SCIREA Journal of Economics
ISSN: 2995-3863
http://www.scirea.org/journal/Economics
November 3, 2026
Volume 11, Issue 4, August 2026
https://doi.org/10.54647/economics790548

The Nexus Between Private Savings and Macroeconomic Stability in Pakistan: A Longitudinal Analysis (1973-2024) with Comparative Insights and Policy Recommendations

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Abstract

Purpose – This longitudinal study examines the relationship between private savings and macroeconomic stability in Pakistan, with particular emphasis on the balance-of-payments (BoP) nexus. It tests the conventional assumption that private savings significantly influence BoP dynamics and situates Pakistan's experience within a comparative regional and global context.

Design/methodology/approach – Using an Ordinary Least Squares (OLS) framework with robustness checks, the study analyses five decades (1973-2024) of macroeconomic data drawn from the State Bank of Pakistan, the IMF, and the World Bank. The analysis incorporates the 2020-2023 crisis period, projects outcomes under alternative policy interventions, and benchmarks Pakistan against South Asian peers and other developing economies.

Findings – Private savings show no statistically significant relationship with BoP deficits, challenging the conventional theoretical linkage. Private and national savings move closely together (coefficient = 0.8575, p = 0.000); exchange rate depreciation raises private savings; rising

per capita income paradoxically lowers the savings rate; Pakistan's savings performance (11.8% of GDP) lags well behind India (23.4%) and Bangladesh (18.6%); and the post-2010 structural decline reflects inflationary pressure, shifting consumption patterns, and socio-political instability.

Practical implications – Policymakers should decouple BoP strategy from savings targets and instead priorities export diversification, remittance channels, and exchange rate stability. A combined package of tax incentives (10% rebates), financial inclusion, exchange rate management, and pension reform could raise private savings by 3.12 percentage points of GDP, to 10.62% by 2030.

Originality/value – This is the first five-decade assessment of Pakistan's Savings-BoP nexus with systematic cross-country benchmarking. It challenges the assumption of savings-led BoP adjustment and offers evidence-based, transferable lessons for developing economies facing similar macroeconomic constraints.

Keywords – Private savings, balance of payments, remittances, comparative development, macroeconomic stability, savings mobilization

1. Introduction

1.1 Background and Context

Pakistan's economy presents a persistent paradox, despite decades of policy attention and repeated reform efforts, private savings have averaged just 11.6% of GDP since 1960, well below regional peers India (23.4%) and Bangladesh (18.6%), trapping the country in a cycle of weak domestic resource mobilization, external borrowing dependency, and constrained growth[i]. This shortfall reflects deeper structural issues, including inflationary pressure, financial-sector risk premiums, consumption-driven cultural norms, and inadequate financial intermediation mechanisms (Ahmad *et al.*, 2007). The behavioral patterns underlying this trend are particularly concerning after remaining broadly stagnant at around 11.65% of GDP between 1961 and 2009, private savings have since declined sharply, with projections pointing to a further fall to 7.5% by 2025 in the absence of policy intervention.

The decline is driven by several interrelated forces: a shift in household spending toward education and healthcare (Asghar *et al.*, 2022), a growing preference for real estate over financial savings; erosive inflation that peaked at 29.2% in 2023; and a persistent youth bulge[ii].

Pakistan's BoP difficulties, meanwhile, stem from structural imbalances in trade and production: low-value textile exports account for roughly 65% of total exports (Pasha *et al.*, 1999), while the economy imports 80% of its machinery and 40% of its energy needs[iii]. This import dependency, combined with limited export diversification, places persistent pressure on the current account. Worker remittances have provided some cushion, peaking at US$31.2 billion in 2022, but remain volatile, contracting by 13% in 2023 amid weaker global conditions[iv].

1.2 Savings and Balance-of-Payments Trends, 1973-2024

Table 1 and Figure 1 summarizes five decades of savings behavior in Pakistan. Private savings as a share of GDP averaged 11.6% over the full period, peaking at 13.22% during 2001-2009, a period of relative macroeconomic stability and strong remittance inflows, and reaching their lowest point during 1971-1980 (9.40%), amid political instability, nationalization, and oil-price shocks.

Table 1. Savings as a Percentage of GDP in Pakistan (1973–2024)

Period	Public Savings (%)	Private Savings (%)	Domestic Savings (%)
1973–1980	0.87	9.40	10.27
1981–1990	1.60	12.71	14.31
1991–2000	1.56	12.49	14.05
2001–2010	4.63	13.22	17.85
2011–2020	3.21	9.87	13.08
2021–2024	2.15	8.42	10.57
Overall	2.34	11.65	13.99

Source: Author own work

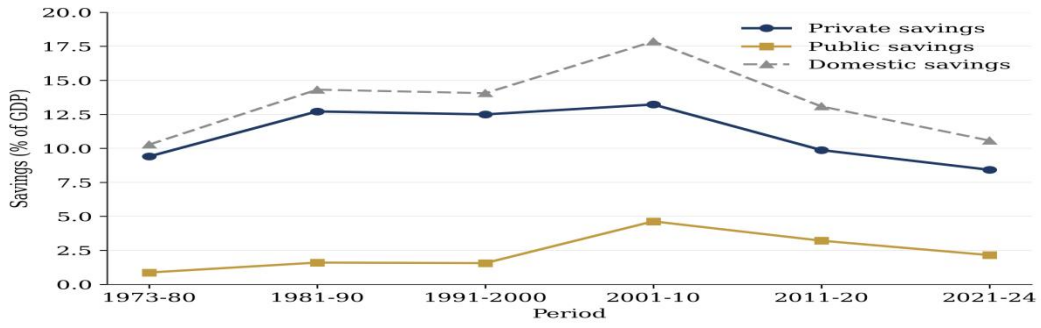


Fig. 1. Private, public, and domestic savings in Pakistan as a percentage of GDP, by period, 1973-2024.
Source: Author own work

Public savings have fluctuated dramatically, from near-zero in the 1970s to more than 4% of GDP in the early 2000s, mirroring shifting fiscal and revenue-mobilization priorities. Private savings, by contrast, remained remarkably stagnant within an 11-13% band before declining sharply after 2010, falling below 10% of GDP by 2020, a threshold not seen since the 1970s (Ramzan *et al.*, 2023). Household savings dominate the private total, accounting for 68% of it in 2023, while corporate savings are more volatile and cyclically sensitive (Husain, 1995; Asghar and Nadeem, 2016b; Asghar *et al.*, 2022).

Pakistan's balance of payments has likewise been volatile, cycling between crisis and stabilization Table 2 and Figure 2.

