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BUDGETARY MANAGEMENT QUALITY AND ECONOMIC GROWTH: WITHIN-COUNTRY EVIDENCE FROM DEVELOPING ECONOMIES

Abstract

Despite the central role of the World Bank's annual Country Policy and Institutional Assessment (CPIA) – specifically its Quality of Budgetary and Financial Management rating – in determining concessional lending allocations under the International Development Association (IDA) Performance-Based Allocation system, the within-country growth effect of this governance dimension remains empirically underexplored. This paper aims to quantify the within-country association between public financial management quality and economic growth across 66 IDA-eligible developing economies over 2006–2021, testing whether governance upgrades yield measurable short-run effects on GDP per capita growth. The analysis employs an unbalanced panel of 876 country-year observations, two-way fixed effects, Driscoll–Kraay inference to accommodate cross-sectional dependence and serial correlation, and instrumental-variable two-stage least squares (IV-2SLS) estimation using the second lag of the CPIA score as an instrument. The baseline within-country estimate is negative and statistically insignificant ($\beta = -0.843$, $p = 0.140$); a one-standard-deviation improvement in the CPIA score (0.58 points) is associated with approximately -0.49 percentage points of growth, or roughly 22 per cent of the sample mean. The negative direction is consistent across all three income groups, all six World Bank regions, and seven robustness specifications, with Sub-Saharan Africa being the only sub-sample to reach conventional significance ($\beta = -1.223$, $p = 0.046$). Standard growth controls – convergence, investment, trade openness, inflation, and government consumption – perform robustly across all specifications and align with established findings. These results suggest that the growth payoff from public financial management reform operates through slower institutional channels rather than a direct output effect detectable in the immediate post-reform horizon.

Keywords

budgetary management, economic growth, CPIA,
developing economies, fixed effects, governance quality

JEL Classification

H83, O43, O11, C23

INTRODUCTION

Public financial management (PFM) sits at the heart of effective governance in developing economies. Sound budgetary practices – comprising budget comprehensiveness, credibility, financial management system effectiveness, and timely fiscal reporting – underpin fiscal discipline, reduce fiduciary risk, and create the institutional preconditions for converting public expenditure into development outcomes. The World Bank operationalizes this premise through the Country Policy and Institutional Assessment (CPIA), an annual expert evaluation of all International Development Association (IDA)-eligible economies on a 1–6 scale across 16 governance and policy dimensions. CPIA scores are not academic indicators: they directly determine the size of concessional lending and grants under the IDA Performance-

Based Allocation system. The IDA21 replenishment, finalized in December 2024, secured \$100 billion in affordable financing for 78 of the world's poorest countries (World Bank, 2024), with allocation decisions resting in part on these governance ratings.

The scientific problem lies in the disconnect between the operational weight placed on CPIA scores and the empirical foundation supporting that weight. The assumption underpinning the Performance-Based Allocation system – that improvements in budgetary management quality translate into faster economic growth – has been inferred largely from cross-country level comparisons, in which countries with higher institutional quality also exhibit higher income. Whether countries that upgrade their CPIA Budgetary and Financial Management rating subsequently grow faster than they otherwise would – the within-country dynamic that aid conditionality assumes – remains an open empirical question. This question is consequential because the within-country growth payoff, if it exists, is the channel through which CPIA-based allocation generates developmental value beyond the redistribution of fixed resources. If the channel is weak or absent, the marginal dollar of concessional finance allocated based on CPIA upgrades produces a different return than the cross-country gradient implies – a discrepancy with direct fiscal and developmental consequences for IDA-eligible economies.

The data add urgency to this question. Across the 77 IDA-eligible and Blend economies for which CPIA Budgetary and Financial Management scores are available, the cross-country mean has declined from 3.15 in 2005 to 2.90 in 2024, despite two decades of donor-supported PFM reform programs. The within-country variation that aid conditionality is meant to incentivize is also modest: the median country experienced a total range of just 1.0 points over the entire observation window, and eight countries exhibited no within-country change at all. These patterns indicate that incremental CPIA upgrades – the policy lever the IDA-PBA system seeks to activate – are both rare and small in magnitude across the IDA-eligible population. If such upgrades do not generate measurable short-run growth payoffs, then a foundational element of the global concessional-finance architecture rests on an empirically unverified premise.

1. LITERATURE REVIEW

The primacy of institutional quality in determining long-run economic performance is among the most robust findings in development economics. Seminal cross-country analyses establish that property rights protection, the rule of law, and constraints on executive power outperform geography and trade integration as predictors of per capita income, explaining more than half of its cross-country variation (Acemoglu et al., 2001; Rodrik et al., 2004). Contract enforceability and protection against expropriation similarly exert stronger growth effects than conventional political proxies, with institutional quality identified as the primary driver of convergence rates (Knack & Keefer, 1995). Early growth accounting confirms that human capital and political stability accelerate growth, while government consumption – financed through distortionary taxation – consistently dampens output (Barro, 1991). Surveys of market-oriented institutional

frameworks document broad consensus in favor of deeper institutional development, despite persistent heterogeneity in effect sizes across country samples (De Haan et al., 2006). Recent panel evidence extends these insights: institutional development drives growth across 27 EU countries, with post-communist economies following structurally distinct trajectories due to historical and socio-cultural legacies (Ciołek et al., 2025), while system GMM estimation for 32 Asian economies confirms institutional and macroeconomic fundamentals as the most consistent determinants of regional growth (Trinh, 2024). A bibliometric synthesis of nearly 1,000 publications on inclusive growth similarly centers on governance, poverty reduction, and sustainable development as the dominant contemporary research themes (Saher et al., 2024). Among the institutional channels through which governance shapes growth, fiscal policy and public expenditure management occupy a central and particularly contested position.

The fiscal policy-growth nexus is characterized by regime dependence and compositional heterogeneity, with the growth payoff from public spending determined less by volume than by institutional quality. Threshold structural VAR analysis for five Central and Eastern European economies shows government expenditure shocks generating responses more than twice as large under low-debt than high-debt regimes – 2.2 versus 1.07 percentage points – confirming that fiscal space critically conditions multiplier effects (Gherghina et al., 2024). Panel threshold regressions for EU countries similarly reveal that public spending and tax revenues stimulate entrepreneurial activity below a critical threshold but suppress it above it (Lobonț et al., 2023). At the aggregate level, public debt exerts a negative linear effect on GDP growth, more pronounced in EU countries due to economic integration, with inflation and capital formation acting as additional conditioning factors (Toth et al., 2025). Country-level determinants of government expenditure are dominated by GDP and interest rates, with FDI exerting a positive effect in some economies, as the Baltic States evidence illustrates (Filipova et al., 2025); complementary single-country evidence from Sudan demonstrates that government expenditure policies exert significant effects on exchange-rate dynamics and, through this channel, on macroeconomic stability (Ahmed, 2025). Beyond the aggregate fiscal stance, expenditure governance itself shapes outcomes: administrative reforms and anti-corruption mechanisms substantially improve budget efficiency (Alyaseri et al., 2024), while innovative public financial management practices rebuild institutional trust and service delivery quality (Ntuli et al., 2026). Corruption – a direct subversion of budget integrity – exhibits nonlinear threshold dynamics, with tax burden, government consumption, and rule of law as its most impactful determinants via multivariate adaptive regression splines (Bozhenko et al., 2022); VAR impulse-response evidence further confirms that corruption perceptions and government effectiveness exert delayed effects on fiscal revenues and GDP (Brychko et al., 2025); canonical-correlation evidence over 2017–2023 further indicates that innovative and technological factors – including artificial intelligence, blockchain, and the automation of management processes – are significantly associated with curbing corruption and strengthening public-

sector integrity (Yefimenko et al., 2025). The responsiveness of fiscal systems to external shocks is also heterogeneous: COVID-19 responses in Central and Eastern Europe reveal substantial variation in SME support design, reflecting differences in institutional preparedness (Kornyliuk et al., 2022). Governance quality additionally interacts with sovereign risk ratings to amplify the investment payoff from reform, as comparative evidence from Poland and South Africa demonstrates (Meyer, 2023). These findings collectively establish that fiscal outcomes and institutional quality are inseparable, and that interpreting the governance-growth relationship requires attending to the full macroeconomic context.

