of Variables/Indicators of Financial Repression Index*

Variable/Indicator	Description
Real Interest Rate	Nominal lending rate adjusted for inflation (CPI), expressed as an annual percentage.
Interest Rate Spread	Difference between the average lending rate and the deposit rate, expressed in percentage points.
Private Credit (% of GDP)	Credit to the private sector provided by deposit money banks and other financial institutions as a share of GDP.
Capital Account Openness	Index of financial openness measuring restrictions on cross-border financial transactions; ranges between 0 and 1.
Reserve Requirement Ratio	Legal reserve requirement imposed on banks (ratio of reserves to deposits), reported annually.
Central Bank Independence (CBI)	Index of legal and operational independence of central banks, based on updated coding, ranges between 0 and 1.

1.1.1 Sources: World Bank (2022); Chinn and Ito (2022); Romelli (2022).

Note: All indicators are annual country-level series covering 1990-2022. Higher values in each indicator correspond to stronger FR, except for private credit and capital account openness, where lower values indicate FR.

Table 2: *Description of Variables-Economic and Political Determinants of Financial Repression*

Variable	Measurement / Coding	Data Source(s)
Government Revenue	Total government revenue (tax + non-tax) as a share of GDP.	World Bank (2022)
Government Debt	Gross general government debt as a percentage of GDP.	IMF World Economic Outlook (2022)
Fiscal Deficit	Difference between total expenditure and revenue (% of GDP; negative =	IMF World Economic Outlook (2022)

Variable	Measurement / Coding	Data Source(s)
	deficit).	
Inflation	Annual percentage change in Consumer Price Index (CPI).	World Bank (2022)
Policy Coordination	Index 0-1; higher values = greater participatory decision-making (v2x_partipdem).	Varieties of Democracy (V-Dem v14; Coppedge <i>et al.</i> , 2024)
Political Orientation	Two dummy variables: Left-wing = 1; Centrist = 1; otherwise = 0.	Database of Political Institutions (DPI 2020), Inter-American Development Bank
Executive Concentration	Dummy = 1 for high legislative cohesion; 0 = fragmented/coalition (v2pscohesv_ord).	Varieties of Democracy (V-Dem v14; Coppedge <i>et al.</i> , 2024)

5.2. Methodology for Determinants of Financial Repression Intensity

To examine the economic and political drivers of FR, the following panel fixed-effects model is estimated:

$$FR_{it} = \alpha + \beta_1 REVGDP_{it-1} + \beta_2 DEBT_{it-1} + \beta_3 DEFICIT_{it-1} + \beta_4 INF_{it-1} + \beta_5 POLICY_{it} + \beta_6 LEFT_{it} + \beta_7 CENTER_{it} + \beta_8 EXECONC_{it} + \mu_i + \epsilon_{it} \quad (1)$$

FR_{it} = Financial Repression Index for country i at time t (bounded between 0 and 100)

$REVGDP_{it-1}$ = Government revenue as a percentage of GDP

$DEBT_{it-1}$ = General government debt as a percentage of GDP

$DEFICIT_{it-1}$ = Fiscal deficit as a percentage of GDP

INF_{it-1} = Inflation rate (CPI, annual %)

$POLICY_{it}$ = Policy coordination (Participatory Democracy Index, v2x_participdem)

$LEFT_{it}$, $CENTER_{it}$ = Political orientation dummies (Left and Centrist governments)

$EXECONC_{it}$ = Executive concentration dummy (majoritarian system = 1; coalition = 0)

μ_i = country-specific fixed effects

ϵ_{it} = idiosyncratic error term

To examine whether the relationship between public debt and FR intensity is linear or exhibits diminishing returns beyond a certain level of indebtedness, the baseline model is extended by including a quadratic debt term. The augmented specification is expressed as:

$$FR_{it} = \alpha + \beta_1 REVGDP_{it-1} + \beta_2 DEBT_{it-1} + \beta_3 DEBT_{it-1}^2 + \beta_4 DEFICIT_{it-1} + \beta_5 INF_{it-1} + \beta_6 POLICY_{it} + \beta_7 LEFT_{it} + \beta_8 CENTER_{it} + \beta_9 EXECONC_{it} + \mu_i + \epsilon_{it} \quad (2)$$

Here $DEBT_{it-1}^2$ represents the squared term of lagged government debt as a percentage of GDP. The inclusion of this term allows testing for non-linear (inverted-U) effects, where FR initially increases with debt but decreases beyond a certain threshold, reflecting institutional or market constraints that limit the state's capacity to sustain repressive financial policies.