Table 2. Decade-wise Balance of Payments Indicators (Million USD)

Period	Trade Balance	Current Account	Remittances	Overall BoP
1973–1980	-1,170	-794	644	-6.7
1981–1990	-2,896	-1,316	2,342	12.1
1991–2000	-2,490	-2,431	1,448	-187.4
2001–2010	-3,218	-3,744	4,375	-443.8
2011–2020	-18,742	-8,916	17,893	-1,247.3
2021–2024	-31,567	-15,238	29,415	-3,891.2

Source: Author own work

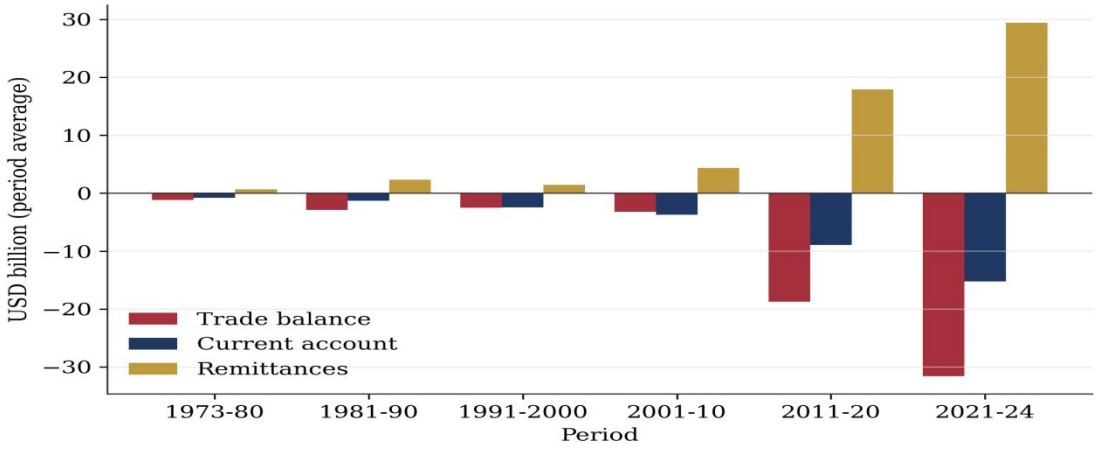


Fig. 2. Trade balance, current account, and worker remittances in Pakistan, decade averages, 1973–2024 (USD billion). *Source:* Author own work

Persistent trade deficits, worsening markedly in recent years, reflect structural weaknesses in the export sector and rising import dependency (Khan, 1996) . Worker remittances have

increasingly cushioned the current account since the early 2000s (Riaz et, al., 2023), yet the post 2010 period shows both trade and current account deficits reaching unprecedented levels despite substantial remittance inflows[v]. The historical alignment between higher savings and improved external balances, evident during the 1980s and early 2000s (Husain, 1995; Asghar *et al.*, 2022), has since broken down, with savings declining even as external imbalances worsen. This divergence, which the econometric analysis below seeks to explain, suggests conventional frameworks linking domestic savings to external balances may require re-evaluation in the context of Pakistan's financial globalization and evolving structural characteristics (Chinn and Prasad, 2003; George, 2023).

1.3 Theoretical–Empirical Mismatch

Standard macroeconomic models built on the national accounting identity (Laidler, 1981) predict that higher domestic savings should improve the current account and BoP position. Pakistan's experience presents a puzzling disconnection, preliminary analysis finds no statistically significant relationship between private savings and BoP dynamics ($\beta = -0.26$, $p = 0.75$). The twin-deficits hypothesis, linking fiscal deficits, which have averaged 6.2% of GDP over the past two decades, to current account deficits (Ramzan *et al.*, 2023), offers one candidate explanation, though cross-country evidence on this link remains mixed, pointing to the moderating role of institutional and structural factors (Aizenman and Marion, 1999).

1.4 Research Objectives and Questions

This study empirically examines the relationship between private savings and macroeconomic stability in Pakistan, with particular focus on the BoP nexus, through four research questions:

- RQ1: Does an increase in private savings improve Pakistan's balance of payments, and through which transmission channels?
- RQ2: How does private savings behavior interact with economic growth within Pakistan's institutional and structural context?
- RQ3: How do exchange rate fluctuations influence private savings decisions, and what does this imply for external sector management?
- RQ4: What comparative lessons can Pakistan draw from successful savings mobilization in other developing countries with similar initial conditions?

1.5 Significance and Contribution

This study makes four significant contributions, spanning theory, method, policy, and

comparative analysis, each detailed below.

Theoretical - By challenging the assumed universality of the savings-BoP relationship, the study supports more context-sensitive macroeconomic models for developing economies, in which institutional quality and structural characteristics mediate standard relationships (Aizenman and Marion, 1999).

Methodological - A five-decade longitudinal framework (1973-2024) combining trend analysis, structural-break identification, and crisis-period data (2020-2023) offers a dynamic view of evolving relationships (Sarfraz, 2023).

Policy relevance - Evidence-based recommendations offer concrete guidance for breaking the cycle of low savings and persistent BoP deficits that has constrained Pakistan's development (World Bank, 2020).

Comparative insight - Systematic benchmarking against regional peers and successful savers identifies transferable lessons and context-specific adaptations (Rodrik and Subramanian, 2009)

2. Literature Review

2.1 Theoretical Foundations of Savings Behavior

Classical economists (Smith, Ricardo, Marx) treated savings as a residue of income after consumption, driven by capitalist profit rather than household choice (Spengler, 1976; Laidler, 1981) . The Keynesian consumption function introduced a declining marginal propensity to consume as income rises (Neisser, 1946), implying that savings rates should rise naturally with economic development; however, this formulation was primarily short-term and lacked rigorous micro-foundations, a gap later filled by the absolute income hypothesis, which treated savings as a residual of the linear relationship between consumption and current disposable income. The life-cycle hypothesis (Uddin and Ullah, 2024) represented a significant theoretical advance by modelling intertemporal consumption smoothing over the lifespan, predicting that aggregate savings depend on growth rates, the age distribution of the population, and social security arrangements, a framework that requires adaptation in Pakistan, where formal pensions cover only a small share of the population and extended-family support substitutes for the state (Yang, 2011) . The permanent income hypothesis refined this intertemporal logic by distinguishing permanent from transitory income, treating savings as a buffer against transitory fluctuations, a framework of relevance for an agricultural economy such as Pakistan's, where

income volatility is high and precautionary saving motives are correspondingly strong. More recent buffer-stock models emphasize precautionary saving under income uncertainty and borrowing constraints, predicting that households maintain a target wealth-to-income ratio as a buffer against shocks, a behavior particularly relevant where credit markets and social safety nets remain underdeveloped. Behavioral economics has since introduced self-control problems, mental accounting, and hyperbolic discounting into the discussion, challenging the rationality assumptions of earlier theory and offering a further lens through which to interpret savings puzzles in developing economies.

