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Discussion Paper

From Reform to Credibility:

Rethinking How Policy Shapes Investment in Africa

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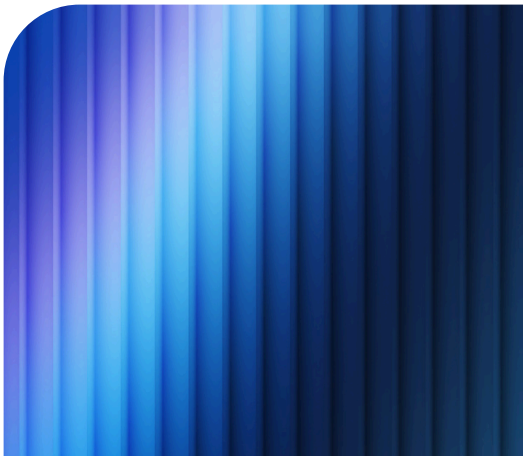
Abstract



This paper examines how policy reforms influence investment, emphasising the role of policy credibility. Using panel data for African economies, the results confirm that improvements in the policy environment are associated with higher investment. However, these effects are gradual and shaped by persistence in investment behaviour, reflecting the forward-looking nature of capital decisions. The key finding is that the effectiveness of reforms depends on their credibility. Sustained reforms over time generate stronger investment responses, while those subject to reversal or volatility have weaker effects. Policy stability does not independently drive investment; rather, it shapes how reforms are interpreted by investors. These findings suggest that attracting investment requires more than implementing reforms. It requires sustaining them in a consistent and predictable manner. Policy credibility, therefore, emerges as a critical determinant of investment outcomes.

Keywords: Policy reform, reform durability, policy credibility, investment, foreign direct investment, institutions, Africa, investment climate, policy stability, development finance
JEL Classification: E22; F21; O16; O43; O55

Contents

1. Framing the Policy Challenge

Over the past three decades, African economies have undergone successive waves of policy and institutional reforms aimed at creating a more conducive environment for private investment and sustained economic transformation. Beginning with the structural adjustment programmes of the late 1980s and early 1990s, governments implemented reforms that liberalised trade regimes, restructured financial sectors, privatised state-owned enterprises, and strengthened macroeconomic management (World Bank, 1994; Mkandawire, 2005). These reforms were grounded in the recognition that long-term development cannot be sustained by public spending alone but requires a dynamic private sector capable of mobilising capital, transferring technology, and expanding productive capacity. In this context, improving the policy environment for investment became a central pillar of development strategy.

Over time, the emphasis on private sector-led development has only intensified. In the early decades of post-independence development policy, economic transformation in many African countries relied heavily on public investment and concessional development finance provided by bilateral and multilateral partners. However, the global development financing landscape has changed significantly in recent years. Concessional resources have become increasingly constrained relative to the scale of development challenges, while the ambition of global development agendas, including the Sustainable Development Goals and climate transitions, has dramatically increased financing needs (Schmidt-Traub, 2015). As a result, development policy discourse has progressively shifted toward mobilising private capital and crowding in investment as a central strategy for financing development (Bhattacharya et al., 2015). International development institutions, governments, and regional development banks increasingly frame development policy not only in terms of aid flows or public spending but also in terms of how public policy can catalyse private capital. This has given rise to a renewed focus on investment climate reforms, institutional strengthening, and policy frameworks that reduce uncertainty for investors (World Bank, 2024).

Yet despite widespread adoption of reform agendas across the continent, investment outcomes have remained highly uneven. Many countries have introduced reforms aimed at improving regulatory frameworks, strengthening governance institutions, and liberalising economic policies, but the response of investment, particularly long-term productive investment, has varied considerably. Some economies have experienced sustained increases in foreign direct investment and domestic capital formation, while others have seen only modest or volatile investment responses (Abdi et al., 2024; Sunday and Ndubueze, 2024).

Recent data illustrates this disparity starkly: while global FDI rose 14% to $1.6 trillion in 2025, Africa's FDI inflows plummeted by 33-38% to $56-62 billion (from $97 billion in 2024), representing just 3-4% of global flows (UNCTAD, 2026). Some economies have experienced sustained increases in foreign direct investment and domestic capital formation – Egypt attracted $11 billion; Angola rebounded to $3 billion after years of divestment; and Côte d'Ivoire saw greenfield project growth (UNCTAD, 2025; 2026), while others recorded negative inflows (South Africa – $6 billion; Nigeria – $187 million in equity outflows). This volatility persists despite reforms: Nigeria's naira-for-crude policy and SEC e-Offering platform coexist with FPI short-termism (80% hot money), while ECOWAS trade facilitation gains remain undermined by policy reversals. UNCTAD (2025) notes Africa's FDI share declined from 19% (1970s) to 3% (2025), despite "absolute progress" in infrastructure and openness, confirming a relative decline against Asian/Latin peers (993%/556% growth in the 1980s-90s). Investment climate indices reflect this: Nigeria ranks 131/193 (Doing Business legacy), while top reformers (Morocco and Rwanda) score 20-30 points higher, driving their FDI gains. This divergence raises an important question for development policy: why do similar reforms appear to produce markedly different investment outcomes across countries?

A large body of empirical research has examined the determinants of investment in developing economies. Early contributions emphasised the importance of macroeconomic stability, highlighting how inflation, exchange rate volatility, and fiscal imbalances can create uncertainty that discourages long-term investment (Fischer, 1993). Subsequent work increasingly focused on the role of institutions and governance. Institutional economics has long emphasised that economic performance depends not only on resource endowments or market conditions but also on the institutional frameworks that shape incentives for economic actors (North, 1990). Strong institutions can reduce transaction costs, secure property rights, and provide credible commitments that encourage investment (Acemoglu et al., 2001; Rodrik et al., 2004). Studies have therefore found robust relationships between indicators of institutional quality, such as regulatory quality, rule of law, and government effectiveness, and investment outcomes (Kaufmann et al., 2011).

Parallel to this literature, another body of work has examined the impact of structural policy reforms on economic performance. Trade liberalisation, financial sector reforms, and regulatory reform have been widely promoted as mechanisms for enhancing competitiveness, expanding market access, and improving the allocation of capital (Sachs & Warner, 1995; Wacziarg & Welch, 2008). However, the evidence linking reforms to investment outcomes is not uniform. In many instances, countries that have implemented similar reforms have experienced markedly different investment trajectories (Hausmann et al., 2005).

One possible explanation for this divergence lies in the way reforms are conceptualised and measured. Much of the literature treats reforms as discrete policy events or permanent structural changes. Reforms are often captured through binary indicators; this can occur through the introduction of a new policy or throughchanges in reform indices that measure institutional quality or policy orientation (e.g., Sachs & Warner, 1995; Wacziarg & Welch, 2008; Busse & Hefeker, 2007; Asiedu, 2006; Alfaro et al., 2008). These approaches implicitly assume that once adopted, reforms remain in place and exert a lasting influence on economic outcomes. In reality, however, policy reforms are rarely static or irreversible. Many developing economies implement reforms incrementally, adjust them over time, or occasionally reverse them in response to changing political and economic conditions.