Alongside institutional governance, a canonical set of macroeconomic variables conditions the growth environment; understanding their behavior across country groups is essential for model specification and for correctly isolating the governance effect. Gross capital formation is among the most reliably positive predictors of real GDP in panel fixed-effects models for EU economies (Wang et al., 2023) and as the dominant channel through which entrepreneurial financing translates into output growth in OECD economies (Berkane et al., 2025). Domestic savings underpin investment capacity: income per capita and financial development drive savings in oil-rich developing economies, while inflation and dependency ratios erode them (Alsubaie, 2025). Resource endowment effects are conditioned by institutions: natural resource rents modestly support human capital in Chile but undermine it in Nigeria, confirming a resource-curse dynamic in weak institutional settings (Muyambri, 2025). Human capital investment shapes productivity and growth in ways that depend on institutional context: R&D improves total factor productivity and export intensity, though military expenditure acts as a significant confounder in large economies (Šlander-Wostner et al., 2025); higher education access reduces income inequality in European economies, with gender-differentiated and nonlinear effects at doctoral level (Haller, 2023); and asymmetric NARDL evidence confirms that positive shocks to private health expenditure improve long-run life expectancy while negative shocks prove partially irreversible, highlighting the asymmetric human capital costs of fiscal consolidation (Bhowmik,

2025); cross-country regression evidence (2014–2024) further indicates that education expenditure and rising literacy strengthen the Human Capital Index, with reskilling capacity acting as a stabilizer of intellectual capital under crisis conditions (Yeremenko, 2026). Trade openness and FDI produce markedly heterogeneous effects: FDI exerts a significant long-run positive effect on growth in West African economies but a statistically modest one in Central and Eastern Europe (Bieleń et al., 2024); manufacturing trade is the principal growth channel in South Asia, with services trade exhibiting a negative short-run coefficient (Shaheen & Shuquan, 2025); and globalization channels – FDI, remittances, emigration, and tourism – jointly shape stability in small open economies (Nikšić Radić & Bogdan, 2024); econometric analysis of Ukraine’s wartime trade dynamics (2004–2024) further demonstrates how external shocks can sharply restructure export composition and trade balances in conflict-affected economies, with direct implications for economic-security outcomes (Tsymbal & Demediuk, 2025); sectoral evidence from Tanzania, where tourism supports approximately 11 per cent of national employment, further illustrates how technology adoption and biodiversity-led pathways can convert tourism channels into instruments of inclusive economic development (Mshana & Postrzednik-Lotko, 2026). Inflation is consistently detrimental: its short-run effect on trade balances is insignificant in commodity-dependent economies (Adelakun et al., 2025), yet review-level synthesis confirms broadly negative growth effects in developing country contexts (Dinu et al., 2024), and international integration weakens the growth-unemployment nexus in the EU, suggesting open-economy gains may not translate proportionally into employment (Aleksandravičienė et al., 2024). Financial sector development amplifies transmission mechanisms: non-life insurance penetration is asymmetrically linked to GDP growth in Saudi Arabia (Drissi & Alsuhaybani, 2024); the non-life sector supports growth in Nepal through investment and tax channels (Upadhyaya et al., 2024); financial inclusion enhances public-private partnership energy investment across ASEAN (Yi et al., 2025); and ATM density and innovative products predict GDP per capita in Kazakhstan (Nurgaliyeva et al., 2024). Financial institution governance also matters; board composition and institutional owner-

ship influence bank capital structure in Indonesia (Kristanti et al., 2024), and digital banking shows that upper-middle-income economies across several clusters outperform high-income peers, challenging income as a proxy for institutional development (Murshudli, 2018; Murshudli & Loguinov, 2019, 2020; Abbasova et al., 2025). These dynamics are especially consequential in aid-dependent economies, where governance conditions both domestic resource mobilization and the effectiveness of external flows.

In developing and aid-dependent economies – the CPIA’s target population – governance quality is the critical conditioner of how resources and external flows translate into growth. The foundational aid-effectiveness hypothesis holds that aid promotes growth only where fiscal, monetary, and trade policies are sound (Burnside & Dollar, 2000); bias-corrected panel estimation finds little robust evidence of a positive aid-growth relationship regardless of policy environment (Rajan & Subramanian, 2008), though country-specific evidence from Laos identifies a long-run cointegrating relationship between Japanese ODA and growth, operating through industrial investment (Chansombuth, 2023). Institutional quality, more broadly, has a significant positive impact on sustainable development by boosting total factor productivity across 66 developing countries (Azam et al., 2021). Governance heterogeneity is particularly well-documented in post-Soviet economies: ARDL cointegration reveals a U-shaped long-run relationship between institutional quality and growth, with rule of law and government effectiveness among the most significant drivers (Gasimov et al., 2023b), while IV methods confirm a similarly non-linear effect consistent with isomorphic mimicry – formal reforms adopted without functional capability improvements yield growth dividends only above a minimum institutional maturity threshold (Gasimov et al., 2023a; Andrews, 2013); time-series evidence from Georgia (2005–2024), based on Granger-causality tests of governance accountability and rent-seeking dynamics, further documents how erosion of accountability is statistically associated with rising rent-seeking, illustrating the institutional dynamics that may underlie governance setbacks in post-Soviet economies (Ugulava, 2026). Rule of law is a highly significant predictor of macroeconomic stability

across European economies, with FDI and capital formation identified as the most consistent post-pandemic recovery drivers (Vysochyna et al., 2024; Lyeonov et al., 2024). In Sub-Saharan Africa, governance factors significantly determine health expenditure benchmark compliance across 45 countries, with Driscoll-Kraay inference confirming cross-sectional robustness (Megbowon & Zerihun, 2025). The health-growth nexus is conditioned by income level and institutional environment, with health-led growth confirmed only partially and differentially across income groups in European economies (Kuzior et al., 2025). Beyond conventional governance dimensions, digitalization and technological readiness are emerging as critical institutional determinants (Sadigov et al., 2025; Bagirzade, 2023). Bibliometric mapping identifies digitalization and trust as the dominant intersection in public sector marketing scholarship since 2017, signaling digital transformation's growing role in institutional legitimacy (Litovtseva et al., 2022). A modified Lotka-Volterra model of digital economy transformation and public health reveals that while digitalisation generally supports sustainability, intensive development can trigger non-linear dynamics – cautioning against treating digital governance reforms as uniformly beneficial (Krawczyk et al., 2025; Bagirzade, 2025). Panel fixed-effects estimation across 183 countries finds that a one-unit improvement in the Government AI Readiness Index is associated with a 1.71 percent increase in renewable energy capacity ($p = 0.002$), confirming that technologically capable governance generates measurable outcomes beyond fiscal channels (Lyeonov et al., 2025). Together, these findings confirm a consistent pattern: governance quality's growth payoff varies substantially with income level, institutional context, and the specific dimension examined – heterogeneity that aggregate indices obscure.

A foundational tension runs through this literature. Seminal cross-country analyses consistently yield large, positive, and significant coefficients on institutional quality (Acemoglu et al., 2001; Rodrik et al., 2004; Knack & Keefer, 1995), yet panel fixed-effects models absorbing time-invariant country characteristics frequently produce attenuated, insignificant, or negative within-country estimates – a pattern documented across diverse governance dimensions and country groups

(Azam et al., 2021; Megbowon & Zerihun, 2025). Several mechanisms explain this divergence: endogeneity of governance measures, measurement noise in expert-based ratings that vary slowly within countries, long implementation lags in institutional reforms, and the fundamental difference between the level of institutional development, which drives the cross-sectional gradient, and the growth payoff from marginal within-country improvements that panel estimation identifies. Compounding these challenges, most studies rely on aggregate governance indices – such as the Worldwide Governance Indicators or composite rule-of-law measures – that conflate multiple institutional dimensions, making it impossible to identify which specific component produces the observed effect. The within-country growth implications of disaggregated public financial management measures therefore remain largely unexamined. This paper addresses the gap by focusing on the CPIA Quality of Budgetary and Financial Management rating – a disaggregated, annually updated World Bank assessment of budget comprehensiveness, credibility, financial management system effectiveness, and fiscal reporting quality in IDA-eligible economies. The aim of this study is to quantify the within-country growth effect of upgrades to this rating in a panel of 66 IDA-eligible developing economies over 2006–2021. By isolating a single, disaggregated PFM dimension and estimating its within-country effect, the paper complements the predominantly cross-sectional evidence base.

2. DATA AND METHODOLOGY

2.1. Data and sample

All variables are drawn from the World Bank World Development Indicators (WDI) (World Bank, 2025). The dependent variable is real GDP per capita growth (NY.GDP.PCAP.KD.ZG). The key regressor is the CPIA Quality of Budgetary and Financial Management rating (IQ.CPA.FINQ.XQ), scored on a 1–6 scale for IDA-eligible economies and entered with a one-year lag to mitigate reverse causality. As an expert-based assessment produced by World Bank country teams, the CPIA is subject to potential anchoring effects and institutional incentives; results should therefore

Table 1. Variable definitions and data sources

Variable	WDI code	Role
GDP per capita growth (%)	NY.GDP.PCAP.KD.ZG	Dependent variable
CPIA Quality of Budgetary and Financial Management (1–6)	IQ.CPA.FINQ.XQ	Key regressor (lagged one year)
GDP per capita, constant 2015 USD (log)	NY.GDP.PCAP.KD	Control – convergence
Gross capital formation (% of GDP)	NE.GDI.TOTL.ZS	Control – investment
Population growth (%)	SP.POP.GROW	Control – demographics
Inflation, consumer prices (% , log-transformed)	FP.CPI.TOTL.ZG	Control – macro stability
Trade openness (% of GDP)	NE.TRD.GNFS.ZS	Control – openness
Net ODA received (% of GNI)	DT.ODA.ODAT.GN.ZS	Control – aid dependence
Total natural resource rents (% of GDP)	NY.GDP.TOTL.RT.ZS	Control – resource curse
Government final consumption (% of GDP)	NE.CON.GOV.T.ZS	Control – fiscal size

Note: All data are obtained from the World Bank WDI. CPIA ratings are available only for IDA-eligible and recently graduated economies.

be interpreted as reflecting the association with assessed – rather than necessarily actual – PFM quality. The between-country standard deviation of CPIA (0.57) accounts for the majority of total variation, while the within-country standard deviation (0.28) is modest – a feature inherent in expert-based ratings that change in discrete 0.5-point increments. This constrained within-country variation may attenuate fixed-effects estimates toward zero, a limitation acknowledged in the interpretation of results. Controls follow the standard growth-regression literature: log lagged GDP per capita (convergence), gross capital formation (% of GDP), population growth, inflation (sign-preserving log transformation to compress extreme episodes), trade openness, net ODA (% of GNI), natural resource rents, and government consumption. Table 1 summarizes the variables.