The turning point (threshold) is calculated as:

$$Turning\ point = -\frac{\beta_2}{\beta_3}$$

This identifies the level of public debt (as a percentage of GDP) at which the marginal effect of additional debt on FR switches sign. The statistical significance of the non-linear relationship is verified through a joint F-test of the linear and quadratic debt coefficients.

The baseline results are obtained using the Fixed-Effects estimator, which controls for unobserved, time-invariant heterogeneity across countries. Robustness checks are conducted using Random-Effects (RE) and Pooled OLS specifications to verify the consistency of results across estimation methods. Although the FRI is bounded between 0 and 100, it is treated as a continuous variable since it represents a composite intensity score rather than a probability.

Table 3: *Theoretical Expectations for the Determinants of Financial Repression Intensity*

Variable	Expected Sign	Theoretical Rationale
Government Revenue	–	Higher fiscal capacity reduces the need for implicit taxation through FR (Besley and Persson, 2007, 2013).
Government Debt	+	High debt creates incentives to suppress interest rates and channel funds toward debt service (Reinhart & Sbrancia, 2011; van Riet, 2018).
Fiscal Deficit (% of GDP)	+	Persistent deficits prompt governments to mobilize captive domestic resources through financial repression (Sargent & Wallace, 1981; IMF, 2019).
Inflation (CPI, % change)	+	Rising inflation under nominal rate caps generates negative real rates, reducing debt burden and complementing repression (Reinhart & Sbrancia, 2011).
Policy Coordination	±	Strong coordination may either facilitate transparent policy (reducing FR) or enable strategic use of repressive tools for macro control (Lijphart, 1999; Siaroff, 1999).
Political Orientation	+ (Left)± (Center)	Left-leaning governments often pursue redistribution and credit control, increasing FR, whereas centrist regimes occupy an intermediate position (Perotti, 1998).
Executive Concentration	–	High executive cohesion allows fiscal consolidation via explicit measures, reducing reliance on repressive financing; fragmented coalitions face the opposite (Haber & Perotti, 2008).

Note: Expected signs are based on theoretical considerations and empirical findings from prior literature. Positive signs indicate variables expected to increase FR, while negative signs indicate variables that are expected to mitigate FR.

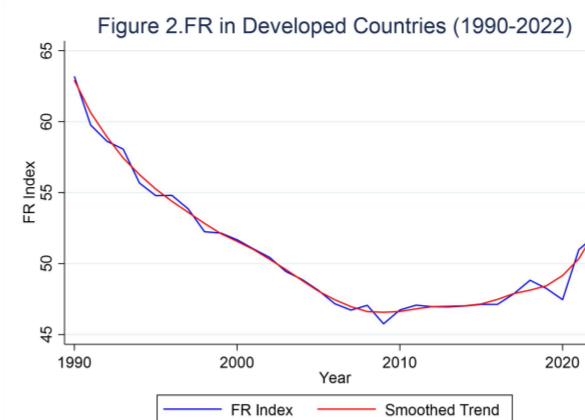
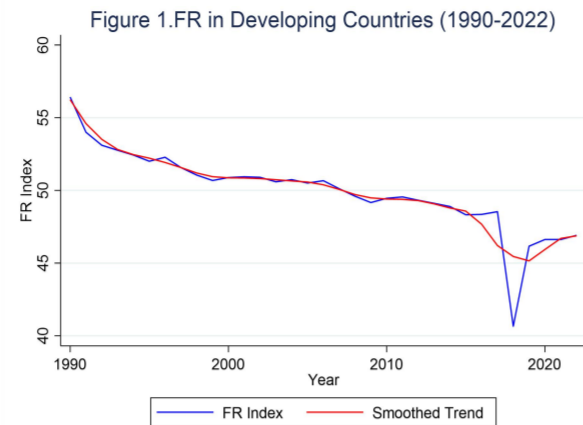
6. Results and Discussion

6.1 Trends in Financial Repression (1990-2022)

Figures 1 and 2 illustrate the evolution in the intensity of FR, as measured by the standardized Financial Repression Index (FRI), for developing and developed economies from 1990 to 2022. The index ranges from 0 to 100, with higher values representing stronger financial controls. Both groups exhibit a general reduction in the intensity of FR during the early decades, followed by a renewed rise in recent years, though the magnitude and persistence differ notably across income groups.