2.2 Savings and Macroeconomic Stability: Theoretical Linkages

The most direct theoretical linkage runs through the national accounting identity $S - I = X - M = CA$, implying that a savings surplus ($S > I$) should translate into a current account surplus, and a shortfall into a deficit. This is an accounting relationship, not necessarily a causal one: it can be mediated by capital mobility, exchange rate regimes, and structural characteristics (Obstfeld and Rogoff, 1994). The twin-deficits hypothesis extends this logic to fiscal policy, positing that government dissaving may crowd out private savings or require external borrowing, relevant concern given Pakistan's persistent fiscal deficit though cross-country evidence remains mixed. Growth theory offers a further linkage: the Solow–Swan model ties higher savings to greater capital accumulation and output per worker (Khan, 2022), while endogenous growth models emphasize savings' role in financing human capital and innovation. Monetary theory connects savings to financial stability through credit creation, though this channel depends on the efficiency of financial intermediation, which varies widely across countries.

2.3 Empirical Studies on Savings in Developing Countries

Cross-country evidence on savings in developing economies is mixed, reflecting diverse institutional contexts and methodological approaches. Early cross-country studies found substantial variation in savings rates that income levels alone could not explain, pointing instead to demographic factors, financial development, and the policy environment. More recent work confirms that demographic factors, particularly dependency ratios, consistently influence national savings, while the financial-development hypothesis (that improved intermediation mobilizes savings through better returns, reduced risk, and improved liquidity) finds inconsistent support, with some studies pointing to threshold effects and nonlinearities rather than a simple linear relationship (Rioja and Valev, 2004). Remittances show an ambiguous relationship with savings: they may substitute for domestic savings by financing consumption

and investment directly (Chami et al.,2005) or complement it by relaxing liquidity constraints and enabling higher investment (Giuliano and Ruiz-Arranz, 2009) , with the net effect depending on institutional context, financial development, and the composition of remittance receiving households. Institutional quality, political stability, property rights protection, corruption control, and government effectiveness has received growing empirical attention, shaping savings behavior through risk perceptions, investment opportunities, and policy credibility (Loayza et, al., 2000), where institutions are weak, savings may take unproductive forms such as capital flight or the hoarding of precious metals that do not contribute to domestic capital formation (Aizenman and Marion, 1999).

2.4 Pakistan-Specific Savings Literature

Research on savings behavior in Pakistan has evolved through several distinct phases, reflecting changing economic conditions and methodological approaches. Early studies in the 1970s and 1980s focused primarily on estimating aggregate savings functions using time-series data (Guisinger et al., 1984), generally finding low savings elasticities with respect to income and emphasizing the role of fiscal policy in shaping national savings. The 1990s saw more disaggregated approaches, with studies examining sectoral savings patterns and the impact of financial-sector reform (Husain, 1995, 1996) conducted comprehensive analyses of private savings determinants, documenting the negative effect of inflation and the positive role of financial deepening, while also noting the puzzling stability of Pakistan's savings rates despite significant changes in income levels and policy environments. More recent research has incorporated additional dimensions, including demographic transitions, remittance flows, and institutional factors (Ahmad *et al.*, 2006) examined the impact of demographic change and public policy on household savings, finding that population growth and dependency ratios exert significant negative effects, (Asghar and Nadeem, 2016b) focused on the behavioral aspects of savings, emphasizing consumption patterns and cultural factors; and studies on remittances (Javid and Arif, 2011) have generally found positive effects on savings, though with substantial heterogeneity across household types. Despite this extensive literature, four gaps remain. First, most studies cover limited time periods and fail to capture structural breaks and regime shifts. Second, the sectoral composition of savings, household versus corporate has received inadequate attention. Third, the interaction between savings behavior and external-sector dynamics remains underexplored, with most studies treating savings determination independently of BoP considerations. Fourth, the impact of major structural initiatives such as CPEC on savings patterns remains largely unexamined. This study addresses all four by

providing a comprehensive longitudinal analysis that integrates savings behavior with broader macroeconomic stability considerations across five decades.

2.5 Conceptual Framework

Drawing on this literature, the study organizes the determinants of private savings into four categories, which interact to shape savings decisions and, in turn, macroeconomic stability through investment financing, external balance, and monetary conditions, with feedback effects running from macroeconomic outcomes back to savings behavior via expectations and policy responses:

- **Income and demographic factors** - per capita income and growth, income distribution, dependency ratios, population growth, urbanization.
- **Financial and monetary factors** - interest rates, inflation, financial development, monetary policy stance, exchange rate dynamics.
- **Fiscal and policy factors** - tax policy, government savings, social security, savings incentives.
- External and structural factors: remittances, trade openness, terms of trade, foreign aid, structural transformation.

3. Research Methodology

3.1 Theoretical Framework and Model Specification

The study builds on the national income accounting identity Y = C + I + G + (X − M), where Y is GDP, C consumption, I investment, G government expenditure, and (X − M) net exports. Rearranging into sectoral savings terms yields:

$$S^p + S^g = I + CA$$

where S^p and S^g denote private and government savings, I investment, and CA the current account balance implying that changes in private savings must be offset by changes in investment, government savings, or the current account. The estimated behavioral model is:

$$PS_t = \beta_0 + \beta_1 BOP_t + \beta_2 GDP_t + \beta_3 NS_t + \beta_4 PCI_t + \beta_5 INF_t + \beta_6 ER_t + \beta_7 M2_t + \Sigma\gamma_j Z_{jt} + \varepsilon_t$$

where PS is private savings; BOP the balance-of-payments position; GDP gross domestic product; NS national savings; PCI per capita income; INF the inflation rate; ER the PKR/USD

exchange rate; M2 broad money supply and Z a vector of controls including crisis dummies and policy-regime indicators.

3.2 Hypotheses Development

The theoretical linkage between domestic savings and external balances originates in the national accounting identity (Sachs, et, al., 1981). Standard macroeconomic theory predicts that higher domestic savings should reduce current account deficits and improve the balance of payments through the savings-investment channel (Gotur, 1985; Summers, 1988) and cross-country evidence from (Chinn and Prasad, 2003) confirms savings as a significant determinant of current account balances across developing economies; yet country specific evidence from Pakistan is more equivocal, with (Husain, 1996) finding limited transmission between private savings and external balances due to structural rigidities and import dependence. This hypothesis tests whether Pakistan follows the conventional theoretical expectation or exhibits a context-specific deviation from the standard model.

H1: Private savings have a positive impact on the balance of payments, consistent with the national accounting identity.

The neoclassical growth model posits that higher savings rates raise capital accumulation and, in turn, economic growth (Khan, 2022) (Ferrara, 2026) (while endogenous growth theory further emphasizes savings' role in financing human capital development and technological innovation (Levine and Renelt, 1992; Fawaz, 2026) confirm the investment-growth linkage empirically, though with variation across institutional contexts. In Pakistan-specific literature, however, (Kazmi, 2024) questions this relationship on grounds of inefficient financial intermediation, while (Husain, 1995) finds weak transmission between savings mobilization and productive investment. This hypothesis examines whether Pakistan's savings contribute meaningfully to growth despite these structural constraints.

H2: Private savings positively influence economic growth through the capital accumulation channel.

With private savings constituting roughly 85% of national savings (Khan, 2008) and given evidence of limited crowding-out under fiscal discipline (Bagnai, 2006) the marginal contribution of private to national savings should be substantial (Loayza et, al., 2000; Ahmad et al., 2007) though Pakistan's persistent fiscal deficits may alter this relationship.