The raw panel covers 2005–2024 for all economies with at least one CPIA rating. After excluding aggregates and six countries with fewer than five observations, 84 countries remain. Listwise deletion and lag construction yield an estimation sample of 876 country–year observations across 66 economies over 2006–2021. The estimation window terminates in 2021 because natural resource rents (NY.GDP.TOTL.RT.ZS) – a theoretically essential control for the resource-dependent IDA-eligible sample, where rents average 8.6 per cent of GDP – are reported in the WDI only through 2021. This indicator is computed from the World Bank’s underlying commodity price and reserve database, which has not been updated for subsequent years at the time of analysis. Extending the window beyond 2021 would therefore require dropping a control that is central to identification

in this country group, an unfavorable trade-off given that resource booms and busts drive a substantial share of within-country growth variation in IDA economies. The 2006–2021 window also captures two major global shocks (the 2008–2009 financial crisis and the 2020 COVID-19 contraction), preserving sufficient temporal variation for the within-country fixed-effects design. Sub-Saharan Africa accounts for half the sample (33 countries), followed by East Asia and the Pacific (10), Europe and Central Asia (9), South Asia (6), Latin America and the Caribbean (4), and the Middle East and North Africa (4). By income classification, 36 economies are lower-middle-income, 18 low-income, and 11 upper-middle-income.

2.2. Econometric specification

The baseline is a two-way fixed-effects model:

$$Growth_{i,t} = \alpha_i + \delta_t + \beta \cdot CPIA_{i,t-1} + \gamma' \cdot X_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where $Growth_{i,t}$ is the winsorized annual GDP per capita growth rate for country i in year t ; α_i denotes country fixed effects absorbing time-invariant heterogeneity; δ_t denotes year fixed effects capturing common global shocks; $CPIA_{i,t-1}$ is the one-year lag of the CPIA Budgetary and Financial Management score; β is the coefficient of interest; $X_{i,t}$ is a vector of control variables (log GDP per capita, gross capital formation, population growth, inflation, trade openness, ODA, resource rents, government consumption); γ' is the corresponding coefficient vector; and $\varepsilon_{i,t}$ is the idiosyncratic error term. The dependent

variable is winsorized at the 1st and 99th percentiles. Four nested specifications progressively add controls. The Hausman test guides the choice between FE and RE. Standard errors are clustered at the country level; Driscoll–Kraay standard errors (Bartlett kernel, bandwidth = 3) provide inference robust to cross-sectional dependence. An IV-2SLS specification instruments the one-year lag of CPIA with its second lag. The high persistence of CPIA ratings (autocorrelation = 0.93) ensures instrument relevance but limits independent variation for identification; the IV results should therefore be interpreted as a complementary directional check rather than a definitive causal estimate. The one-year lag is the standard identification horizon in the governance–growth literature and represents the most conservative specification: bivariate within-country correlations between CPIA and growth remain negative at all horizons from one to four years (peaking at lag 3) and approach zero only at lag 5, indicating that no evaluation horizon within the data window yields evidence of a positive growth effect. The high autocorrelation of CPIA (0.93) further implies that lags of different lengths contain largely overlapping information. System GMM estimation was considered but not pursued: with 66 countries and only 16 time periods, the instrument count quickly exceeds the cross-sectional dimension, invalidating the Hansen test and inflating finite-sample bias. Sub-sample analyses are conducted by income group, region, and lending status; robustness checks include excluding resource-rich economies, dropping COVID-19 years, applying alternative winsorization methods, and lag substitution.

Table 2. Descriptive statistics (estimation sample)

Variable	N	Mean	SD	Min	Q1	Median	Q3	Max
GDP per capita growth (%)	876	2.284	4.855	−36.825	0.396	2.657	4.583	33.769
CPIA Budgetary & Financial Mgmt (1–6)	863	3.261	0.582	1.500	3.000	3.500	3.500	4.500
Log GDP per capita (const. USD)	876	7.217	0.666	5.857	6.721	7.179	7.701	9.323
Gross capital formation (% of GDP)	876	26.112	10.198	−15.678	19.244	24.685	31.676	76.782
Population growth (%)	876	1.994	1.115	−1.934	1.387	2.242	2.844	4.142
Inflation, CPI (%)	876	7.647	25.181	−16.860	2.056	5.005	8.613	557.202
Trade openness (% of GDP)	876	72.480	36.568	4.128	45.276	64.912	90.973	320.939
Net ODA received (% of GNI)	876	7.087	5.709	0.093	3.399	5.488	9.147	39.011
Natural resource rents (% of GDP)	876	8.641	9.990	0.003	1.661	5.557	11.925	79.431
Government consumption (% of GDP)	876	15.044	8.843	4.809	10.266	13.561	17.003	63.907

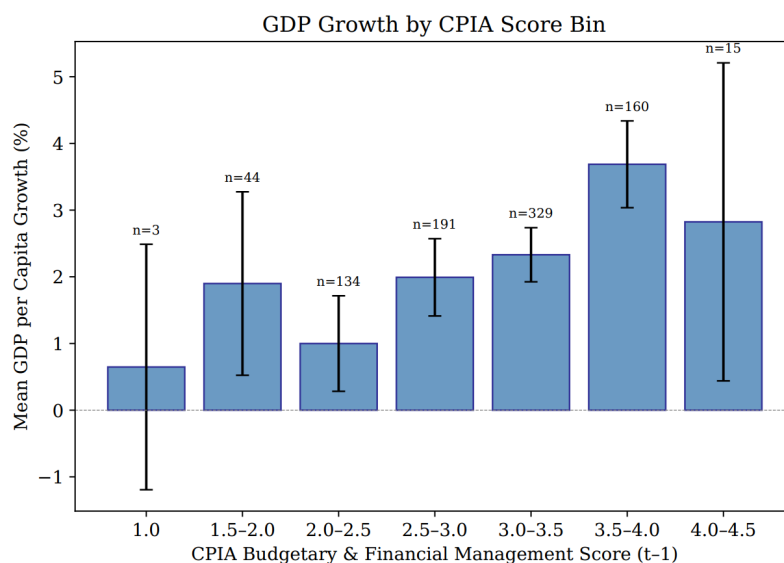
Note: The sample includes 66 countries with non-missing values for all variables over 2006–2021. GDP per capita growth is reported in raw form; regressions use the 1st/99th percentile winsorized version.

3. RESULTS

3.1. Descriptive statistics

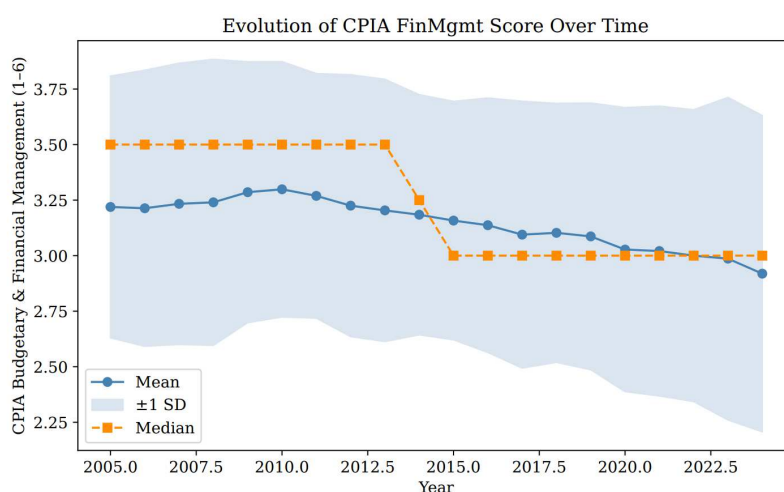
Table 1 reports the summary statistics for the estimation sample, which comprises an unbalanced panel of 876 country–year observations spanning 66 economies over the period 2006–2021. The mean CPIA Quality of Budgetary and Financial Management score is 3.26 (SD = 0.58) on a 1–6 scale, indicating that the typical country in the sample sits slightly below the midpoint of the scale. Figure 2 traces the evolution of this score over time, revealing a gradual decline in the cross-country mean from 3.24 in 2005 to 2.90 in 2024. Real GDP per capita growth averages 2.28 per cent per year (SD = 4.86), with considerable dispersion ranging from deep contractions (−36.8 per cent, Central African Republic in 2013) to boom episodes driven by commodity discoveries. Gross capital formation averages 26.1 per cent of GDP; population growth, 1.99 per cent; consumer-price inflation, 7.6 per cent; and trade openness, 72.5 per cent of GDP. Net official development assistance accounts for 7.1 per cent of GNI on average, natural resource rents for 8.6 per cent of GDP, and government final consumption for 15.0 per cent of GDP.