In developing economies (Figure 1), the average FRI was close to 55 in the early 1990s and declined steadily to below 45 by 2015, reflecting gradual financial deregulation and reduced policy control over domestic financial markets. A sharp yet temporary fall around 2020 coincides with the COVID-19 shock, when credit contraction and emergency liquidity measures disrupted normal financial operations. Thereafter, repression intensity stabilized around 45-47, indicating partial normalization but no return to pre-pandemic openness. Overall, the declining yet volatile pattern shows that developing economies remain structurally dependent on selective financial controls, particularly during episodes of macroeconomic stress. In developed economies (Figure 2), the intensity of FR followed a U-shaped trajectory. The index fell from above 60 in 1990 to around 46 by 2010, consistent with widespread financial deregulation and deepening capital markets. However, the steady upturn observed after 2010, especially between 2020 and 2022, signals a renewed reliance on repressive financial policies amid rising public debt burdens and unconventional monetary interventions. In advanced economies, therefore, the intensity of FR appears cyclical, resurfacing primarily in response to fiscal and financial crises.

Taken together, these contrasting trajectories highlight that the intensity of FR remains structurally persistent in developing economies but episodic and policy-driven in advanced ones. This divergence provides the empirical foundation for examining, in the following subsection, the economic and political determinants underlying these observed dynamics.



6.2 Baseline Estimates: Economic Determinants of Financial Repression

Table 4 reports the baseline fixed-effects estimates for the economic determinants of FR. The coefficient of government revenue is negative and statistically significant in both developed and developing economies, indicating that higher fiscal capacity reduces governments' dependence on repressive financial measures. This supports the fiscal-space argument that states with stronger revenue mobilization can finance expenditures more transparently through taxation or borrowing, instead of resorting to hidden instruments such as interest-rate controls or directed credit (Besley and Persson, 2009; Giovannini and de Melo, 1991).

The results for public debt show a clear divergence between the two groups. In developed economies, the coefficient is positive and significant, suggesting that higher debt levels encourage governments to suppress interest rates and channel credit toward public securities, consistent with the fiscal-dominance hypothesis (Sargent & Wallace, 1984; Reinhart & Sbrancia, 2011). In developing economies, the negative and significant debt coefficient indicates that higher debt is linked with lower FR. This may be due to stronger oversight from international lenders and limited capacity to control domestic financial markets. High debt levels in these countries usually force governments to follow stricter fiscal rules and adopt liberalization reforms. At the same time, weak financial markets make it difficult for them to use repressive measures without creating financial instability.

The fiscal deficit variable remains statistically insignificant in both samples, indicating that short-run budget imbalances have a limited independent effect once debt and inflation are controlled for. Finally, inflation shows a strong and positive association with FR in both groups, reaffirming that repressive policies tend to intensify in inflationary environments where nominal interest rates lag behind price growth, effectively creating an "inflation tax" on savers (Friedman, 1971; Catao & Terrones, 2005; Cochrane, 2023). Overall, the findings confirm that FR is primarily driven by fiscal and macroeconomic pressures, with evidence of fiscal dominance particularly evident in advanced economies.

Table 4: *Baseline Fixed-Effects Estimates-Economic Determinants of Financial Repression*

Variables	Developed Economies	Developing Economies
Lagged Government Revenue (% of GDP)	-0.24 (0.055) ***	-0.045 (0.023)**
Lagged Public Debt (% of GDP)	0.031 (0.009)	-0.011 (0.004)**
Lagged Fiscal Deficit (% of GDP)	0.0003 (0.0027)	0.013(0.047)
Lagged Inflation (%)	0.845 (0.088) ***	0.4(0.006)**
Country Fixed Effects	✓	✓
Year Fixed Effects	✓	✓
Observations	977	1108
R-squared (within)	0.106	0.12
Number of Countries	34	42

Significance levels: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Standard errors are in parentheses.

Note: Fixed-effects (within) regression estimates controlling for country-specific heterogeneity and common time shocks.

6.3 Non-Linear Effects of Public Debt on Financial Repression

Table 5 reports the results from the non-linear specification incorporating the squared term of public debt. In developed economies, the coefficients of public debt and its squared term have opposite signs, positive and negative, respectively, suggesting a potential inverted-U relationship; however, neither is statistically significant, indicating that no robust non-linear pattern can be confirmed. In contrast, for developing economies, both coefficients are statistically significant, with a negative linear and positive squared term, implying a U-shaped relationship between debt and FR. The estimated turning point, around 155% of GDP, marks the level beyond which FR begins to rise again as debt pressures intensify. These results suggest that non-linear effects are economically meaningful only in developing economies, where fiscal and institutional constraints amplify the repressive response to excessive debt.