The dynamic nature of policy regimes introduces an important dimension that is often overlooked in empirical analyses: policy credibility. In this paper, policy credibility is defined as the extent to which announced or implemented policies are perceived by investors as durable, predictable, and unlikely to be reversed over the horizon relevant for investment decisions. For investors making long-term capital commitments, the announcement of reforms may not be sufficient to alter investment decisions if there is uncertainty about whether those reforms will endure (Brunetti & Weder, 1998). Investment decisions typically involve substantial sunk costs and long planning horizons. Investors must therefore evaluate not only the current policy environment but also the likelihood that policies will remain stable over time. When policy frameworks are perceived as fragile or susceptible to reversal, investors may delay or scale down investment even when expected returns appear attractive (Pindyck, 1991).\

The broader literature on investment under uncertainty closely links to the importance of policy credibility. Theoretical models emphasise that investment is often characterised by irreversibility, meaning that once capital is installed, it cannot easily be redeployed without significant losses. Investors have the option to wait under uncertain conditions, delaying investment until they resolve uncertainty about future conditions. Policy instability can therefore significantly reduce investment by increasing uncertainty about the future regulatory and economic environment. Conversely, policy regimes that demonstrate stability and predictability over time can reduce uncertainty and encourage earlier investment commitments.

The credibility of policy regimes also has a strong political economy dimension. Governments may announce reforms intended to attract investment, but investors may remain sceptical if there is a history of policy reversals or weak institutional constraints on policy change (Henisz, 2000). Political transitions, economic crises, or shifts in government priorities can all alter the trajectory of reform programmes. As a result, reforms that appear promising at the time of adoption may fail to generate sustained investment responses if they are perceived as temporary or politically fragile (Keefer & Knack, 2002). Conversely, reforms that survive political cycles and economic shocks may gradually build credibility and signal a durable commitment to stable policy frameworks.

These dynamics are particularly relevant in the African context, where policy reforms have often occurred in waves associated with broader shifts in development strategies and external economic conditions (Van de Walle, 2001). This paper examines the role of reform durability and policy credibility in shaping investment outcomes in Africa. Rather than focusing solely on whether reforms are adopted, we investigate whether reforms that endure over time generate stronger investment responses than reforms that are unstable or frequently reversed. By distinguishing between reform adoption, reform durability, and reform credibility, the study aims to provide a more nuanced view of how policy regimes influence investment decisions.

2. Theoretical Underpinnings

The analytical foundation of this study is rooted in economic theories that explain how expectations about policy environments influence investment decisions. We draw on three complementary theoretical traditions: the theory of investment under uncertainty (Dixit & Pindyck, 1994), institutional theories of credible commitment (North, 1990), and the political economy of policy sustainability (Acemoglu et al., 2005). Together, these strands provide a conceptual framework for understanding why the stability and persistence of policy regimes may influence investment behaviours beyond the mere adoption of reforms.

Investment theory emphasises that capital allocation decisions are inherently forward-looking and shaped by expectations about future economic conditions. A central insight from the literature on investment under uncertainty is that many forms of investment involve irreversible commitments of capital (Bernanke, 1983). Firms typically incur substantial sunk costs when undertaking investments in fixed assets, infrastructure, or productive capacity. Because these costs cannot be easily recovered if economic conditions change, investors must carefully evaluate the risks associated with future policy and market environments before committing resources. Uncertainty about future conditions therefore plays a central role in shaping investment decisions (Pindyck, 1991).

In this context, uncertainty regarding the future trajectory of economic policy can significantly affect investment behaviour. When investors face uncertainty about how policies may evolve, they may delay or scale down investment even when expected returns appear favourable (Rodrik, 1991). Theoretical models of irreversible investment highlight that investors possess the option to postpone investment until uncertainty is resolved. This "option value of waiting" increases when future policy conditions are difficult to predict. As uncertainty rises, the threshold level of expected profitability required to justify investment also increases, leading investors to adopt a more cautious stance toward capital commitments (McDonald & Siegel, 1986). Within this framework, policy environments influence investment decisions not only through their direct effects on profitability but also through their influence on expectations about future policy stability. Economic policies define the regulatory, fiscal, and institutional context within which firms operate (Henisz, 2000). If investors expect that policy frameworks will remain stable over time, they can make long-term investment decisions with greater confidence. Conversely, if policies are perceived as volatile or subject to abrupt changes, the resulting uncertainty can discourage long-term investment (Brunetti & Weder, 1998).

The concept of credible commitment, developed within the institutional economics literature, provides an additional theoretical lens through which to understand this relationship. Credible commitment refers to the ability of governments or institutions to assure economic actors that announced policies will be maintained over time (North & Weingast, 1989). In the absence of credible commitment mechanisms, governments may face difficulties convincing investors that favourable policy conditions will persist after investments have been made. This challenge arises from the "time-inconsistency problem", where governments may have incentives to alter policies once investors have committed capital, particularly if political or fiscal pressures change (Kydland & Prescott, 1977). Institutional frameworks play an important role in addressing this challenge by constraining discretionary policy changes and establishing predictable rules for economic governance (Levy & Spiller, 1994). Legal systems, regulatory bodies, and administrative structures serve as mechanisms to uphold policy commitments over time. By reducing the likelihood of arbitrary policy changes, these institutional arrangements help align government actions with previously announced policies. In doing so, they enhance the credibility of policy commitments and reduce uncertainty about the future policy environment (Stasavage, 2002).

However, one cannot solely understand the credibility of policy regimes through formal institutional arrangements. Political economy perspectives emphasise that policy outcomes are also shaped by the interaction between political incentives, distributional conflicts, and institutional constraints (Alesina et al., 1996). Economic reforms often alter the distribution of benefits and costs across different groups within society. These distributional effects can generate political pressures that influence the sustainability of policy regimes over time (Fernandez & Rodrik, 1991).

Political leaders must balance competing interests when implementing or maintaining reforms. Groups that benefit from existing policy arrangements may resist reforms that threaten their interests, while governments may face incentives to modify policies in response to electoral considerations or shifting political coalitions (Persson & Tabellini, 2000). As a result, policy regimes often evolve through processes of negotiation, adjustment, and institutional consolidation rather than remaining fixed once introduced.

From a theoretical perspective, these dynamics imply that the credibility of policy frameworks emerges over time through the interaction between institutional constraints and political incentives. Economic actors form expectations about the reliability of policy commitments by observing how policy regimes evolve (Shepsle, 1991). Stable and predictable policy trajectories can signal that institutional and political mechanisms support the maintenance of existing policies. In contrast, environments characterized by frequent policy changes may signal that policy commitments are weak or subject to reversal. This process of expectation formation is central to understanding how policy regimes influence investment behavior. Investors must form beliefs about the likelihood that current policies will persist throughout the lifespan of their investments. Because many investments generate returns over extended periods, expectations about future policy stability become a key component of investment decisions (Serven, 1997). When policy frameworks are perceived as stable and credible, the uncertainty surrounding future returns is reduced, lowering the perceived risks associated with long-term investments.