Cross-sectional variation in CPIA FinMgmt is pronounced across income groups: low-income countries average 3.10, lower-middle-income countries 3.21, and upper-middle-income countries 3.73. The bivariate pairwise correlation between the lagged CPIA score and GDP per capita growth is positive, suggesting that countries with higher budgetary management qual-



Note: Bars show mean winsorized GDP per capita growth; whiskers denote 95% confidence intervals. Labels indicate the number of country-year observations in each bin.

Figure 1. Mean GDP per capita growth by CPIA score bin (with 95% confidence intervals)



Note: Cross-country mean (solid line), median (dashed line), and ± 1 standard deviation band (shaded area) across all countries with available CPIA data in each year.

Figure 2. Evolution of CPIA Budgetary and Financial Management score, 2005–2024

ity tend to grow faster (Figure 1). However, this correlation conflates cross-country level differences with within-country dynamics – a distinction that the fixed-effects framework is designed to resolve.

All variance inflation factors remain below 1.7, and no pairwise correlation among regressors exceeds 0.60 in absolute value (Table 2), ruling out problematic multicollinearity.

3.2. Model selection and diagnostic tests

The Hausman test rejects the null hypothesis of Random Effects consistency ($\chi^2 = 107.80$, $df = 9$, $p < 0.001$), supporting the use of entity fixed effects. The Breusch–Pagan test confirms heteroscedasticity ($LM = 50.13$, $p < 0.001$), justifying the use of cluster-robust standard errors. The Durbin–Watson statistic of 1.62 signals mild positive serial

correlation in the residuals, motivating the additional estimation with Driscoll–Kraay standard errors, which are robust to both cross-sectional dependence and arbitrary serial correlation.

3.3. Baseline two-way fixed-effects estimates

Table 3 presents four progressively augmented two-way fixed-effects specifications with country-clustered standard errors, all using the one-year lag of CPIA FinMgmt as the key regressor and including both country and year fixed effects.

In the bivariate specification (Model 1), the coefficient on lagged CPIA FinMgmt is negative and statistically insignificant ($\beta = -0.955$, $SE = 0.587$, $p = 0.108$). Adding convergence, investment, and demographic controls (Model 2) yields $\beta = -0.955$ ($SE = 0.547$, $p = 0.085$), marginally significant at the 10 per cent level. Including macro-stability controls (Model 3) produces $\beta = -0.942$ ($SE = 0.499$, $p = 0.064$), again marginally significant. In the full specification (Model 4), which adds net ODA, natural resource rents, and government consumption, the CPIA coefficient is $\beta = -0.843$ ($SE = 0.564$, $p = 0.140$). The point estimate implies that a one-unit improvement in the CPIA score within a country is associated with a 0.84 percentage-point *decrease* in GDP per capita growth in the following year, though the effect is not statistically distinguishable from zero at conventional significance levels under country-clustered inference.

The control variables perform in line with the standard growth literature. The coefficient on log initial GDP per capita is strongly negative ($\beta = -8.709$, $p < 0.001$), consistent with conditional convergence. Gross capital formation enters positively ($\beta = 0.069$, $p = 0.017$), confirming the investment–growth channel. Population growth exerts a negative effect ($\beta = -1.161$, $p = 0.015$), while trade openness is positively associated with growth ($\beta = 0.055$, $p = 0.002$). Inflation carries a significant negative coefficient ($\beta = -0.426$, $p = 0.032$). Government consumption is also significantly negative ($\beta = -0.247$, $p = 0.012$), consistent with the crowding-out hypothesis. Neither net ODA ($\beta = -0.026$, $p = 0.755$) nor natural resource rents ($\beta = -0.002$, $p = 0.963$) are statistically significant after controlling for fixed effects, suggesting that their growth effects operate primarily through cross-country rather than within-country variation. The within R^2 of the full model is 0.144, and the overall R^2 including the fixed effects is 0.477.

3.4. Driscoll–Kraay inference

When standard errors are estimated via the Driscoll–Kraay kernel (Bartlett, bandwidth = 3), which accounts for both cross-sectional dependence and heteroscedasticity, the coefficient on lagged CPIA FinMgmt is marginally significant at the 10 per cent level ($\beta = -0.843$, $p = 0.055$, 95% CI $[-1.703, 0.017]$). The inflation control gains significance under this estimator ($\beta = -0.426$, $p = 0.010$). All other coefficients retain their signs and

Table 3. Baseline two-way fixed-effects regressions (dependent variable: GDP per capita growth)

Variable	(1)	(2)	(3)	(4)
CPIA FinMgmt (t-1)	-0.955 (0.587)	-0.955 (0.547)	-0.942 (0.499)	-0.843 (0.564)
Log GDP p.c. (t-1)		-8.259*** (1.866)	-8.268*** (1.779)	-8.709*** (2.015)
Gross capital formation		0.079* (0.031)	0.060 (0.033)	0.069* (0.028)
Population growth		-0.928 (0.546)	-1.036* (0.496)	-1.161* (0.463)
Inflation (log)			-0.343* (0.171)	-0.426* (0.194)
Trade openness			0.051** (0.018)	0.055** (0.017)
Net ODA (% of GNI)				-0.026 (0.083)
Resource rents				-0.002 (0.039)
Government consumption				-0.247* (0.095)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	876	876	876	876
R ² (within)	0.007	0.084	0.117	0.144
R ² (overall)				0.477

Note: Country-clustered standard errors are in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

approximate magnitudes. The near-significance under Driscoll–Kraay inference suggests that accounting for cross-sectional correlation sharpens the estimate, though the evidence remains insufficient to reject the null at the 5 per cent level.

3.5. Endogeneity checks

To address potential simultaneity between governance quality and growth, two-stage least squares (2SLS) estimation is performed, instrumenting the one-year lag of CPIA FinMgmt with its own second lag. In the IV specification (N = 809, 66 countries), the CPIA coefficient is $\beta = -1.187$ (SE = 0.801, $p = 0.143$). While the point estimate is larger in absolute value than in the OLS fixed-effects baseline, it is statistically insignificant, reflecting the wider standard errors typical of IV estimators. The direction of the effect is unchanged, suggesting that the negative within-country association is unlikely to be an artefact of reverse causality alone.

3.6. Sub-sample analysis by income group

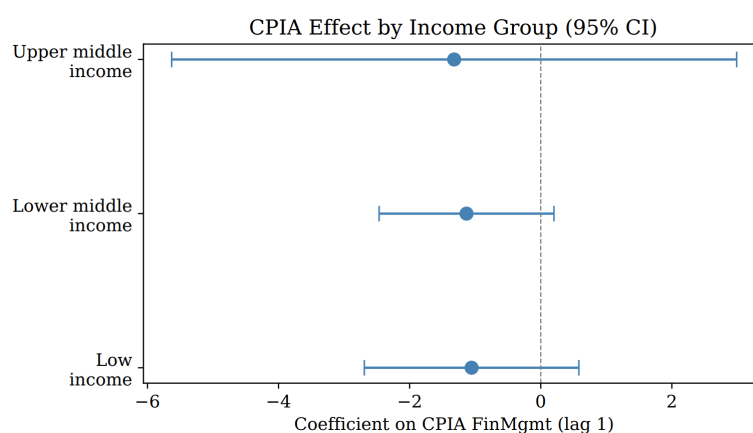
To examine heterogeneity across development levels, the core specification (with convergence, investment, demographic, and macro controls) is re-estimated separately for three income groups (Table 4, Figure 3).

Among low-income countries (18 countries, 246 observations), the CPIA coefficient is $\beta = -1.055$ (SE = 0.835, $p = 0.223$). For lower-middle-income economies (36 countries, 492 observations), it is $\beta = -1.132$ (SE = 0.680, $p = 0.105$). For upper-middle-income economies (11 countries, 127 observations), it is $\beta = -1.321$ (SE = 2.199, $p = 0.561$). The negative sign is remarkably consistent across all income tiers, though none of the sub-sample estimates achieves conventional statistical significance, partly due to reduced sample sizes and statistical power.