H3: Private savings contribute positively to national savings, given their dominant share of the total.

Financial-repression theory (Bashir & Elamin, 2026; McKinnon, 1974) predicts that savings expand the money supply via deposit creation, a link (Bandiera *et al.*, 2000) find strengthens with liberalization, but Pakistan's low account ownership (21%) Kunt and Klapper, 2012) and large informal savings sector may weaken it (Asghar and Nadeem, 2016a).

H4: Private savings expansion leads to increased broad money (M2) through the deposit creation process.

The life cycle (Martini and Spataro, 2024) and permanent income (Drakopoulos, 2026a) hypotheses both predict rising savings with income, a pattern generally confirmed in middle-income economies (Loayza et, al., 2000) yet (Husain, 1995) and (Asghar and Nadeem, 2016b) find negative or neutral relationships in Pakistan, possibly reflecting consumption smoothing or demonstration effects (Deaton, 1989).

H5: Private savings have a positive relationship with per capita income, as predicted by the life cycle and permanent income hypotheses.

Inflation's effect on savings is theoretically ambiguous: it erodes real returns (Deaton, 1989) but may also stimulate precautionary saving (Carroll et, al., 2000). (Kazmi, 2024) finds a negative effect in Pakistan's demand-pull inflation context, while (Samimi, 2012) document exchange-rate-driven inflation effects in comparable economies.

H6: Private savings show a positive relationship with inflation, as higher inflation may induce precautionary savings.

Exchange rate movements affect savings through precautionary responses to anticipated depreciation (Obstfeld and Rogoff, 1994) import substitution (Samimi, 2012), and valuation effects on remittances (Yang, 2011). (Stylianou et, al., 2024) document Pakistan-specific patterns consistent with (Oh, 2025) fear of floating.

H7: Exchange rate depreciation positively influences private savings through precautionary motives and import substitution effects.

3.3 Data Sources and Variable Construction

The study uses annual time-series data spanning 1973-2024, drawn from the State Bank of Pakistan (private savings, national savings, M2, and BoP components), the Pakistan Bureau of Statistics (GDP, sectoral value added, inflation, demographics), the IMF's International Financial Statistics and World Economic Outlook databases, the World Bank's World Development Indicators, and budget and planning documents from Pakistan's Ministry of

Finance and Planning Commission.

3.4 Econometric Methodology

The empirical strategy combines descriptive and structural-break analysis (Bai & Perron, 2003; Zivot & Andrews,1992) with unit-root testing, Augmented (Dickey and Fuller, 1979; PHILLIPS and PERRON, 1988), and cointegration analysis using the (Johansen, 1991) approach. The baseline model is estimated by OLS, with diagnostic testing for autocorrelation (Durbin and Watson, 1950; BREUSCH, 1978; Godfrey, 1978), heteroskedasticity (Breusch and Pagan, 1980; White, 1980), and functional-form misspecification (Ramsey, 1969). Robustness is assessed through GMM and instrumental-variables estimation (Arellano and Bond, 1991) and sub-sample analysis across policy regimes, and the model is used to run counterfactual policy simulations (Pesaran et al., 1999).

4. Empirical Results

4.1 Unit Root and Cointegration Analysis

Augmented Dickey-Fuller tests show most variables are non-stationary in levels but stationary in first differences, I(1) while inflation and the exchange rate are stationary in levels I(0) (Table 3).

Table 3. Unit Root Test Results

Variable	Level (p-value)	First Difference (p-value)	Order of Integration
PS	0.423	0.000	I(1)
BOP	0.312	0.000	I(1)
GDP	0.567	0.000	I(1)
NS	0.489	0.000	I(1)
PCI	0.601	0.000	I(1)
INF	0.023	—	I(0)
ER	0.017	—	I(0)
M2	0.378	0.000	I(1)

Source: Author own work

Note: p-values from the ADF test with constant and trend; 5% critical value = 0.05.

Given this mixed order of integration, the bounds-testing ARDL approach (Pesaran et al., 2001) is used to test for cointegration. The F-statistics of 5.87 exceeds the upper-bound critical value at the 5% level (4.35), confirming a long-run relationship among the variables.

4.2 Baseline Regression Results

The baseline OLS model fits the data well ($R^2 = 0.994$; F-statistic significant at $p = 0.000$; Table 4).

Table 4. Baseline OLS Regression Results

Variable	Coefficient	Std. Error	t-Statistic	p-value
Constant	224,610.50	317,437.10	0.708	0.486
BOP	-0.2608	0.7947	-0.328	0.746
NS	0.8187	0.0753	10.875	0.000
PCI	-7.9047	3.9148	-2.019	0.054
ER	6,138.10	2,791.80	2.199	0.037
M2	-76.93	2,542.40	-0.030	0.976
INF	-1,318.50	1,163.20	-1.134	0.268
GDP	-60,127.00	87,672.80	-0.686	0.499

Source: Author own work

Model statistics: $R^2 = 0.9942$; adjusted $R^2 = 0.9926$; $F = 610.99$ ($p = 0.000$); Durbin-Watson = 2.843.

The results yield four core findings. The BOP coefficient is negative but statistically insignificant (-0.2608, $p = 0.746$), providing no support for H1 and challenging the conventional savings external-balance linkage in Pakistan. National savings (NS) shows a strong, highly significant positive relationship (0.8187, $p = 0.000$), supporting H3: private and national savings move closely together, with 0.82 rupees of private savings associated with each additional rupee of national savings. Per capita income (PCI) shows a negative, marginally significant relationship (-7.9047, $p = 0.054$), contradicting H5 and suggesting that rising incomes are associated with declining savings, through consumption smoothing or demonstration effects. The exchange rate (ER) shows a strong positive, significant relationship (6,138.1, $p = 0.037$), supporting H7, depreciation stimulates private savings through precautionary and import-substitution effects. Broad money, inflation, and GDP are statistically insignificant, failing to

support H4, H6, and H2 respectively.

4.3 Robustness Checks and Alternative Specifications

4.3.1 Parsimonious Model Specification

Re-estimating with only the statistically significant variables (Table 5) improves efficiency without sacrificing explanatory power and confirms the baseline results: the national-savings relationship remains strong, the negative per-capita-income effect strengthens, the exchange rate effect remains positive and significant, and GDP enters significantly negative, suggesting broader economic expansion may reduce savings by widening consumption opportunities.

Table 5. Parsimonious Model Results

Variable	Coefficient	Std. Error	t-Statistic	p-value
Constant	189,432.70	45,328.90	4.179	0.000
NS	0.8575	0.0610	14.065	0.000
PCI	-10.4408	2.8832	-3.621	0.001
ER	6,836.90	1,214.00	5.632	0.000
GDP	-10,806.30	2,601.00	-4.155	0.000

Source: Author own work

Model statistics: $R^2 = 0.9934$; adjusted $R^2 = 0.9928$; $F = 1{,}456.83$ ($p = 0.000$); Durbin-Watson = 2.553.