These theoretical insights highlight the importance of distinguishing between the presence of policies and the credibility of the policy environment in which those policies operate. The mere existence of a policy framework does not necessarily guarantee that economic actors will perceive it as stable or reliable (Keefer & Knack, 1997). Instead, expectations about the durability of policy regimes play a central role in shaping investment incentives. By influencing perceptions of future policy stability, the credibility of policy commitments can affect both the timing and scale of investment decisions.

3. Data, Measurement, and Empirical Strategy

3.1 Empirical Strategy

This study draws on a panel dataset of African 47 countries covering the period 1990 to 2024, combining information on FDI, macroeconomic indicators, and institutional variables from established international sources to ensure cross-country comparability and consistency over time. Data on FDI inflows, expressed in current US dollars, as well as key macroeconomic variables, including GDP, inflation, exchange rates, population, sectoral composition, and price levels, are sourced from the World Development Indicators. Institutional indicators, specifically regulatory quality and government effectiveness, are drawn from the Worldwide Governance Indicators, which offer standardized measures of the quality of policy formulation and implementation, as well as the credibility of public institutions. Data on capital account openness are obtained from the Chinn-Ito Index. The dataset reflects inherent differences in data availability across countries and years, particularly for institutional variables; rather than imposing artificial balance through interpolation or imputation, the analysis retains observed data and excludes only those observations with substantial gaps in key variables, thereby preserving data integrity while maintaining as much temporal and cross-sectional variation as possible. All variables are aligned to a common time structure and, where appropriate, transformed to ensure comparability and interpretability across specifications.

This section outlines the empirical framework used to examine how policy variables shape investment outcomes. The approach is motivated by a central empirical challenge: policy changes are observed as current conditions but also interpreted as signals whose meaning depends on their consistency over time. Consequently, static specifications that treat policy variables as independently and contemporaneously informative cannot be fully elucidate the relationship between reforms and investment.

Empirically, this approach builds on three strands of the literature. First, a large body of work relates investment outcomes to measures of the policy and institutional environment, typically using indices of institutional quality or policy performance (e.g., Asiedu, 2006; Busse & Hefeker, 2007; Alfaro et al., 2008). Second, empirical models of investment commonly incorporate dynamic adjustment through lagged dependent variables, reflecting persistence and the gradual response of capital flows (e.g., Blundell & Bond, 1998). Third, related literature measures policy reforms using discrete changes or index-based approaches, often abstracting from the temporal evolution of policy regimes (e.g., Abiad et al., 2010; Prati et al., 2013).

The empirical strategy adopted here builds on these approaches but extends them by explicitly incorporating the temporal behaviour of policy variables and allowing policy trajectories to determine the effects of reforms on investments.

Standard empirical approaches typically relate investment to policy indicators, implicitly assuming that improvements topolicy conditions are fully credible and immediately reflect investor behaviour. While such specifications provide a useful benchmark, they abstract from an important feature of policy environments: identical policy changes may generate different responses depending on how they evolve . This paper adopts a different perspective by explicitly incorporating both the level and temporal behaviour of policy variables and allowing their interactions to shape investment outcomes.
The empirical strategy is therefore structured to isolate distinct but related dimensions of the reform-investment relationship. It begins by establishing whether policy levels are associated with investment, then incorporates dynamic adjustment, and ultimately models how policy trajectories condition the effectiveness of reforms.

The starting point of the analysis is a baseline specification that relates investment outcomes to the level of the policy environment:

$$FDI_{it} = \beta_1 ReformLevel_{it} + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

The dependent variable is measured as the logarithm of net foreign direct investment inflows. The key explanatory variable is constructed as a composite index capturing the overall quality of the policy environment. It aggregates multiple dimensions of institutional and policy performance, such as regulatory quality, government effectiveness, and financial openness, into a single measure. The construction of this index inherently indicates that higher values signify enhancements in the policy environment that are expected to lower investment risk and transaction costs. Note that the details of how all policy variables were constructed are detailed in the appendix of this paper.
The vector includes a set of control variables capturing macroeconomic and structural conditions, including economic growth, inflation, exchange rate dynamics, and sectoral composition. These variables account for alternative channels through which investment may be influenced, ensuring that the estimated effect of reforms reflects changes in policy conditions rather than broader economic fluctuations.
In this formulation, policy variables enter the model as observable signals. The specification establishes whether improvements in these signals are associated with changes in investment, without yet addressing how those signals are interpreted over time.

Investment as an Intertemporal Adjustment Process

Investment decisions are inherently dynamic, reflecting persistence, adjustment costs, and the accumulation of past commitments. To capture these features, the empirical framework introduces a lagged dependent variable:

The inclusion of this fact captures the persistence of investment flows. This reflects the fact that investment projects are often multi-period in nature and that past investment activity can influence current decisions through established networks, sunk costs, and informational spillovers.

In addition, lagged policy variables are introduced:

$$lnFDI_{it} = \rho lnFDI_{it-1} + \beta_1 ReformLevel_{it} + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

The lagged reform variable allows the model to capture delayed responses to policy changes. In practice, investors may wait to observe whether reforms are maintained before adjusting their investment decisions. Including both contemporaneous and lagged policy variables therefore allows the model to distinguish between immediate and evolving effects of reforms.

Distinguishing Policy Levels from Policy Trajectories

While the reform index captures the level of the policy environment, it does not convey information about how policies evolve. To address this, the analysis introduces a measure of policy durability, denoted $durability_{it}$

This variable is constructed to capture the temporal behaviour of reforms, specifically the extent to which policy improvements are sustained, reversed, or subject to volatility over time. Operationally, durability reflects the persistence of positive changes in the reform index, penalising instances where reforms are followed by reversals or sharp fluctuations.

$$lnFDI_{it} = lnFDI_{it-1} + \beta_1 ReformLevel_{it} + \beta_2 Durability_{it} + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

The inclusion of $durability_{it}$ allows the model to distinguish between two policy environments with similar levels but different trajectories. One may reflect steady and sustained reform, while the other may exhibit frequent reversals. This distinction is critical for understanding how policy signals are interpreted.

Modeling Conditional Effects: From Additive to Interactive Relationships

If policy signals are interpreted in relation to their observed consistency, then the effect of policy levels may depend on their temporal behaviour.

To capture this, the model introduces an interaction between reform levels and durability:

$$lnFDI_{it} = \rho lnFDI_{it-1} + \beta_1 ReformLevel_{it} + \beta_2 Durability_{it} + \beta_3 (ReformLevel_{it} X Durability_{it}) + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

This specification represents a departure from conventional additive models. Rather than assuming that policy variables exert independent influences, it allows their effects to depend on one another. In this framework, durability is not interpreted as a standalone determinant but as a conditioning variable that modifies the impact of reforms.