Table 5: *Fixed-Effects Estimates-Non-Linear Effects of Public Debt on Financial Repression*

Variables	Developed Economies	Developing Economies
Lagged Government Revenue (% of GDP)	-0.24 (0.055) ***	-0.039(0.027) **
Lagged Public Debt (% of GDP)	0.031 (0.009)	-0.031 (0.005) *
Lagged Public Debt ² (% of GDP)	-0.00003 (0.008)	0.0001(0.0007)**
Lagged Fiscal Deficit (% of GDP)	0.0003 (0.0027)	-0.007 (0.033)
Lagged Inflation (%)	0.82 (0.088) ***	0.021 (0.066) **
Country Fixed Effects	✓	✓
Year Fixed Effects	✓	✓
Number of Countries	34	42
R-squared (within)	0.10	0.12
Number of Countries	31	42

Significance levels: * p < 0.10 ** p < 0.05 *** p < 0.01

Standard Errors are in parenthesis.

6.4 Economic and Political Determinants of Financial Repression

Table 6 reports the fixed-effects estimates combining fiscal, macroeconomic, and political variables for developed and developing economies. The results show that both economic pressures and governance structures significantly shape the extent of FR.

Table 6: *Economic and Political Determinants of Financial Repression: Fixed-Effects Estimates for Developed and Developing Economies*

Variables	Developed Economies	Developing Economies
Lagged Government Revenue (% of GDP)	-0.23(0.069) **	-0.078 (0.027) **
Lagged Public Debt (% of GDP)	0.063 (0.002) **	-0.017 (0.009) *
Lagged Public Debt ² (% of GDP)	-0.00017 (0.008) **	0.00007(0.0004)
Lagged Fiscal Deficit (% of GDP)	0.0002 (0.025)	-0.011 (0.016)
Lagged Inflation (%)	0.77 (0.085) ***	0.045 (0.066) **
Participatory Democracy (v2x_partipdem100)	-0.40(0.073) **	-0.045 (0.021)**
Executive Concentration	-0.18 (0.720)	—
Left Ideology (LEFT)	0.83 (0.44) **	0.487 (0.215)
Center Ideology (CENTER)	-0.752 (0.512)	0.49 (0.190)
Country Fixed Effects	✓	✓

Variables	Developed Economies	Developing Economies
Year Fixed Effects	✓	✓
Number of Countries	34	42
R-squared (within)	0.15	0.14
Number of Countries	31	42

For developed economies, the results show that government revenue has a negative and significant effect on FR, indicating that higher fiscal capacity reduces the government's reliance on repressive measures. Public debt is positive and significant, while its squared term is negative and significant, confirming a non-linear (inverted-U) relationship. This suggests that FR initially increases with debt accumulation, reflecting governments' growing tendency to suppress interest rates and direct credit toward the public sector under fiscal pressure, but begins to decline once debt exceeds a sustainable threshold. The estimated turning point occurs at around 187% of GDP, implying that beyond this level, advanced economies face increased market scrutiny and institutional constraints, making continued reliance on repressive instruments less viable. In such highly indebted contexts, the costs of financial distortion outweigh short-term fiscal gains, prompting greater fiscal discipline and a shift toward more transparent financing mechanisms. The inflation coefficient is positive and highly significant, supporting the classic inflation tax channel, whereby inflation helps erode the real value of public debt, complementing repressive tools. Participatory democracy shows a negative and significant coefficient, suggesting that more democratic systems constrain repressive fiscal practices through institutional accountability.

Turning to political variables, executive concentration is negative but statistically insignificant, suggesting that while cohesive executives may reduce policy uncertainty, the effect is not robust across advanced economies. In contrast, left-oriented governments (LEFT) display a positive and significant relationship with FR, indicating that governments with redistributive agendas are more likely to employ repressive financial tools. Centrist governments (CENTER) exhibit a negative but insignificant effect. For developing economies, government revenue again shows a negative and significant effect, reaffirming that stronger fiscal capacity lowers reliance on repressive measures. Public debt is negative and significant, while its squared term is insignificant, suggesting a linear inverse relationship, higher debt tends to reduce FR, possibly because heavily indebted developing countries are subject to international scrutiny and conditionality that limit their use of financial controls. Inflation remains positive and significant, implying that macroeconomic instability continues to foster repressive practices (Aizenman and Glick, 2009).

Participatory democracy is negative and significant, indicating that even modest institutional participation constrains FR. However, executive concentration is insignificant, suggesting that political cohesion does not translate into effective policy restraint in weaker institutional contexts. The coefficients on ideological orientation (LEFT and CENTER) are positive but not consistently significant, reflecting that in developing economies, the space for ideological differentiation in fiscal-financial policy is limited by structural and external constraints. Overall, the results show distinct determinants of FR across both groups. In developed economies, higher public debt and inflation intensify repression, while stronger fiscal capacity and democratic institutions help contain it. Political factors also matter, as left-leaning governments are more inclined toward repressive measures. In developing economies, repression is mainly driven by high inflation, capturing macroeconomic instability, and weak fiscal capacity, whereas greater revenue generation and participatory democracy mitigate it. The negative association with debt further reflects the influence of international oversight and fiscal conditionality, which constrain governments' ability to sustain repressive practices.