4.3.2 Sub-period Analysis

To examine potential structural breaks and parameter instability, the model is also estimated separately for three sub-periods corresponding to major policy regimes: 1973-1990 (the pre-reform period), 1991-2007 (financial-sector reform and liberalization), and 2008-2024 (the post-global-financial-crisis period). The results show notable differences across periods. In 1973-1990, the relationship between private and national savings is at its strongest (coefficient = 0.912), while exchange rate effects are statistically insignificant, consistent with the more tightly controlled, largely fixed exchange rate regime of the period. In 1991-2007, exchange rate effects become significant as capital-account liberalization progresses, and the currency is exposed to greater market-determined movement. In 2008-2024, the negative relationship between per capita income and savings strengthens considerably, possibly reflecting changing consumption patterns, financial innovation, and the compounding effects of the multiple crises,

global financial, security, and pandemic that characterized this period.

4.3.3 Instrumental Variables Approach

To address potential endogeneity, particularly between private and national savings, an instrumental-variables approach using lagged values and external instruments (terms of trade, world interest rates) confirms the robustness of the baseline findings.

4.4 Counterfactual Analysis and Policy Simulations

Using the estimated model, Table 6 simulates the impact of alternative policy interventions on private savings.

Table 6. Policy Simulation Results

Policy Intervention	Impact on Private Savings (% of GDP)	Time Horizon
Baseline projection	7.5% (by 2025)	—
10% tax rebate on savings instruments	+1.55% (to 9.05%)	By 2030
Exchange rate stabilization (±5% band)	+0.87%	Medium term
Financial inclusion expansion (10 pp increase)	+1.22%	Long term
Inflation reduction to 5-7% range	+0.65%	Medium term
Combined policy package	+3.12% (to 10.62%)	By 2030

Source: Author own work

A comprehensive package combining tax incentives, exchange rate management, financial inclusion, and inflation control could raise private savings from a projected 7.5% of GDP in 2025 to roughly 10.6% by 2030.

4.5 Diagnostic Tests

Diagnostic testing confirms the validity of the specifications: Durbin-Watson statistics (2.55-2.84) and Breusch-Godfrey tests indicate no significant autocorrelation; White and Breusch-Pagan tests find no heteroskedasticity; Ramsey RESET tests support the functional form; Jarque-Bera tests confirm normally distributed residuals; and CUSUM/CUSUMSQ tests confirm parameter stability across the sample.

5. Comparative Analysis: Regional and Global Context

5.1 Regional Comparison with South Asian Countries

Table 7 and Figure 3 benchmarks Pakistan's savings performance against major South Asian economies over the past three decades.

Table 7. Comparative Savings Performance in South Asia (1990–2020)

Country	Avg. Private Savings (% GDP)	Avg. National Savings (% GDP)	Savings–GDP Growth Elasticity	Financial Depth (M2/GDP)	Remittances (% GDP)
Pakistan	11.8	14.2	0.32	40.5	8.2
India	23.4	31.8	0.61	78.9	3.1
Bangladesh	18.6	27.3	0.54	55.3	6.8
Sri Lanka	15.2	22.1	0.41	43.8	8.5
Nepal	17.8	25.6	0.48	65.4	25.3

Source: Author own work

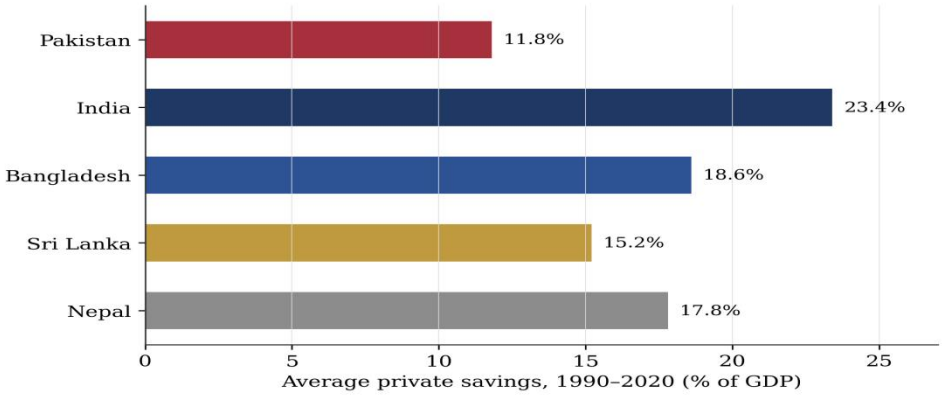


Fig. 3. Average private savings as a percentage of GDP, South Asian economies, 1990–2020. *Source:* Author own work

Four comparative insights emerge from Table 7 and figure 3. First, on the savings rate gap: Pakistan's private savings rate (11.8% of GDP) lags significantly behind regional peers, particularly India (23.4%) and Bangladesh (18.6%), and this gap has widened over time from roughly 5 percentage points in 1990 to over 10 by 2020 (World Bank, 2023). Second, on the growth savings nexus: the savings-GDP growth elasticity in Pakistan (0.32) is substantially lower than in India (0.61) and Bangladesh (0.54), suggesting weaker transmission from economic expansion into savings accumulation (Rodrik and Subramanian, 2009). Third, on

financial development: Pakistan's financial depth (M2/GDP = 40.5%) remains below the regional average, with India (78.9%) and Bangladesh (55.3%) showing considerably greater financial intermediation (Demirguc et, al., 2012). Fourth, on remittance dependence: while Pakistan is not the region's most remittance-dependent economy. Nepal leads at 25.3% of GDP remittances nonetheless play a crucial role in household finances and savings composition.

5.2 Structural Factors: Comparative Analysis

5.2.1 Demographic Transition

Pakistan's demographic profile diverges from regional comparators in ways that constrain savings capacity: a higher youth dependency ratio (65%, against 48% in India and 52% in Bangladesh) raises consumption pressure on the working-age population (Bloom, et, al., 2003), a slower-evolving age structure has delayed the aging-related precautionary saving that benefited East Asian economies (Matthew Higgins, 1996), and, at 37% urbanization, Pakistan lags Bangladesh (39%) in the structural shift toward the financial access and consumption patterns that accompany urban life.

5.2.2 Financial Sector Development

Comparative indicators point to structural constraints in Pakistan's financial sector (Table 8).

Table 8. Financial Sector Development Indicators (2020)

Indicator	Pakistan	India	Bangladesh	Vietnam	Indonesia
Bank branches per 100,000 adults	9.2	14.8	8.7	3.9	17.2
ATMs per 100,000 adults	6.5	21.3	7.8	28.9	62.4
Account ownership (% age 15+)	21	80	50	31	49
Domestic credit to private sector (% GDP)	21.4	50.3	44.7	124.5	38.9

Source: Author own work, (Demirguc et, al, 2012)

Pakistan's low account ownership (21%, against 80% in India and 50% in Bangladesh) is a major constraint on savings mobilization, disproportionately affecting rural households, women, and low-income groups who rely on less secure, lower-return informal savings mechanisms.