This formulation provides an empirical representation of policy credibility. By allowing the effect of reforms to vary with their temporal consistency, the model captures how policy signals are interpreted in practice. It therefore shifts the analysis from estimating direct effects to identifying conditional relationships that reflect underlying behavioural mechanisms.

Alternative Representations of Policy Consistency

Because policy trajectories can be represented in different ways, the analysis incorporates alternative measures, including a composite credibility index. These measures provide different perspectives on how policy consistency may be reflected in the data.

The corresponding specifications take the form:

$$lnFDI_{it} = lnFDI_{it-1} + \beta_1 Credibility_{it} + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

and

$$lnFDI_{it} = \rho FDI_{it-1} + \beta_1 ReformLevel_{it} + \beta_2 Credibility_{it} + \beta_3 (ReformLevel_{it} X Credibility_{it}) + \gamma X_{it} + \mu_i + \delta_t + \varepsilon_{it}$$

These alternative formulations serve two purposes. First, they allow the analysis to assess whether the identified relationships depend on a particular construction of policy dynamics. Second, they reinforce the interpretation of credibility as a relationship between policy levels and their temporal behavior, rather than as a single standalone metric.

Assessing Specification Sensitivity

The final component of the empirical strategy evaluates the sensitivity of the results to alternative specifications. This includes testing nonlinear effects of policy variables, estimating models without dynamic components, and considering alternative measures of investment.

These exercises are designed to assess whether the identified relationships are robust to changes in functional form, model structure, and variable definition. They also provide insight into whether the mechanisms captured by the model are stable across different empirical settings.

Importantly, robustness is not treated as a purely technical exercise. Instead, it serves to validate the central premise of the framework: that the relationship between policy and investment is shaped not only by policy levels, but by how those policies evolve and interact over time.

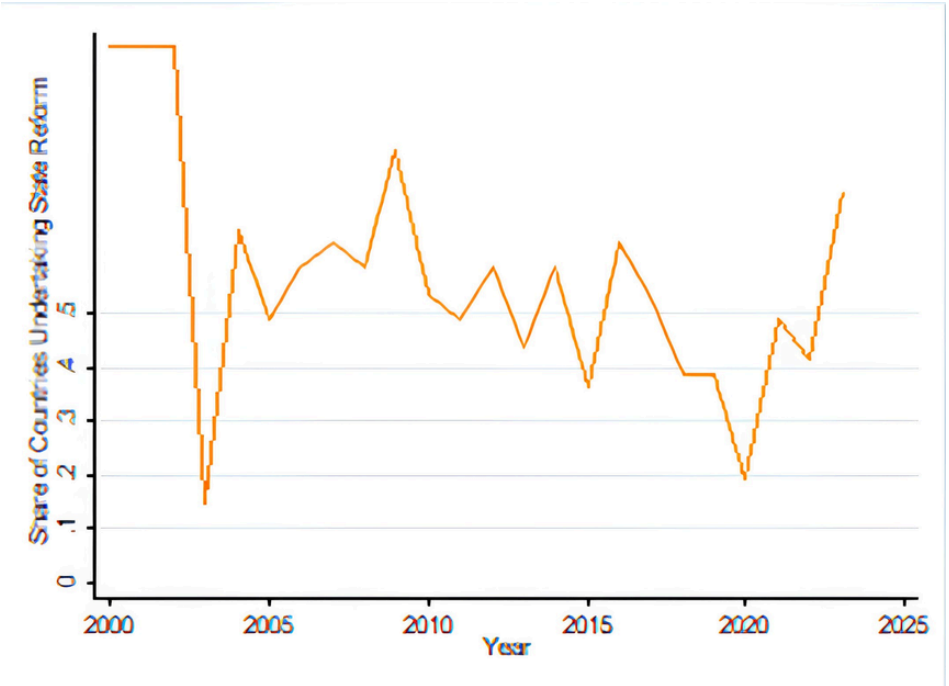
4. Data, Measurement, and Stylized Patterns

4.1 Stylized Facts on Reform Dynamics in Africa

The empirical patterns emerging from the data provide a more granular and structured understanding of how reform processes evolve across African economies. While reform is often presented as a cumulative process of gradual policy improvement, the evidence suggests a more complex reality in which reform implementation, persistence, and stability follow distinct and often disconnected trajectories. This distinction is important, as it shifts the focus from whether reforms occur to how they evolve once introduced.

Figure 1 represents a stylised fact that reform activity is irregular and episodic rather than continuous (figure 1). The time-series profiles of reform indicators across regulatory, state capacity, and capital account domains show that the share of countries undertaking reforms fluctuates over time, with no clear monotonic trend. Periods of relatively higher reform activity are followed by slowdowns, indicating that reform efforts are clustered rather than sustained.

Figure 1: State Capacity Reform Activity Over Time



Source: Authors' calculations based on the World Bank's Worldwide Governance Indicators and Chinn-Ito Index

This pattern suggests that reform is often driven by discrete triggers, such as macroeconomic adjustments, political transitions, or external pressures, rather than embedded in a stable, forward-looking reform trajectory. Importantly, the absence of a consistent upward trend implies that reform processes do not necessarily build cumulatively over time. Instead, each phase of reform appears partially independent of previous efforts, raising questions about the extent to which reforms are institutionalised.

A second and more consequential fact is that reform durability is systematically limited. The reform durability index has an average value of approximately 0.35 (on a 0-1 scale), with most observations concentrated within a relatively narrow band between 0.19 and 0.50. This indicates that policy environments are typically characterised by intermediate levels of stability, rather than either highly stable or highly unstable regimes.

The distribution of durability scores is informative in two respects. First, the clustering around moderate values suggests that limited durability is not driven by a small number of extreme cases but reflects a system-wide pattern. Second, the presence of observations spanning the full range, from very low to very high stability, indicate substantial heterogeneity in how reforms are sustained across countries and over time. This coexistence of clustering and dispersion suggests that while most countries face similar structural constraints, some are able to achieve higher levels of policy stability.

The time-series evolution of reform durability further reinforces this characterisation. The aggregate trend shows fluctuations within a relatively narrow range, without a clear upward trajectory toward more stable reform regimes. This lack of sustained upward movement is notable. It indicates that repeated reform efforts do not automatically translate into progressively more stable policy environments. Instead, durability appears to be reset or eroded over time, rather than cumulatively strengthened. This suggests that reform processes may be characterised by cycles of implementation and partial rollback, rather than long-term consolidation.

To better understand the sources of limited durability, it is useful to examine its underlying components: persistence, reversals, and volatility. Each of these captures a distinct dimension of how policy regimes evolve after reforms are introduced.