6.5 Robustness Analysis

To assess the robustness of the baseline estimates, the results were compared across fixed-effects, random-effects, and pooled OLS models (Table 7). The overall direction and significance of key coefficients remain stable across specifications, confirming that the findings are not sensitive to the estimation technique. Only minor variations in the pooled OLS results, where a few political variables become significant, likely reflect cross-country differences that are not captured by the panel estimators. This consistency across models reinforces the reliability of the baseline results.

Table 7: Robustness Analysis: Cross-Model Consistency of Determinants of Financial Repression

Model Specification	Revenue	Debt	Debt ²	Fiscal Deficit	Inflation	Policy Coordination	Executive Concentration	LEFT	CENTER
Developed Economies									
Fixed Effects (baseline)	-✓	+✓	-	n.s.	+✓	—	—	—	—

Model Specification	Revenue	Debt	Debt ²	Fiscal Deficit	Inflation	Policy Coordination	Executive Concentration	LEFT	CENTER
Fixed Effects (with political)	-✓	+✓	-✓	n.s.	+✓	-✓	n.s.	+✓	n.s.
Random Effects	-✓	+✓	-✓	n.s.	+✓	-✓	n.s.	+✓	n.s.
OLS (pooled)	-	+✓	-✓	n.s.	+✓	-✓	-✓	n.s.	n.s.
Developing Economies									
Fixed Effects (baseline)	-✓	-✓	—	n.s.	+✓	—	—	—	—
Fixed Effects (with political)	-✓	+	—	n.s.	+✓	-✓	-	+	n.s.
Random Effects	-✓	+	—	n.s.	+✓	-✓	-	+	n.s.
OLS (pooled)	-✓	+	—	n.s.	+✓	-✓	—	+✓	n.s.

Note:

“—” denotes a negative coefficient; “+” a positive coefficient; “✓” indicates statistical significance at the 10% level or better; “n.s.” = not significant; “—” = variable not included.

7. Conclusion

This study examined the evolution and determinants of FR across 76 developing and developed economies over 1990-2022, using a standardized Financial Repression Index (FRI) constructed from multiple indicators of financial control. By combining fiscal, macroeconomic, and political dimensions within a fixed-effects framework, the analysis revealed that the persistence and intensity of FR differ fundamentally across income and institutional contexts. The trend analysis showed that developing economies experienced a gradual deregulation of financial systems until the mid-2010s, followed by a resurgence of repression during crises such as the COVID-19 shock. In contrast, developed economies followed a U-shaped trajectory, with FR declining during decades of deregulation but reappearing after 2010 amid rising debt burdens and unconventional monetary interventions. These divergent paths suggest that repression remains structural and persistent in developing economies but cyclical and policy-responsive in advanced ones.

Fiscal and macroeconomic conditions continue to dominate the behavior of FR. Higher government revenue reduces reliance on repressive mechanisms, while inflation amplifies them through the erosion of real interest rates, consistent with the fiscal-space and inflation-tax hypotheses. Developed economies exhibit an inverted-U pattern, where repression rises with debt at lower levels but diminishes beyond a critical threshold (around 186% of GDP) as market credibility and financial openness impose limits. In contrast, developing economies follow a U-shaped curve, where moderate debt aligns with liberalization efforts but excessive debt renews reliance on domestic financial controls, reflecting institutional fragility and external borrowing constraints. Political and institutional contexts shape how governments respond to fiscal pressures. In advanced economies, strong coordination between fiscal and monetary authorities promotes stability and transparency, thereby limiting the need for repressive financial measures. Left-leaning governments, however, tend to rely more on such measures, aligning with their preference for redistribution and state intervention. In developing economies, the role of political orientation is less pronounced, while corporatist structures or policy coordination serve as key stabilizing factors.

Overall, institutional cooperation in advanced democracies helps align fiscal adjustment with market confidence, whereas the absence of such frameworks in developing countries often leaves financial repression as a residual or default tool to manage fiscal stress. Overall, the evidence positions FR as a multidimensional and context-dependent policy tool, cyclical and strategically deployed in advanced economies but structural and reactive in developing ones. Strengthening fiscal capacity, institutional coordination, and political accountability can therefore transform repression from a hidden fiscal instrument into a transparent, rules-based policy framework that supports macroeconomic stability.

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