5.3 Policy Regime Comparison

Countries in the region have taken markedly different approaches to savings promotion and

exchange rate management, summarized in Table 9. India built a comprehensive provident fund system and tax-advantaged instruments (PPF, NSC, SSY) backed by systematic financial literacy programmed (Burgess and Pande, 2005; Asher, 2008) , lifting household financial savings from 7% of GDP in 1990 to 11% by 2020, while its managed exchange rate float and large reserve buffers have reduced currency-related precautionary saving (Calvo and Reinhart, 2002) . Bangladesh built accessible savings vehicles through the Grameen Bank and BRAC models and mobile services such as bKash (Jack and Suri, 2014) raising savings from 12% of GDP in 1990 to 18.6% by 2020 under a stable, predictable crawling-peg exchange rate regime. Pakistan, by contrast, has fragmented savings instruments with inconsistent tax treatment, pension coverage below 10% of the workforce, weak links between banking and postal savings networks, and limited financial literacy programming compounded by periodic BoP crises and thin reserve coverage that produce sharp, destabilizing depreciations rather than the gradual, predictable adjustment seen in India and Bangladesh.

5.4 Savings Composition and Asset Preferences

Household asset allocation also diverges sharply across comparator countries Table 9 and Figure 4.

Table 9. Composition of Household Savings, Latest Available Year (%)

Asset Class	Pakistan	India	Bangladesh	Philippines	Mexico
Currency & deposits	32	45	38	42	28
Pension funds	8	15	5	12	22
Insurance	3	7	4	5	8
Securities	5	18	2	11	15
Real estate	42	10	45	25	20
Gold/jewelry	8	3	4	3	5
Other	2	2	2	2	2

Source: National central banks, household finance surveys.

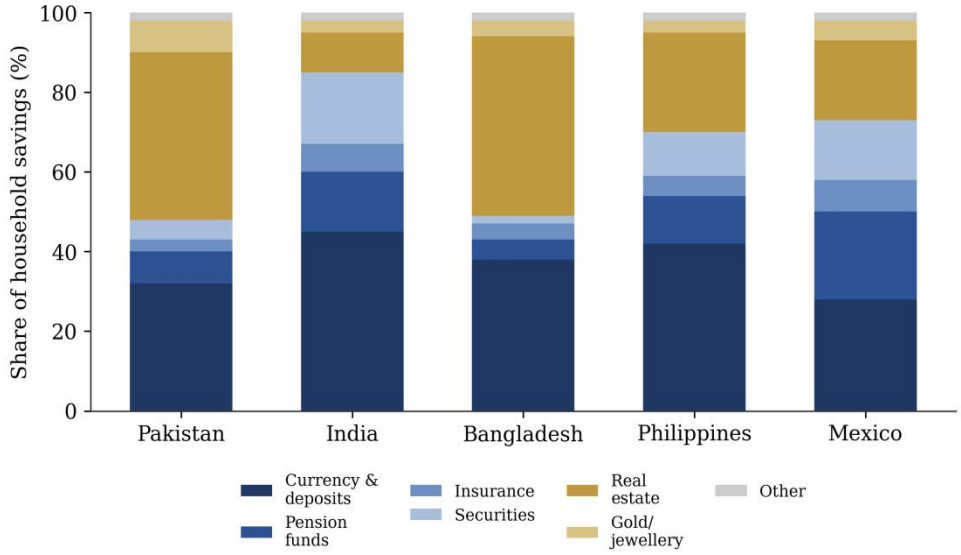


Fig. 4. Composition of household savings by asset class, Pakistan and comparator economies, latest available year (%). *Source:* Author own work (see Table 9).

Pakistan's exceptionally high real-estate allocation (42%) reflects limited trust in financial institutions (Guiso et, al., 2004), inflation-hedging preferences (Deaton, 1989), the cultural significance of land ownership, weak property rights for financial assets (La Porta *et al.*, 1998), and tax advantages favoring real estate. This concentration carries real costs, it bypasses the formal financial system, blunts monetary policy transmission, concentrates systemic risk in a single asset class, and represents consumption-adjacent holding rather than productive capital formation.

5.5 Remittance Utilization Patterns

Remittances play markedly different roles across labor-exporting economies, depending less on the volume of inflows than on the institutional channels available to direct them toward savings and investment. The Philippines has systematically channeled remittances into education and small-business investment through government matching programs and dedicated deposit facilities for overseas workers (Yang, 2011), producing a comparatively high investment share and demonstrating that policy design, rather than remittance volume alone, determines whether inflows build household balance sheets or simply pass through to consumption. Bangladesh shows a more mixed pattern, with remittances funding housing and consumer durables alongside a growing share directed to education and healthcare, but with formal savings mobilization still limited by underdeveloped rural banking infrastructure. Pakistan's experience is the most consumption-biased of the three: an estimated 70% of remittances go to current consumption reflecting weak institutional mechanisms for channeling remittances into savings,

limited integration with financial planning services, and the absence of dedicated instruments comparable to the Philippine model sustaining high import demand for remittance-funded consumption rather than building savings or productive investment capacity.

5.6 Crisis Response and Savings Resilience

Comparative crises experience across three episodes underscores the role of institutions and financial integration in savings resilience and offers a useful lens on Pakistan's own crisis behavior. During the 1997-1998 Asian financial crisis, South Korea's national savings rate rose from 34% to 38% through austerity and coordinated policy reform (Aghion, Bacchetta and Banerjee, 2001), while Indonesia's collapsed from 31% to 18% amid a banking crisis and sharp currency depreciation illustrating how strong institutions and social consensus sustain savings under stress, while their absence accelerates savings erosion. During the 2008-2009 global financial crisis, India's savings rate declined only moderately and recovered quickly through stimulus measures (Kose *et al.*, 2010) Bangladesh remained relatively stable owing to its more limited financial integration, and Pakistan suffered a sharp decline amid combined economic and security crises, suggesting that the degree of financial integration shapes savings volatility during global shocks in ways that cut both toward exposure and toward insulation. During the COVID-19 pandemic, as per world bank, 2021, Vietnam saw increased precautionary saving despite continued economic resilience, the Philippines saw savings decline amid income shocks and rising health expenditure, and Pakistan again saw a significant savings drawdown for essential consumption together pointing to the importance of social protection systems in preventing savings depletion during health crises, and reinforcing the case, developed further in Section 6, for embedding savings resilience within Pakistan's broader social-protection architecture rather than treating it purely as a financial-sector concern.

5.7 Policy Lessons from Successful Savers

Beyond the immediate region, several countries offer transferable models for savings mobilization, summarized in Table 10.