First, reform persistence is generally short-lived in institutional domains. Regulatory reforms and state capacity improvements persist, on average, for just over one year before weakening or reversing, whereas capital account reforms exhibit substantially longer persistence, averaging close to ten years. This divergence highlights a key structural feature of reform dynamics: the duration of reforms is strongly domain-specific. Reforms that involve discrete policy changes, such as capital account liberalisation, tend to exhibit longer persistence, while reforms that require continuous administrative effort, enforcement, and coordination, such as improvements in regulatory quality or government effectiveness, are more difficult to sustain over time. This suggests that the challenge of reform durability is closely linked to the institutional intensity of the reform itself.

Second, policy reversals occur with notable frequency, particularly in regulatory and state capacity domains. The probability of reversal is approximately 37% for both regulatory quality and government effectiveness, compared to around 2.5% for capital account reforms. This asymmetry is striking. It indicates that reversals are not rare events but constitute a recurring feature of policy dynamics, especially in areas where reforms are politically and administratively demanding. The relatively low reversal rate in capital account policies further underscore the distinction between reforms that can be codified through discrete decisions and those that require ongoing institutional commitment.

Table 1 : Reform Persistence, Reversals, and Volatility

	mean	sd	min	max
Regulatory reform persistence (consecutive years without decline)	1.278	1.754	0	11
Capital account reform persistence (consecutive years without decline)	9.789	6.88	0	23
State capacity persistence (consecutive years without decline in government	1.097	1.355	0	8
Binary indicator for reversal in regulatory quality.	0.372	0.484	0	1
Binary indicator for capital account reform reversal	0.025	0.157	0	1
Binary indicator for state capacity reform reversal	0.376	0.484	0	1
Regulatory policy volatility (5-year rolling standard deviation)	1.609	1.278	0.134	7.946
Capital account volatility (5-year rolling standard deviation)	0.0677	0.194	0	1.455
State capacity volatility (5-year rolling standard deviation of government effectiveness)	1.96	1.329	0.002	10.0722
Observations	1725			

Third, policy volatility remains present even in the absence of clear reform or reversal episodes. The rolling standard deviations of policy indicators, particularly for regulatory quality and state capacity, indicate that policy environments are subject to continuous fluctuations. This suggests that instability is not limited to identifiable reform events but is also embedded in the ongoing adjustment of policy settings. Such continuous variation implies that policy regimes are not only vulnerable to discrete changes but are also characterised by incremental shifts that can cumulatively affect their stability.

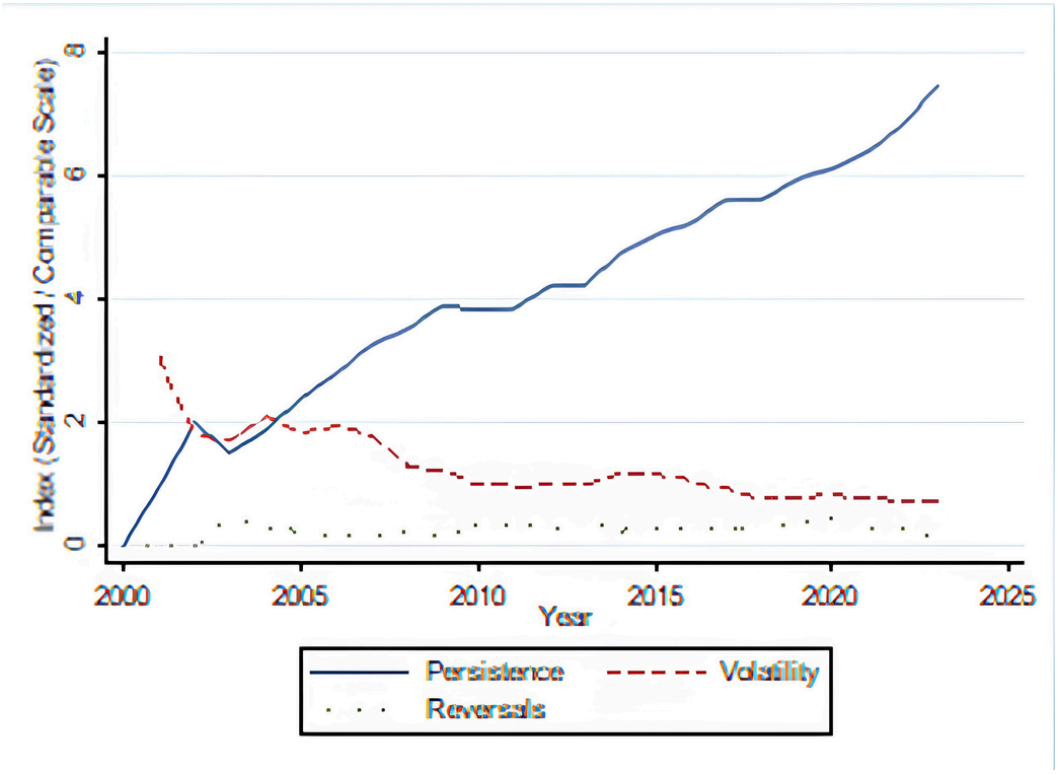
Taken together, these three dimensions, limited persistence, frequent reversals, and continuous volatility, point to a policy environment in which reforms are only partially consolidated. Rather than representing permanent shifts in policy regimes, reforms often appear as temporary improvements within an evolving and uncertain policy landscape. This interpretation is further reinforced by the behaviour of the reform credibility gap, defined as the divergence between reform levels and reform durability. While the mean of this gap is close to zero, its dispersion is large (standard deviation of approximately 1.86), with a wide range of values across observations.

The wide distribution of the credibility gap indicates that countries with similar levels of reform can exhibit very different levels of stability. This suggests that reform indicators based solely on levels may obscure important differences in how reforms are experienced and sustained over time.

A clearer picture of how credibility evolves emerges when the components of durability are examined directly. The joint dynamics of persistence and volatility indicate that the composition of stability is changing over time, even where aggregate durability remains relatively flat.

In particular, persistence exhibits a gradual upward trend (Figure 2), indicating that reforms are being maintained for longer periods once implemented. At the same time, volatility declines over time, suggesting a reduction in short-term fluctuations in policy indicators. These two movements operate in opposite directions within the composite index, helping to explain why aggregate durability shows limited trend variation despite underlying changes.
This implies that while the overall level of durability remains moderate, the quality of stability is evolving, with policy environments becoming less erratic and reforms exhibiting longer survival, even if they are not yet fully consolidated.