Table 4. Sub-sample analysis by income group (dependent variable: GDP per capita growth)

Variable	Low income	Lower middle	Upper middle
CPIA FinMgmt (t-1)	-1.055 (0.835)	-1.132 (0.680)	-1.321 (2.199)
Log GDP p.c. (t-1)	-10.020** (2.701)	-4.734* (2.387)	-21.946** (6.483)
Gross capital formation	0.097** (0.032)	0.012 (0.045)	0.105 (0.087)
Population growth	-1.881** (0.523)	-0.547 (0.827)	-0.297 (1.181)
Inflation (log)	-0.525 (0.256)	-0.517* (0.201)	-0.196 (0.523)
Trade openness	0.025 (0.030)	0.057* (0.021)	0.031 (0.079)
Country & Year FE	Yes	Yes	Yes
Countries	18	36	11
Observations	246	492	127
R ² (within)	0.140	0.098	0.246

Note: Country-clustered standard errors are in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.



Note: Point estimates and 95% confidence intervals from separate two-way FE regressions with country-clustered standard errors. The dashed vertical line marks zero.

Figure 3. CPIA FinMgmt coefficient by income group (95% confidence intervals)

3.7. Sub-sample analysis by region and lending status

Regional heterogeneity analysis reveals one notable pattern. In Sub-Saharan Africa, which constitutes the largest sub-sample (33 countries), the CPIA coefficient is negative and statistically significant at the 5 per cent level ($\beta = -1.223$, $SE = 0.589$, $p = 0.046$). This result suggests that within-country CPIA upgrades in the region have coincided with slower growth episodes. For East Asia and the Pacific (10 countries), the coefficient is negative but insignificant ($\beta = -1.461$, $p = 0.190$). The only positive point estimate appears in Europe and Central Asia (9 countries, $\beta = +2.251$, $p = 0.410$), though it lacks statistical significance.

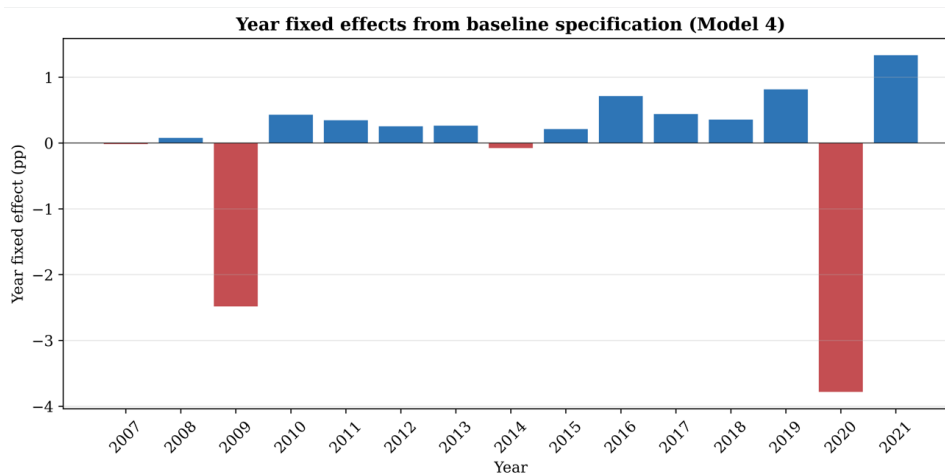
Disaggregating by World Bank lending category yields broadly similar results. For IDA-only borrowers (47 countries, 657 observations), the coefficient is $\beta = -0.578$ ($p = 0.232$); for Blend countries (9 countries, 116 observations), $\beta = -2.243$ ($p = 0.349$); and for graduated IBRD borrowers (10 countries, 103 observations), $\beta = -1.173$ ($p = 0.619$). The uniformly negative direction across all lending categories reinforces the conclusion that the null result is not driven by a specific subset of the sample.

3.8. Country and year fixed effects

Country fixed effects exhibit substantial heterogeneity (Appendix B). The standard deviation of estimated country effects is 6.0 percentage points,

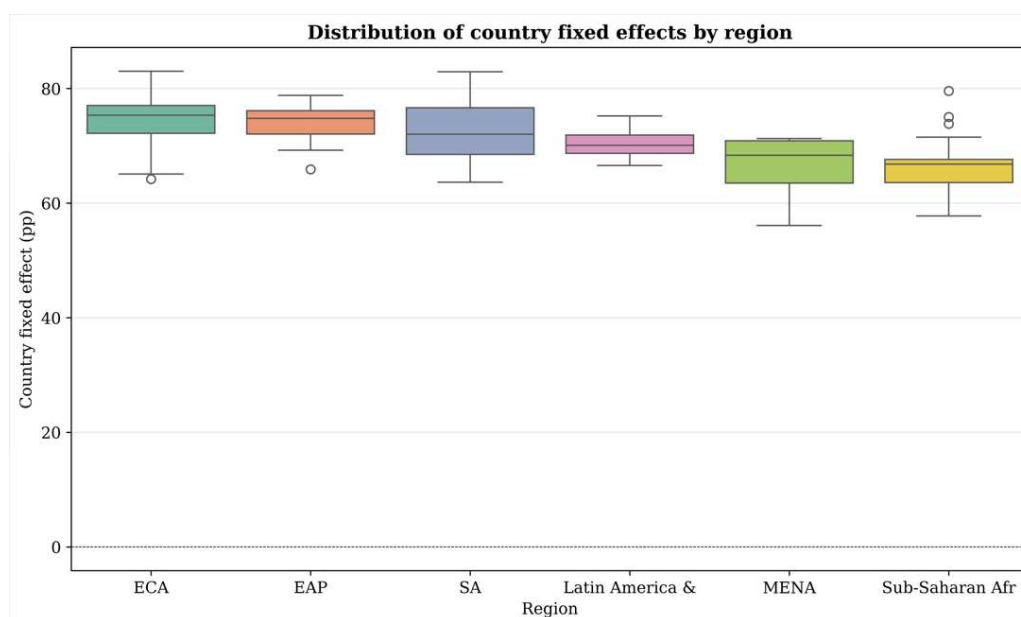
and the interquartile range is 9.2 percentage points, confirming that time-invariant country characteristics account for a large share of cross-country growth variation. The highest fixed effects – indicating above-average growth conditional on all controls – are observed in Azerbaijan (+83.0), the Maldives (+82.9), and Angola (+79.6), economies characterized by resource-driven booms or volatile recovery trajectories. The lowest are Afghanistan (+56.1), the Central African Republic (+57.8), and Madagascar (+58.6), all of which experienced prolonged conflict, political instability, or structural stagnation. Regionally, Europe and Central Asia exhibit the highest mean country effect (+74.0 pp), while Sub-Saharan Africa has the lowest (+66.5 pp), consistent with the convergence gradient. The cross-country correlation between estimated fixed effects and mean CPIA scores is moderate ($r = 0.33$), and a one-way ANOVA rejects the null of equal mean effects across regions ($F = 6.17$, $p < 0.001$), confirming that regional location is a significant predictor of the country-specific growth component. By income group, upper-middle-income economies exhibit the highest mean fixed effects (+76.7), followed by lower-middle-income (+70.2) and low-income (+63.6) countries.

Year fixed effects capture common global shocks (Figure 4). The most negative year effects are observed in 2020 (−3.8 pp) and 2009 (−2.5 pp), corresponding to the COVID-19 pandemic and the global financial crisis, respectively. The strong positive rebound in 2021 (+1.3 pp) reflects post-



Note: Bars show estimated year fixed effects from the two-way FE model. Negative values indicate years with below-average growth after controlling for all covariates and country effects.

Figure 4. Year fixed effects from baseline specification (Model 4)



Note: Box plots show the distribution of estimated country fixed effects across six World Bank regions. Boxes span the interquartile range; whiskers extend to 1.5 IQR; circles denote outliers.

Figure 5. Distribution of country fixed effects by region

pandemic recovery across the sample. The full set of country and year fixed effects is reported in Appendix B.

3.9. Robustness checks

Table 5 summarizes a battery of sensitivity tests. In each specification, the coefficient on lagged CPIA FinMgmt remains negative. Excluding resource-rich economies (average rents exceeding 20 per cent of GDP) yields $\beta = -0.724$ ($p = 0.219$, 58 countries). Excluding the COVID-19 years (2020–2021) produces $\beta = -1.138$ ($p = 0.056$), marginally significant at the 10 per cent level, suggesting that the pandemic period, if anything, attenuated the negative association. Using non-winsorized GDP growth gives $\beta = -0.787$ ($p = 0.231$). Substituting the second lag of CPIA ($t-2$) yields $\beta = -0.734$ (p

$= 0.165$). Stricter winsorization (5th/95th percentiles) produces $\beta = -0.323$ ($p = 0.378$), confirming that the result is not driven by extreme growth episodes. Finally, restricting the sample to current IDA and Blend borrowers (56 countries, 773 observations) gives $\beta = -0.845$ ($p = 0.142$).

Across all seven robustness checks, the CPIA coefficient ranges from -0.323 to -1.138 and never turns positive. However, statistical significance at the 5 per cent level is not achieved under country-clustered inference in any specification.