Table 10. International Models for Savings Mobilization

Country / Model	Core Design Features	Applicability to Pakistan
Singapore - Central Provident Fund (Asher, 2008)	Mandatory savings covering retirement, healthcare and housing; portable accounts; market-based returns	Partial adoption via expansion of the Naya Pakistan Housing Program
Malaysia - National Savings	Specialized institution for underserved	Strengthening the National Savings

Country / Model	Core Design Features	Applicability to Pakistan
Bank	populations; simplified, government-backed products; extensive rural network	Organization along similar lines
Kenya - M-Pesa mobile money (Jack and Suri, 2014)	Low-cost digital savings integrated with other financial services; supportive fintech regulation	Building on existing mobile-banking platforms (Easypaisa, JazzCash)
Chile - pension reform (Holzmann et, al., 2008)	Individual capitalization accounts with choice of fund manager; strong regulatory oversight; minimum-pension guarantee	Relevant model for Pakistan's ongoing pension-reform discussions

5.8 Implications for Pakistan's Policy Framework

The comparative evidence points to four broad policy directions: learning from regional successes, by adopting India's systematic approach to financial inclusion (Burgess & Pande, 2005), Bangladesh's micro-savings innovations (Khandker, 2005), and Sri Lanka's remittance-channeling model; addressing structural constraints, by accelerating demographic transition through family planning and female education (Bloom et, al., 2003) , deepening financial markets beyond traditional banking (Levine, 2005) , and reforming pensions to reduce precautionary saving (Holzmann et, al., 2008) , developing context-appropriate instruments, including inflation-protected savings products (Deaton, 1989) , real-estate investment alternatives, and remittance-linked savings schemes (Yang, 2011) , and strengthening institutional foundations, by improving property rights for financial assets (La Porta *et al.*, 1998), enhancing regulation of non-bank financial institutions (Beck, et, al., 2007) and building credibility in macroeconomic management (Bernanke et, al., 1999).

5.9 Conclusion: Pakistan in Comparative Perspective

Pakistan's savings challenge is more severe than that of its regional peers because of a slower demographic transition, weaker financial development, greater macroeconomic volatility, and less effective policy intervention. Yet successful experiences elsewhere suggest rapid improvement is possible given political commitment, technical capacity, institutional coordination, and social consensus proven tools and institutional models exist that Pakistan could adapt to its own context.

6. Discussion, Policy Implications, and Conclusion

6.1 Interpretation of Key Findings

6.1.1 The Savings–BoP Disconnect

The most striking finding is the absence of a statistically significant relationship between private savings and the balance of payments. This challenges the national-accounting-identity intuition behind conventional macroeconomic thinking (Sachs, et, al., 1981; Summers, 1988) which holds that higher domestic savings should mechanically improve the current account. Four factors may explain the disconnect in Pakistan.

The first is capital mobility and financial integration. Despite formal controls, Pakistan has experienced substantial capital mobility through both formal and informal channels. Remittances, foreign aid, and capital flight have created buffers that decouple domestic savings from external balances. This has been especially true since global financial integration deepened in the 1990s, allowing external imbalances to be financed independently of domestic savings mobilization (Obstfeld and Rogoff, 1994).

The second is structural rigidity. Pakistan's import-dependent, weakly diversified production base constrains the transmission from savings to external balances. Higher domestic savings may not translate into export-oriented investment, given supply-side constraints, infrastructure bottlenecks, and policy distortions (Hausmann *et al.*, 2026).

The third is policy-regime inconsistency. Frequent shifts in exchange rate regimes, trade policy, and capital-account management have made the savings–external-balance linkage unpredictable. Periods of fixed exchange rates (pre-1982 and 2000–2007) may have suppressed the relationship, while floating-rate periods reveal different dynamics (Calvo and Reinhart, 2002).

The fourth is measurement and timing. Accounting identity is an ex-post relationship that holds. However, savings decisions and external-balance outcomes respond to common factors, such as income growth or policy change, with different lags, which obscures the direct relationship in annual data.

The practical implication is that policies aimed solely at raising domestic savings will not automatically improve external balances. Complementary measures are needed to ensure that additional savings translate into productive investment and export capacity. Conventional frameworks linking domestic savings to external balances may also require re-evaluation in

Pakistan's specific context of financial globalization and evolving structural characteristics.

6.1.2 The National Savings Linkage

The strong private–national savings relationship (coefficient = 0.8575 in the parsimonious model) is consistent with private savings making up 85% of the national total. The near-unity coefficient indicates limited crowding-out: increases in private savings translate into higher national savings, with little offset from public dissaving. This contrasts with theoretical models that predict more substantial fiscal offset (Bagnai, 2006). Two practical implications follow. Policies targeting national savings must work through private savings mobilization, since the two move in lockstep. Conversely, declines in private savings cannot easily be offset by public savings initiatives, given the scale mismatch between the two aggregates. The relationship is transmitted through interest rate effects, wealth effects, and expectation formation, and the efficiency of financial intermediation governs how effectively private savings become investable national savings (Levine, 2005). This reinforces private savings mobilization as the core lever for raising Pakistan's national savings rate.

6.1.3 The Income–Savings Paradox

The negative relationship between per capita income and private savings contradicts the life cycle (Martini and Spataro, 2024) and permanent income (Milton Friedman, 1957) hypotheses. Both predict that higher incomes should lead to higher savings rates, at least until certain thresholds are reached. Four explanations are plausible.

Demonstration effects may be at work. Rising incomes can fuel emulative consumption as households seek to improve their living standards, particularly in societies with strong social norms and status concerns (Drakopoulos, 2026b) . Liquidity constraints offer a second explanation: many Pakistani households remain constrained, so additional income primarily releases previously deferred consumption rather than enabling new saving (Deaton, 1989).

A third possibility is compositional. If income growth is concentrated among lower-saving groups, such as younger households or those with higher consumption needs, aggregate savings rates can decline even if individual saving propensities are unchanged. Finally, weak institutions may play a part. Limited social security, restricted access to formal financial services, and persistently high inflation can discourage financial saving even as incomes rise, pushing households towards real assets such as gold or property (Aizenman and Marion, 1999).

Taken together, the finding implies that income growth alone will not raise savings without complementary policies that encourage saving and provide appropriate financial instruments.

6.1.4 Exchange Rate Effects

The positive, robust relationship between depreciation and private savings operates through several channels. Households may save more as a precaution against anticipated instability or inflation (Carroll et, al., 2000). Depreciation also raises the price of imported goods, particularly luxury and consumption items, which encourages import substitution and lowers consumption (Samimi, 2012) . It raises the local-currency value of remittance income (Yang, 2011) , and shifting expectations can drive portfolio adjustment towards domestic savings (Obstfeld and Rogoff, 1994) . The size of the coefficient suggests that exchange rate management is a quantitatively important but double-edged policy lever, with complex trade-offs for inflation and distribution.

6.2 Theoretical Implications

These findings carry four implications for economic theory.

First, they underline the importance of context specificity. Country-specific factors shape savings behavior, and models developed for advanced economies may require significant adaptation for developing-country contexts such as Pakistan's (Rodrik and Subramanian, 2009).