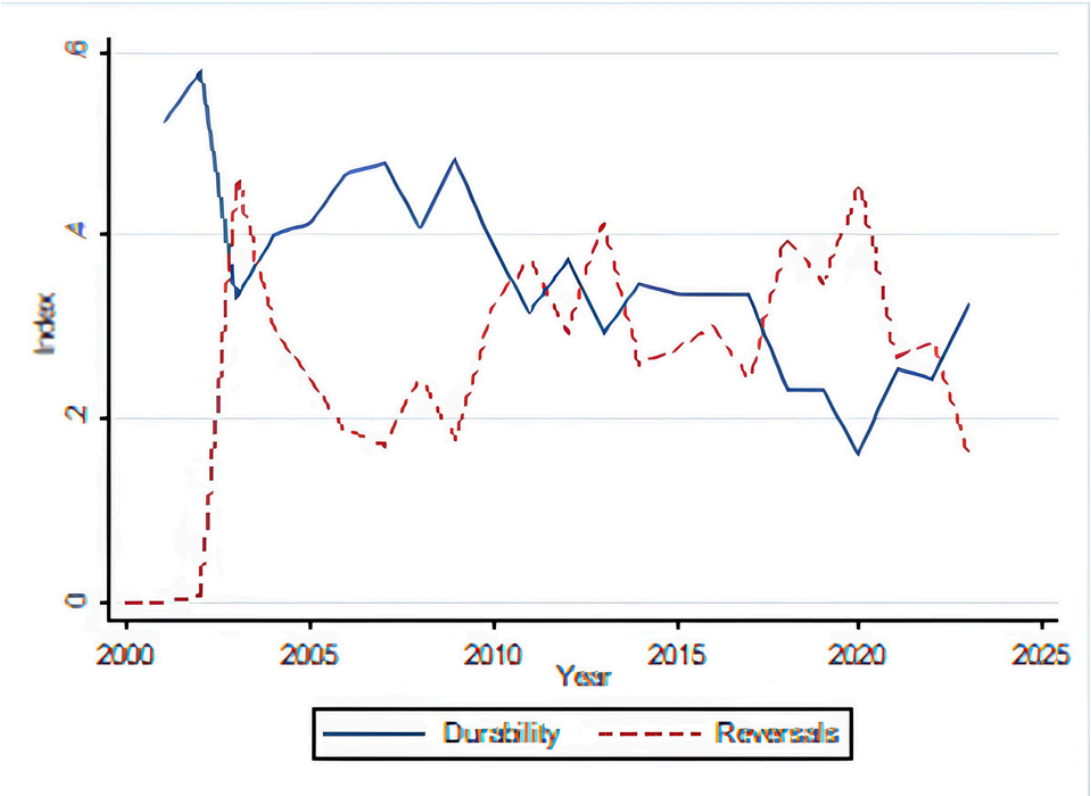
Figure 2: Dynamics of Reform Credibility Components



Source: Authors' calculations based on the World Bank's Worldwide Governance Indicators and Chinn-Ito Index

The joint evolution of durability and reversals (Figure 3) provides additional insight into these dynamics. Periods characterised by higher reversal rates tend to coincide with lower durability, indicating that these components move closely together.

Figure 3: . Reform Credibility Vs Reversals



Source: Authors' calculations based on the World Bank's Worldwide Governance Indicators and Chinn-Ito Index

This co-movement suggests that changes in policy stability are closely tied to the frequency of policy reversals, rather than to gradual improvements or declines in persistence alone.

Finally, disaggregated reform indicators show that reform dynamics vary systematically across policy domains. Capital account reforms tend to exhibit greater persistence and lower reversal rates, while regulatory and state capacity reforms are more episodic and subject to greater fluctuation. This reinforces the view that reform processes are not homogeneous, but instead reflect different underlying dynamics depending on the nature of the policy domain.

5. Econometric Results

The empirical results provide a structured and internally consistent account of how policy environments shape investment outcomes across African economies. Rather than restating the estimation approach, this section focuses on interpreting the econometric results and drawing out their implications for how investors respond to policy changes in practice. Three broad insights emerge from the analysis. First, improvements in the policy environment are consistently associated with higher investment. Second, investment responses are inherently gradual and shaped by past conditions, reflecting the forward-looking and irreversible nature of capital decisions. Third, and most importantly, the effectiveness of reforms depends not only on their level but also on whether they are perceived as credible, meaning that they are sustained, predictable, and embedded in a stable policy trajectory over time.

5.1 Do Improvements in the Policy Environment Attract Investment?

The baseline results show a clear and robust relationship between improvements in the policy environment and increases in investment inflows. Across all specifications, countries that experience improvements in regulatory quality, government effectiveness, and financial openness also experience higher levels of investment. This relationship remains stable even after accounting for macroeconomic conditions and structural characteristics of the economy. From an analytical perspective, this confirms a well-established but still important point: policy environments matter for investment decisions. However, the results go beyond simply reaffirming this relationship. Because the analysis focuses on changes within countries over time, it shows that investment responds to movements in policy conditions rather than just differences in levels across countries. In other words, investors are sensitive not only to where a country stands, but to the direction in which it is moving.

From a policy standpoint, this distinction is critical. It suggests that even countries starting from relatively weak institutional positions can attract investment if they demonstrate credible improvements in policy conditions. Conversely, countries with relatively strong policy environments may experience weaker investment performance if reform momentum stalls or reverses.

The magnitude of the estimated effects further indicates that these relationships are economically meaningful. Improvements in the reform index are associated with non-trivial increases in investment inflows, reinforcing the idea that policy reforms are not merely symbolic, but have tangible effects on capital allocation decisions.

Table 2: Baseline Fixed Effects Estimates of the Impact of Policy Reforms on Investment

	(1)	(2)	(3)
	Baseline	+ Macro Controls	+ Full Controls
Reform Level Index	0.330**	0.326**	0.288**
	(0.122)	(0.124)	(0.117)
Log GDP		0.424	0.283
		(0.306)	(0.272)
EXCHR		-0.0000000000528	-0.0000000000507
		(3.19e-11)	(3.02e-11)
Inflation		-0.000956	-0.00175
		(0.00122)	(0.00111)
Log Population			2.366**
			(1.149)
Industry Share			0.00133
			(0.0148)
Agriculture Share			-0.0270**
			(0.0115)
Constant	18.04***	8.614	-24.99
	(0.159)	(6.793)	(17.53)
Observations	880	746	730
Within R^2			

5.2 Do Investors Respond Immediately, or do Investment Effects Unfold Over Time?

While the baseline results establish a strong relationship between reforms and investment, they do not fully capture how investment decisions unfold over time. The dynamic results provide important insight into this process.

A key finding is that investment exhibits strong persistence. In practical terms, this means that countries that have attracted investment in the past are more likely to continue attracting it in the future. This reflects several underlying mechanisms. Investment projects often involve long-term commitments, supply chain linkages, and follow-on investments that reinforce existing patterns. In addition, investors often rely on past investment activity as a signal of favourable conditions, leading to clustering effects.

At the same time, the results indicate that the impact of reforms is not immediate or one-off. Instead, the effects of policy changes are distributed over time. While current reforms have a positive association with investment, their full impact unfolds gradually as investors update their expectations and observe whether policy changes are sustained.

This can be understood as a process of "learning by investors". When reforms are introduced, investors do not immediately assume that they will persist. Instead, they observe how policies evolve before making large, irreversible commitments. As a result, investment responses tend to be gradual rather than instantaneous.

This dynamic adjustment process has important implications. It suggests that short-term evaluations of reform effectiveness may underestimate their true impact. It also implies that policy consistency over time is essential for sustaining investment responses.