3.10. Summary of findings

The results yield a clear and consistent pattern: while cross-country variation in CPIA budgetary and financial management quality correlates posi-

Table 5. Robustness checks (dependent variable: GDP per capita growth)

Specification	β (CPIA)	SE	p-value	Obs.
Baseline (full, 66 countries)	-0.843	0.564	0.140	876
Excl. resource-rich	-0.724	0.583	0.219	781
Excl. COVID 2020–21	-1.138	0.584	0.056*	771
Raw GDP growth (no winsor.)	-0.787	0.651	0.231	876
CPIA lag 2 ($t-2$)	-0.734	0.523	0.165	744
5%/95% winsorization	-0.323	0.364	0.378	876
IDA + Blend only (56 countries)	-0.845	0.567	0.142	773

Note: All specifications include country and year fixed effects with country-clustered standard errors. * $p < 0.10$.

tively with income levels (Figure 1), within-country improvements in this indicator do not translate into higher short-run GDP per capita growth. The point estimates are uniformly negative, economically non-trivial (a one-standard-deviation CPIA improvement of 0.58 points is associated with approximately -0.49 percentage points of growth, or about 22 per cent of mean growth), and generally insignificant under conservative cluster-robust inference. The negative association approaches marginal significance under Driscoll–Kraay standard errors ($p = 0.055$) and is statistically significant in the Sub-Saharan Africa sub-sample ($p = 0.046$). Standard growth controls – convergence, investment, population growth, inflation, trade openness, and government consumption – perform robustly and in the expected directions throughout.

4. DISCUSSION

The central finding – that within-country CPIA improvements do not translate into short-run growth – speaks to a foundational tension in institutional economics. Cross-country analyses yield large, positive coefficients on institutional quality (Acemoglu et al., 2001; Rodrik et al., 2004; Knack & Keefer, 1995), yet the within-country estimate here ($\beta = -0.843$, $p = 0.140$) is consistent with the attenuation pattern documented when panel fixed effects absorb time-invariant heterogeneity (Azam et al., 2021; Megbowon & Zerihun, 2025). The minimum detectable effect at the 5 per cent level, given the standard error of 0.564, is approximately 1.1 percentage points – above the point estimate of -0.84 , implying that the null result is consistent with both zero and moderately negative true effects. This divergence reflects the distinction between institutional levels and the marginal growth payoff from incremental upgrades over short horizons. The null result also accords with the isomorphic mimicry hypothesis: formal reforms without functional capability do not generate growth dividends until a minimum maturity threshold is crossed (Gasimov et al., 2023a; Andrews, 2013), and the U-shaped governance–growth relationship in post-Soviet economies suggests many IDA-eligible countries remain on the flat segment of the curve (Gasimov et al., 2023b).

The control variables align with established findings, reinforcing the model’s specification. The

strong conditional convergence ($\beta = -8.709$, $p < 0.001$) accords with Barro (1991), the positive investment coefficient corroborates the capital formation–growth channel documented in EU panel models (Wang et al., 2023; Berkane et al., 2025), and trade openness enters positively, consistent with growth-promoting effects of trade integration. The insignificance of ODA in the within-country specification is consistent with the conclusion that little robust evidence supports a positive aid–growth relationship after controlling for country-specific effects (Rajan and Subramanian, 2008), challenging the earlier conditional hypothesis (Burnside and Dollar, 2000). The significant negative effect of government consumption confirms the crowding-out mechanism and is reinforced by threshold evidence from European economies (Barro, 1991; Toth et al., 2025; Lobont et al., 2023).

The significant negative coefficient in Sub-Saharan Africa ($\beta = -1.223$, $p = 0.046$) warrants attention. The region dominates IDA lending and is exposed to externally driven reform episodes that entail short-run fiscal consolidation costs. This interpretation is consistent with evidence that expenditure shocks generate larger multiplier effects under low-debt regimes (Gherghina et al., 2024) and that governance quality redirects fiscal resources toward compliance at the expense of near-term output (Megbowon & Zerihun, 2025).

A third possibility is that some CPIA upgrades reflect realignment of assessment standards – for instance, following an IDA review or a change in the Bank country team – rather than underlying policy change, introducing non-classical measurement error. The results suggest that PFM reform effects are institutional rather than immediate – operating through fiscal credibility and absorptive capacity rather than a direct output channel. This accords with evidence that innovative PFM practices rebuild trust and service quality as intermediate outcomes (Ntuli et al., 2026; Alyaseri et al., 2024), and that technologically capable governance generates measurable effects in specific domains rather than broad GDP gains (Lyeonov et al., 2025). Disaggregated PFM indicators may therefore require evaluation over longer horizons and through intermediate outcome variables.

CONCLUSION

This paper investigated whether the positive cross-country correlation between public financial management quality and income levels translates into a within-country growth effect, using an unbalanced panel of 876 country-year observations across 66 developing economies over 2006–2021.

The empirical evidence does not support a positive within-country growth effect. The baseline within-country estimate is not statistically significant at conventional levels, and the negative direction is consistent across all income groups, all seven robustness specifications, and the IV-2SLS estimate. The only sub-sample achieving significance is Sub-Saharan Africa, the region most exposed to externally driven reform episodes. Standard growth controls – convergence, investment, trade openness, inflation, and government consumption – perform robustly throughout.

This divergence between the cross-country gradient and the within-country null is itself an important finding. It suggests that countries with better budgetary management are richer for deep structural reasons rather than because recent score improvements mechanically raise GDP. The negative point estimates are consistent with at least two mechanisms: CPIA upgrades may coincide with fiscal consolidation episodes that temporarily depress growth, and the CPIA assessment may capture reform intent rather than effective implementation, introducing measurement noise that attenuates the true effect.

These results carry implications for development policy. PFM reforms cannot be justified primarily based on near-term GDP gains; their value lies in strengthening fiscal credibility, reducing waste, and building institutional foundations that enable growth through complementary channels over longer time horizons. Policymakers would benefit from framing PFM reform as a medium- to long-term institutional investment rather than a short-run growth lever.

For the World Bank and other multilateral agencies that use CPIA scores to allocate concessional lending through the IDA Performance-Based Allocation system, the results highlight a potential disconnect between governance metrics and their short-run macroeconomic consequences. This does not invalidate CPIA-based criteria – budgetary management quality may still improve aid absorption and reduce fiduciary risk – but it cautions against interpreting CPIA upgrades as leading indicators of growth acceleration. These findings lend support to calls for complementing CPIA-based allocation with outcome-oriented metrics that capture the downstream effects of governance reforms on investment, revenue mobilization, and public service quality.

These conclusions are subject to several caveats: CPIA ratings have constrained within-country variation, the sample is limited to IDA-eligible economies, and the IV strategy does not fully resolve endogeneity. Future research could employ longer evaluation horizons, broader CPIA dimensions, micro-level budget execution data, and interaction effects between governance and investment – avenues that may yet reveal the growth dividends that the short-run evidence presented here does not detect.

AUTHOR CONTRIBUTIONS

Conceptualization: Niyazi Ismayilov, Milos Tumpach.

Data curation: Niyazi Ismayilov.

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Funding acquisition: Milos Tumpach.

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Methodology: Niyazi Ismayilov, Milos Tumpach.

Project administration: Niyazi Ismayilov.

Resources: Milos Tumpach.
Software: Milos Tumpach.
Supervision: Niyazi Ismayilov.
Validation: Niyazi Ismayilov.
Visualization: Milos Tumpach.
Writing – original draft: Niyazi Ismayilov, Milos Tumpach.
Writing – review & editing: Niyazi Ismayilov, Milos Tumpach.

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DATA AVAILABILITY

All data used in this study are publicly available from the World Bank’s World Development Indicators and CPIA databases.

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APPENDIX A

COUNTRY LIST

The estimation sample comprises 66 economies across six World Bank regions. Table A1 presents the full list, including metadata and summary statistics for each country.

Table A1. East Asia & Pacific (10 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Cambodia	KHM	Lower middle	IDA	16	2006	2021	5.22	3.19
Kiribati	KIR	Lower middle	IDA	15	2007	2021	2.01	2.77
Lao PDR	LAO	Lower middle	IDA	11	2006	2016	6.24	3.32
Mongolia	MNG	Upper middle	IBRD	15	2006	2020	4.77	3.67
Samoa	WSM	Upper middle	IDA	13	2009	2021	0.28	3.81
Solomon Islands	SLB	Lower middle	IDA	16	2006	2021	0.47	2.59
Timor-Leste	TLS	Lower middle	Blend	7	2015	2021	4.15	3.00
Tonga	TON	Upper middle	IDA	16	2006	2021	1.14	3.25
Vanuatu	VUT	Lower middle	IDA	16	2006	2021	0.13	3.59
Viet Nam	VNM	Lower middle	IBRD	11	2006	2016	4.87	3.82