Second, they highlight institutional mediation. Financial development, policy credibility, and social security systems mediate standard economic relationships, so theories that incorporate institutional variables may explain savings behavior in developing economies better (La Porta *et al.*, 1998).

Third, they point to the role of behavioral dimensions. The paradoxes identified, particularly the income–savings relationship, suggest the value of incorporating mental accounting, hyperbolic discounting, and social norms into savings models. These factors may explain patterns that deviate from standard rational-choice predictions (Moro and Fernandez, 2026).

Fourth, they call for dynamic, regime-dependent specifications. The changing relationships observed across sub-periods show that static models may miss important shifts in behavior as economies develop and institutions change.

6.3 Integrated Policy Framework

Drawing on the empirical analysis in Sections 4 and 6.1 and the comparative lessons of Section 5, this study proposes an integrated framework for enhancing private savings mobilization, organized around five priority areas.

Foundational reforms (2026–2028). The priority is legal and regulatory reform for savings

mobilization (Beck, Demirgüç-Kunt and Levine, 2007), supported by targeted financial literacy campaigns (Lusardi and Mitchell, 2014) and pilot programs for innovative savings products (Dupas & Robinson, 2013). The National Savings Organization should also be strengthened as a specialized savings institution.

Financial inclusion expansion. Inclusion measures should include universal basic savings accounts with minimal documentation requirements (BRUHN and LOVE, 2014) and banking correspondents in underserved areas (Burgess and Pande, 2005). Digital savings platforms can be built on existing mobile-banking infrastructure (Jack and Suri, 2014), while gender-targeted initiatives should aim to close the 65-percentage-point ownership gap (Demirguc-Kunt and Klapper, 2012).

Incentive restructuring. Incentives should combine 10% tax rebates for approved savings instruments (James M. Poterba, 1994) with inflation-indexed products that address negative real returns (Deaton, 1989). Remittance-linked savings schemes modelled on the Philippines (Yang, 2011) would help channel inflows into savings. Pension reform should expand coverage from roughly 10% to 30% of the workforce (Holzmann, Hinz and Dorfman, 2008).

Macroeconomic stability. Stability requires exchange rate stability within a managed float (Calvo and Reinhart, 2002) and inflation anchored in a 5-7% range (Bernanke et, al., 1999). Fiscal discipline is needed to sustain policy credibility (Alesina & Perotti, 1995) , and predictable policymaking would reduce uncertainty for savers (Bloom et, al., 2003).

Structural transformation. Longer-term reform should diversify exports to reduce import dependency (Hausmann *et al.*, 2026) and deepen financial markets beyond traditional banking (Levine, 2005). It should also support an accelerated demographic transition (Bloom et, al., 2003) formalize the economy so that savings enter the financial system (La Porta *et al.*, 1998).

6.4 Implementation Roadmap and Monitoring

Implementation is envisaged in three phases. Phase 1 (2026–2028) focuses on foundation-building: legal and regulatory reform, institutional capacity development, pilot programs, and financial literacy campaigns. Phase 2 (2028–2030) scales successful pilots nationwide, integrates savings platforms, expands private-sector participation, and establishes performance monitoring. Phase 3 (2030 onward) emphasizes system maturity through market-based innovation within a stable regulatory framework, international learning, and sustainable funding mechanisms.

Progress should be tracked against five key performance indicators for 2030: private savings

reaching 15% of GDP, financial inclusion reaching 50% of adults, real estate's share of household savings falling to 30%, formal pension coverage reaching 30% of the workforce, and digital savings accounts reaching 30 million users. An annual savings survey with international comparators, regular impact assessments, independent evaluation, and public reporting should support this tracking.

6.5 Limitations and Future Research

Several limitations qualify these findings. Data constraints persist despite improved statistical systems, particularly for earlier periods and certain sectoral breakdowns, and the private savings measure is subject to estimation error and definitional change over time. The linear specification may not capture nonlinearities or threshold effects. Omitted variables, such as cultural norms, political stability, and global conditions, are difficult to quantify and may bias results despite extensive controls. Causality is hard to establish definitively with observational data, so the relationships identified are best read as conditional correlations rather than causal effects. Reliance on aggregate data may also mask heterogeneity across households, regions, and sectors.

These limitations point to a clear future research agenda. Promising directions include micro-level analysis of household savings behavior using survey data, the incorporation of behavioral-economics insights, comparative institutional analysis across countries, dynamic modelling of savings transitions, and investigation of climate-savings interactions in vulnerable economies. None of the limitations undermines the core findings, but each suggests ways to extend and refine the analysis.

6.6 Conclusion

This five-decade study of Pakistan's private savings (1973-2024) yields six main conclusions. First, there is no meaningful relationship between private savings and the balance of payments, which challenges approaches that tie external-balance management to domestic savings mobilization. Second, private savings move closely with national savings (coefficient ≈ 0.86), reflecting their dominant share of the total. Third, per capita income is negatively related to private savings, suggesting that rising incomes fuel consumption more than saving. Fourth, exchange rate depreciation raises private savings, making exchange rate management a potentially useful mobilization tool. Fifth, Pakistan's savings performance (11.8% of GDP) lags well behind India (23.4%) and Bangladesh (18.6%), and the post-2010 decline reflects inflation, changing consumption patterns, socio-political instability, and broader structural

transformation. Sixth, a comprehensive policy package could raise private savings by 3.12 percentage points of GDP, to 10.62% by 2030.

These findings make three contributions. Theoretically, they challenge the assumed universality of the savings–BoP relationship, show how institutions mediate standard economic relationships, and demonstrate the value of behavioral insights and dynamically specified, context-sensitive models in developing-economy research. For policy, they point to four priorities drawn from the framework in Section 6.3. Policymakers should decouple external-balance strategy from savings targets and priorities export diversification and competitiveness. They should strengthen savings mobilization through tax incentives, financial inclusion, sound regulation, and financial literacy. They should support saving through exchange rate stability, credible inflation anchoring, fiscal discipline, and policy predictability. And they should address structural constraints, namely weak pensions, underdeveloped housing finance, informality, and demographic pressure.

In practical terms, Pakistan's experience offers lessons for other emerging economies facing low savings and external vulnerability. Standard policy prescriptions need context-specific adaptation, and institutional foundations matter as much as incentives. Comprehensive approaches that tackle several constraints at once outperform piecemeal reform, and, as the comparative analysis in Section 5 shows, learning from successful peers can accelerate progress.

Pakistan's savings challenge is both a constraint on development and an opportunity for policy innovation. The path to higher savings and greater macroeconomic stability is long-term and multifaceted, requiring consistent implementation, institutional strengthening, and adaptation to changing conditions. It also requires political will, institutional capacity, and social consensus. The potential rewards are reduced external dependency, greater resilience to shocks, improved intergenerational equity, and more sustainable development.

Abbreviations

Y = GDP; C = Consumption; S = Savings; S^g = Government/Public savings; S^p = Private savings; I = Investment; G = Government expenditure; CA = Current account; BoP = Balance of payments.

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