Table 3: Dynamic Panel Estimates of the Relationship Between Policy Reforms and Investment

	(1)	(2)
	Dynamic FE	+ Lagged Reform
Lagged FDI (t-1)	0.262***	0.257***
	(0.0623)	(0.0646)
Reform Level Index	0.303**	0.211
	(0.116)	(0.242)
Log GDP	0.0639	0.0755
	(0.279)	(0.289)

EXCHR	-6.76e-11**	-6.98e-11**
	(2.87e-11)	(2.80e-11)
Inflation	-0.00126	-0.0012
	(0.000882)	(0.000845)
Log Population	2.181	2.225
	(1.346)	(1.421)
Industry Share	-0.00455	-0.0000695
	(0.0139)	(0.0125)
Agriculture Share	-0.0188**	-0.00827
	(0.00907)	(0.00858)
Lagged Reform Level		0.0767
		(0.218)
_cons	-21.33	-22.53
	(11.50)	(15.75)
Observations	674	645
Within R^2		

Standard errors in parentheses; Country and year fixed effects included; Standard errors clustered at the country level.
* p < 0.10, ** p < 0.05, *** p < 0.01

5.3 Does Policy Stability, on its Own, Attract Investment?

The next set of results examines whether policy stability, captured through the durability of reforms, has a direct effect on investment. At first glance, one might expect that more stable policy environments would automatically attract more investment. However, the results provide a more nuanced picture.

While policy stability is positively associated with investment, its independent effect is relatively modest once the level of the policy environment is taken into account. In other words, stability alone is not sufficient to attract investment if the underlying policy conditions are not favorable.

This finding helps clarify an important misconception. Stability is often treated as a standalone objective in policy discussions, with the implicit assumption that reducing volatility will automatically encourage investment.

The results suggest that this is only partially true. Stability matters, but primarily in relation to the quality of the policy environment.

From a practical perspective, this means that maintaining a stable but weak policy environment is unlikely to generate strong investment outcomes. What matters is not stability in isolation, but stability in the presence of meaningful and sustained reforms.

Table 4: Policy Reform Levels and Durability: Independent Effects on Investment

	(1)	(2)	(3)
	Reform Only	+ Durability	Dynamic
Reform Level Index	0.288**	0.355**	0.328***
	(0.117)	(0.134)	(0.118)
Log GDP	0.283	0.231	0.0411
	(0.272)	(0.327)	(0.278)
EXCHR	-0.0000000000507	-5.72e-11*	-7.48e-11**
	(3.02e-11)	(3.34e-11)	(2.86e-11)
Inflation	-0.00175	-0.00196*	-0.00136
	(0.00111)	(0.00116)	(0.000914)
Log Population	2.366**	2.966*	2.225*
	(1.149)	(1.725)	(1.318)
Industry Share	0.00133	-0.00219	-0.00439
	(0.0148)	(0.0164)	(0.0141)
Agriculture Share	-0.0270**	-0.0308***	-0.0192**
	(0.0115)	(0.0111)	(0.00907)
Reform Durability		0.0752*	0.0585*
		(0.0374)	(0.0331)
Lagged FDI (t-1)			0.256***
			(0.0639)

_cons	-24.99	-33.11	-21.37
	(17.53)	(25.22)	(18.01)
Observations	730	697	674
Within R^2			

Standard errors in parentheses; Durability captures persistence, reversals, and volatility; Stability alone has limited direct effect on investment.
* p < 0.10, ** p < 0.05, *** p < 0.01

5.4 Are Reforms More Effective when Credible?

The central contribution of the analysis lies in identifying how policy credibility shapes the relationship between reforms and investment. The results show that the impact of reforms is significantly influenced by whether those reforms are sustained over time.

When reforms are implemented in stable policy environments, their effect on investment is stronger. When reforms are subject to reversal or volatility, their impact is weaker. This pattern indicates that investors do not respond to policy changes at face value. Instead, they interpret reforms as signals about future policy conditions.

This can be understood in intuitive terms. A reform that is introduced but later reversed sends a very different signal than a reform that is maintained consistently over time. The former may be interpreted as temporary or politically fragile, while the latter signals commitment and reliability.
An important nuance in the results is that once this interaction is introduced, the direct effect of durability becomes negative. This does not imply that stability reduces investment. Rather, it reflects a shift in interpretation: durability does not independently attract investment but enhances the effectiveness of reforms. Without meaningful reforms, stability alone has limited value.

This distinction is particularly important for policy design. It suggests that credibility is built through the combination of reform and consistency, not through either element in isolation.

Table 5: Interaction Effects Between Policy Reforms and Durability: Evidence on Policy Credibility

	(1)	(2)
	Interaction	Dynamic Interaction
Reform Level Index	0.341**	0.321***
	(0.133)	(0.118)
Reform Durability	-0.0822**	-0.0639*
	(0.0387)	(0.0353)
Interaction of reform level with credibility	0.0385	0.0243

	(0.0257)	(0.0243)
Log GDP	0.241	0.0489
	(0.330)	(0.285)
EXCHR	-7.49e-11**	-8.59e-11***
	(3.42e-11)	(2.87e-11)
Inflation	-0.00208*	-0.00144
	(0.00118)	(0.000945)
Log Population	2.532	1.948
	(1.774)	(1.391)
Industry Share	-0.00225	-0.00439
	(0.0167)	(0.0142)
Agriculture Share	-0.0323***	-0.0202**
	(0.0115)	(0.00946)
Lagged FDI (t-1)		0.253***
		(0.0652)
_cons	-26.31	-17.02
	(15.65)	(17.78)
Observations	897	874
Within R^2		

Standard errors in parentheses; Durability captures persistence, reversals, and volatility; Stability alone has limited direct effect on investment.
*** p < 0.10, ** p < 0.05, *** p < 0.01**

5.5 Does the Credibility Result Hold Across Alternative Measures?

To ensure that the credibility mechanism is not driven by a specific measurement approach, the analysis considers alternative indicators of policy credibility. The results confirm that the core findings are robust across different formulations.

In particular, the credibility gap, which captures the difference between reform levels and their durability, emerges as a significant predictor of investment. This measure is especially informative because it reflects situations in which policy improvements are not matched by policy stability. Such mismatches appear to be particularly salient for investors, who may interpret them as signals of policy inconsistency.

By contrast, more aggregated measures of credibility provide weaker signals. This suggests that credibility is not easily captured by a single index but is better understood as a relationship between policy levels and policy trajectories.

For policymakers, the analysis highlights the importance of alignment. It is not enough to implement reforms; those reforms must be sustained in a way that is consistent with the signals they are intended to send.