Table A2. Europe & Central Asia (9 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Armenia	ARM	Upper middle	IBRD	9	2006	2014	5.03	4.33
Azerbaijan	AZE	Upper middle	IBRD	6	2006	2011	7.90	3.92
Bosnia and Herzegovina	BIH	Upper middle	IBRD	9	2006	2014	3.61	3.50
Georgia	GEO	Upper middle	IBRD	9	2006	2014	6.20	4.06
Kosovo	XKX	Upper middle	IDA	12	2010	2021	4.34	4.00
Kyrgyz Republic	KGZ	Lower middle	IDA	16	2006	2021	2.12	3.41
Moldova	MDA	Upper middle	IBRD	15	2006	2020	3.55	3.93
Tajikistan	TJK	Lower middle	IDA	11	2006	2016	4.45	3.27
Uzbekistan	UZB	Lower middle	Blend	11	2011	2021	4.41	3.82

Table A3. Latin America & Caribbean (4 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Bolivia	BOL	Lower middle	IBRD	11	2006	2016	3.29	3.27
Haiti	HTI	Lower middle	IDA	16	2006	2021	-0.01	2.69
Honduras	HND	Lower middle	IDA	16	2006	2021	1.37	3.72
Nicaragua	NIC	Lower middle	IDA	16	2006	2021	1.87	3.66

Table A4. MENA (4 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Afghanistan	AFG	Low	IDA	2	2020	2021	-9.40	3.50
Djibouti	DJI	Lower middle	IDA	8	2014	2021	3.68	2.69
Pakistan	PAK	Lower middle	Blend	16	2006	2021	1.81	3.50
Yemen, Rep.	YEM	Low	IDA	5	2010	2014	-2.25	3.50

Table A5. South Asia (6 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Bangladesh	BGD	Lower middle	IDA	16	2006	2021	5.36	3.00
Bhutan	BTN	Lower middle	IDA	16	2006	2021	4.45	3.66
India	IND	Lower middle	IBRD	9	2006	2014	5.12	3.78
Maldives	MDV	Upper middle	IDA	8	2014	2021	2.76	2.75
Nepal	NPL	Lower middle	IDA	16	2006	2021	3.64	2.94
Sri Lanka	LKA	Lower middle	IDA	7	2006	2020	3.31	4.00

Table A6. Sub-Saharan Africa (33 countries)

Country	ISO3	Income group	Type	Obs.	From	To	Growth (%)	CPIA
Angola	AGO	Lower middle	IBRD	9	2006	2014	3.18	2.50
Benin	BEN	Lower middle	IDA	16	2006	2021	1.75	3.53
Burkina Faso	BFA	Low	IDA	16	2006	2021	2.55	4.06
Cabo Verde	CPV	Upper middle	Blend	15	2007	2021	2.51	3.73
Cameroon	CMR	Lower middle	Blend	16	2006	2021	0.84	3.25
Central African Republic	CAF	Low	IDA	16	2006	2021	1.61	2.38
Chad	TCD	Low	IDA	16	2006	2021	-0.57	2.53
Comoros	COM	Lower middle	IDA	16	2006	2021	0.42	2.12
Congo, Dem. Rep.	COD	Low	IDA	11	2006	2016	2.92	2.64
Congo, Rep.	COG	Lower middle	Blend	16	2006	2021	-1.25	2.59
Côte d'Ivoire	CIV	Lower middle	Blend	7	2015	2021	3.05	3.50
Ethiopia	ETH	Not classified	IDA	11	2011	2021	5.89	3.77
Gambia, The	GMB	Low	IDA	16	2006	2021	0.36	3.09
Ghana	GHA	Lower middle	IDA	16	2006	2021	3.70	3.53
Guinea	GIN	Lower middle	IDA	16	2006	2021	2.58	2.97
Guinea-Bissau	GNB	Low	IDA	16	2006	2021	1.30	2.25
Kenya	KEN	Lower middle	Blend	16	2006	2021	2.10	3.50
Lesotho	LSO	Lower middle	IDA	15	2007	2021	0.52	2.97
Madagascar	MDG	Low	IDA	16	2006	2021	-0.22	2.72
Malawi	MWI	Low	IDA	5	2017	2021	1.17	3.30
Mali	MLI	Low	IDA	16	2006	2021	0.61	3.53
Mauritania	MRT	Lower middle	IDA	16	2006	2021	0.53	3.03
Mozambique	MOZ	Low	IDA	16	2006	2021	2.61	3.75
Niger	NER	Low	IDA	16	2006	2021	1.61	3.38
Rwanda	RWA	Low	IDA	16	2006	2021	4.51	3.97
Senegal	SEN	Lower middle	IDA	16	2006	2021	1.49	3.44
Sierra Leone	SLE	Low	IDA	15	2007	2021	1.45	3.50
Sudan	SDN	Low	IDA	16	2006	2021	-1.45	2.34
Tanzania	TZA	Lower middle	IDA	16	2006	2021	2.79	3.41
Togo	TGO	Low	IDA	16	2006	2021	1.75	2.53
Uganda	UGA	Low	IDA	16	2006	2021	2.68	3.53
Zambia	ZMB	Lower middle	IDA	12	2010	2021	1.16	3.42
Zimbabwe	ZWE	Lower middle	Blend	12	2010	2021	3.35	2.88

Note: Growth = mean GDP per capita growth (%); CPIA = mean CPIA FinMgmt score. Income classifications follow the World Bank (2024).

APPENDIX B

COUNTRY AND YEAR FIXED EFFECTS

Country fixed effects from the baseline specification (Model 4) exhibit substantial heterogeneity: SD = 6.0 pp, IQR = 9.2 pp. The full ranked list is provided in the supplementary Excel file. Figures 4 and 5 in the main text display the year fixed effects and regional distribution, respectively. Supplementary Figures A1 and A2 present the full bar chart of all 66 country effects and their relationship with mean CPIA scores.

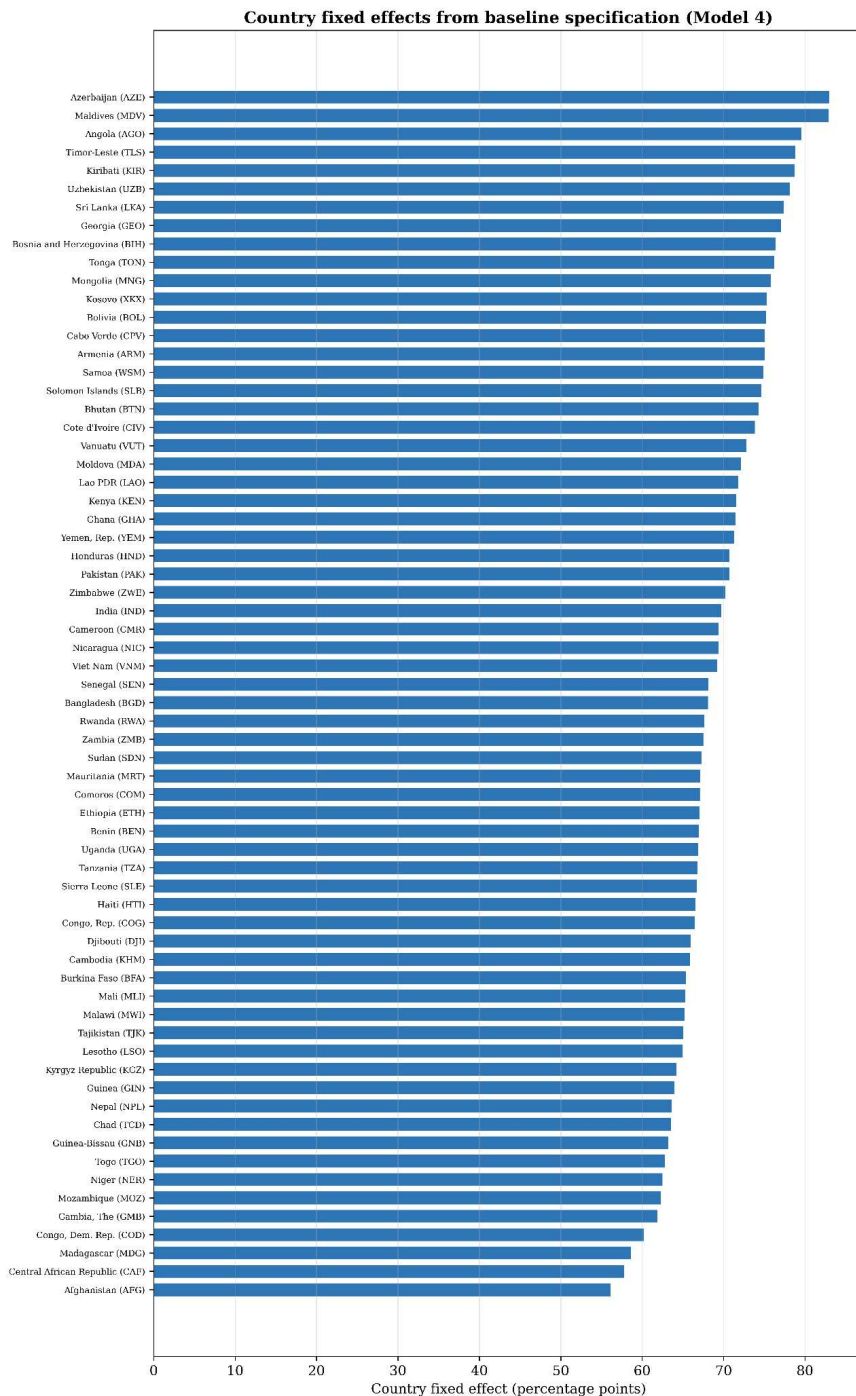


Figure B1. Country fixed effects from baseline specification (Model 4), ranked

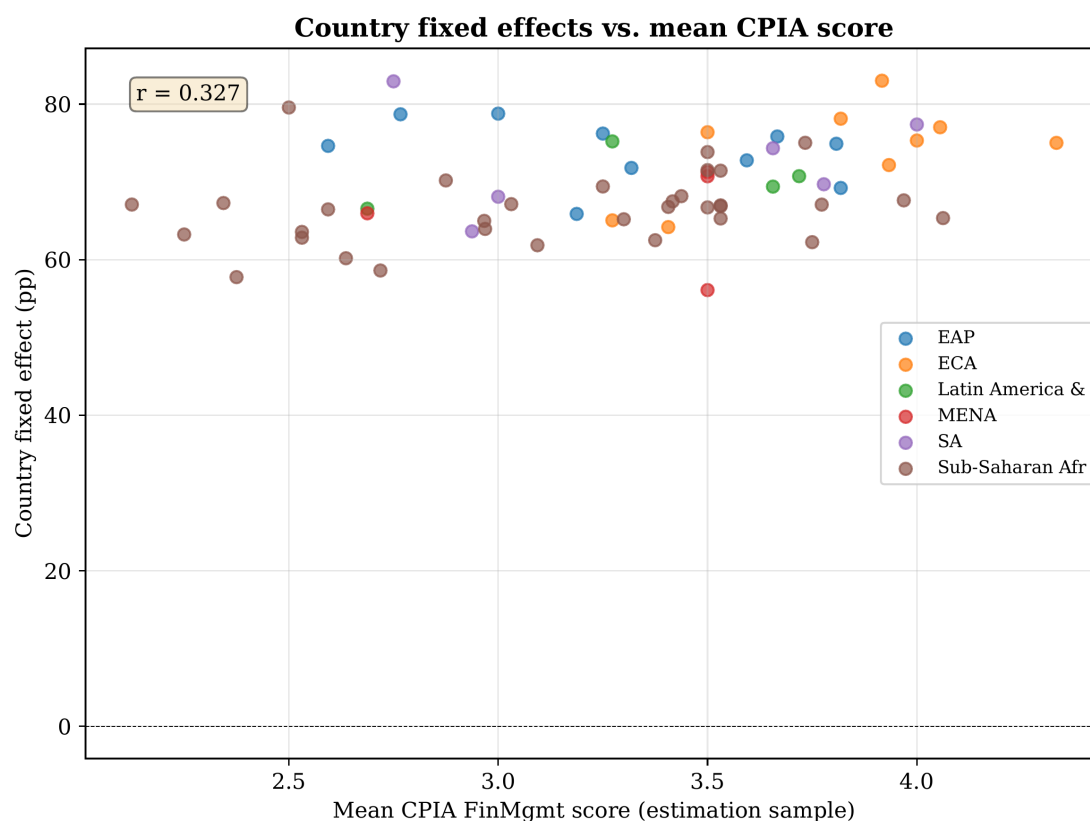


Figure B2. Country fixed effects vs. mean CPIA FinMgmt score ($r = 0.327$)

Table B1. Country fixed effects by region

Region	N	Mean FE	SD	Min	Max
East Asia & Pacific	10	73.88	4.07	65.89	78.79
Europe & Central Asia	9	74.04	6.08	64.20	83.02
Latin America & Caribbean	4	70.48	3.60	66.56	75.21
MENA	4	66.02	7.03	56.10	71.28
South Asia	6	72.68	6.95	63.65	82.94
Sub-Saharan Africa	33	66.50	4.53	57.76	79.57

APPENDIX C

CORRELATION MATRIX AND VARIANCE INFLATION FACTORS

Table C1 reports pairwise Pearson correlation coefficients among all regression variables. No pair exceeds 0.60 in absolute value. Table C2 confirms that all variance inflation factors remain below 1.7, ruling out problematic multicollinearity.

Table C1. Pairwise correlation matrix (N = 876)

	GDP growth	CPIA	Log GDP p.c.	GFCF	Pop. growth	Inflation	Trade	ODA	Res. rents	Govt. cons.
GDP growth	1	0.169	0.026	0.181	-0.198	0.048	0.144	-0.124	0.016	-0.076
CPIA FinMgmt	0.169	1	0.231	0.264	-0.250	0.035	0.051	-0.076	-0.199	-0.080
Log GDP p.c.	0.026	0.231	1	0.224	-0.464	-0.093	0.399	-0.213	-0.053	0.137

Table C1 (cont.). Pairwise correlation matrix (N = 876)

	GDP growth	CPIA	Log GDP p.c.	GFCF	Pop. growth	Inflation	Trade	ODA	Res. rents	Govt. cons.
GFCF	0.181	0.264	0.224	1	-0.110	0.012	0.220	-0.103	0.134	0.061
Pop. growth	-0.198	-0.250	-0.464	-0.110	1	0.018	-0.205	0.024	0.353	-0.114
Inflation	0.048	0.035	-0.093	0.012	0.018	1	-0.113	-0.136	0.059	-0.261
Trade	0.144	0.051	0.399	0.220	-0.205	-0.113	1	-0.011	0.060	0.337
ODA	-0.124	-0.076	-0.213	-0.103	0.024	-0.136	-0.011	1	-0.013	0.355
Resource rents	0.016	-0.199	-0.053	0.134	0.353	0.059	0.060	-0.013	1	0.096
Govt. consumption	-0.076	-0.080	0.137	0.061	-0.114	-0.261	0.337	0.355	0.096	1

Table C2. Variance inflation factors

Variable	VIF
CPIA FinMgmt	1.21
Log GDP p.c.	1.62
GFCF	1.19
Pop. growth	1.53
Inflation	1.10
Trade	1.35
ODA	1.27
Resource rents	1.27
Govt. consumption	1.43

APPENDIX D

IV FIRST-STAGE DIAGNOSTICS

The first-stage regression of CPIA FinMgmt ($t-1$) on its second lag, controlling for all covariates and two-way fixed effects, yields a coefficient of 0.660 (cluster-robust SE = 0.020, $p < 0.001$), with a first-stage F -statistic of 1,098 – far exceeding the Stock and Yogo (2005) critical value of 16.38 for 10 per cent maximal IV size with a single instrument, confirming instrument relevance. The partial R^2 of the excluded instrument is 0.49, indicating that the second lag explains nearly half of the residual within-country variation in the first lag after partialling out controls and fixed effects. Despite this strong first stage, the high persistence of CPIA ratings (autocorrelation = 0.93) means that the instrument primarily exploits small year-to-year fluctuations, limiting the effective variation available for causal identification. The IV second-stage results reported in Section 4.5 ($\beta = -1.187$, SE = 0.801, $p = 0.143$, $N = 809$) are estimated using linear models Panel OLS with entity and time fixed effects.

Table D1. IV first-stage summary

Statistics	Value
Instrument	CPIA FinMgmt ($t-2$)
First-stage coefficient	0.660
Cluster-robust SE	0.020
t-statistic	33.14
First-stage F	1,098
Stock-Yogo 10% critical value	16.38
First-stage within- R^2	0.500
Partial R^2 of the instrument	0.487

APPENDIX E

DRISCOLL–KRAAY INFERENCE

Table E1 reports the full baseline specification (Model 4) with Driscoll–Kraay standard errors (Bartlett kernel, bandwidth = 3) alongside country-clustered standard errors. The point estimates are identical; only the standard errors differ. The CPIA coefficient is marginally significant under Driscoll–Kraay inference ($p = 0.055$) but insignificant under country-clustered inference ($p = 0.140$). Notably, convergence, investment, and government consumption all exhibit substantially smaller standard errors under the Driscoll–Kraay estimator, consistent with the presence of cross-sectional dependence.

Table E1. Model 4: Clustered vs. Driscoll–Kraay standard errors (N = 876)

Variable	β	CL-SE	CL-p	DK-SE	DK-p
CPIA FinMgmt (lag 1)	-0.843	0.564	0.140	0.438	0.055
Log GDP p.c. (lag 1)	-8.709	2.015	< 0.001	1.195	< 0.001
Gross capital formation	0.069	0.028	0.017	0.013	< 0.001
Population growth	-1.161	0.463	0.015	0.436	0.008
Inflation (log)	-0.426	0.194	0.032	0.165	0.010
Trade openness	0.055	0.017	0.002	0.015	< 0.001
ODA / GNI	-0.026	0.083	0.755	0.035	0.462
Resource rents	-0.002	0.039	0.963	0.039	0.963
Govt. consumption	-0.247	0.095	0.012	0.064	< 0.001

Note: CL = country-clustered; DK = Driscoll–Kraay (Bartlett kernel, bandwidth = 3). All specifications include country and year fixed effects.