Table 6: Alternative Measures of Policy Credibility and Investment Outcomes

	(1)	(2)	(3)
	Credibility Gap	Credibility Index	Interaction
Lagged FDI (t-1)	0.269***	0.277***	0.255***
	(0.0644)	(0.0628)	(0.0621)
Credibility Gap	0.0818**		
	(0.0339)		
Log GDP	0.077	0.122	0.0603
	(0.278)	(0.288)	(0.295)
Exchange Rate	-9.06e-11***	-8.13e-11***	-7.25e-11**
	(2.71e-11)	(2.77e-11)	(2.90e-11)
Inflation	-0.00150*	-0.0013	-0.0013

	(0.000843)	(0.000794)	(0.000909)
Log Population	2.391*	2.29	1.982
	(1.368)	(1.450)	(1.297)
Industry Share	-0.00467	-0.00523	-0.00413
	(0.0138)	(0.0136)	(0.0141)
Agriculture Share	-0.0247**	-0.0251**	-0.0188*
	(0.00929)	(0.00933)	(0.00937)
Credibility Index		0.0435	-0.0146
		(0.0638)	(0.0697)
Reform Level Index			0.299**
			(0.134)
Reform Level Index # Scores for component 1			-0.0408
			(0.0365)
_cons	-24.8	-24.27	-17.86
	(12.09)	(15.15)	(10.17)
Observations	874	874	874
Within R^2			

Standard errors in parentheses; Results are robust to alternative credibility measures; * p < 0.10, ** p < 0.05, *** p < 0.01

5.6 Do the Results Hold Under Alternative Specifications?

To ensure that the central findings are not driven by specific modelling choices or measurement assumptions, the analysis conducts a series of robustness checks that address key empirical concerns related to functional form, dynamic specification, and the measurement of investment outcomes. Rather than treating robustness as a mechanical exercise, these tests are designed to interrogate the underlying mechanisms identified in the baseline results.

A first concern relates to the possibility of nonlinearities in the relationship between reforms and investment. It is plausible that reforms may exhibit diminishing returns, particularly at higher levels of policy quality, where marginal improvements may be less visible or less impactful. To address this, the analysis introduces a squared term of the reform index. The results provide little evidence of systematic nonlinearity: the coefficient on the squared term is small and statistically insignificant, while the linear reform effect remains stable. This suggests that the impact of reforms does not weaken as policy environments improve. From a policy perspective, this is an important finding, as it indicates that continued reform efforts remain relevant even for countries that have already achieved relatively strong policy environments.

A second concern relates to the inclusion of lagged investment in the dynamic specifications. While the lagged dependent variable captures persistence and reflects the forward-looking nature of investment decisions, it may also absorb part of the variation attributed to reforms, potentially biasing estimates if not properly interpreted. To address this, the models are re-estimated without the lagged dependent variable. The results remain qualitatively unchanged, with the reform coefficient retaining both its magnitude and statistical significance. This indicates that the relationship between reforms and investment is not an artefact of dynamic specification, but reflects a stable underlying association.

A third concern relates to the measurement of the dependent variable. Much of the analysis focuses on foreign direct investment, which may respond differently to policy conditions compared to domestic investment. To assess whether the results generalise beyond external capital flows, the analysis is replicated using domestic investment, measured by gross fixed capital formation. The reform coefficient remains positive and statistically significant in this specification, indicating that the relationship between reforms and investment extends beyond foreign investors to broader investment behaviour within the economy. This suggests that the mechanisms identified, particularly those related to expectations and credibility, are not specific to international investors, but reflect more general features of investment decision-making.

In addition to these tests, the robustness analysis also revisits the role of policy stability and credibility under alternative specifications. The interaction between reform levels and durability remains positive across specifications, while the direct effect of durability remains weak or negative once interactions are introduced. This consistency reinforces the interpretation that stability does not independently drive investment, but operates by conditioning the effectiveness of reforms. The persistence of this pattern across alternative specifications provides further support for the credibility mechanism identified in the main results.

Taken together, these robustness checks address several potential concerns. They show that the results are not sensitive to assumptions about functional form, do not depend on the inclusion of dynamic elements, and are not confined to a specific measure of investment. More importantly, they reinforce the central interpretation of the paper: that investment responds to reforms in a manner that is both stable and systematically conditioned by the credibility of policy trajectories.

Table 7: Robustness Checks: Alternative Specifications and Measures of Investment

	(1)	(2)	(3)
	Nonlinear Reform	No Lag DV	Domestic Investment
Lagged FDI (t-1)	0.260***		
	(0.0619)		
Reform Level Index	0.293**	0.341**	0.112***
	(0.119)	(0.133)	(0.0371)
nonlinear reform index	0.0167		
	(0.0372)		
Log GDP	0.0601	0.241	0.0255
	(0.277)	(0.330)	(0.112)
Exchange Rate	-7.14e-11**	-7.49e-11**	0.000000000011
	(3.05e-11)	(3.42e-11)	(8.22e-12)
Inflation	-0.00122	-0.00208*	-0.000185
	(0.000885)	(0.00118)	(0.000253)
Log Population	2.262*	2.532	0.637
	(1.289)	(1.774)	(0.429)
Industry Share	-0.0046	-0.00225	0.00238
	(0.0139)	(0.0167)	(0.00401)
Agriculture Share	-0.0192**	-0.0323***	-0.00442
	(0.00932)	(0.0115)	(0.00669)
Reform Durability		-0.0822**	-0.00229
		(0.0387)	(0.0127)
Reform × Durability		0.0385	
		(0.0257)	
_cons	-22.52	-26.31	-7.434

	(11.64)	(15.65)	(11.043)
Observations	874	897	840
Within R^2			

Standard errors in parentheses; Results are robust to alternative credibility measures; * p < 0.10, ** p < 0.05, *** p < 0.01

6. Concluding Insights

The findings of this paper point to a fundamental shift in how policy reforms should be understood in the context of investment and development. While it is well established that improvements in the policy environment are associated with higher investment, the results demonstrate that this relationship is neither immediate nor automatic. Instead, investment responds to reforms through a process shaped by expectations, persistence, and, critically, the credibility of policy trajectories over time.

A first key implication is that reforms should be understood not as discrete policy actions but as signals. Investors do not respond to reforms solely on the basis of their content but on what those reforms reveal about the future direction of policy. This helps explain why similar reforms can produce very different investment outcomes across countries. Where reforms are perceived as part of a sustained and coherent policy trajectory, they generate stronger investment responses. Where they are perceived as temporary or reversible, their impact is significantly weaker.

This shifts the policy focus from implementation to interpretation. It is not sufficient for governments to adopt reforms; they must also shape how those reforms are perceived. In practice, this means that credibility becomes a central component of economic policy. Credibility is not an abstract concept, but an observable feature of policy behaviour, reflected in whether reforms are sustained, whether reversals are avoided, and whether policy changes follow a consistent trajectory over time.

A second implication relates to the role of time in the reform–investment relationship. The results show that investment decisions are inherently gradual and path-dependent. Investors adjust their behaviour as they observe how policies evolve, rather than reacting instantaneously to policy announcements. This has important consequences for how reform success is evaluated. Short-term assessments may underestimate the impact of reforms, particularly in environments where credibility is still being established. Conversely, early gains can dissipate if reforms are not maintained.

For policymakers, this underscores the importance of continuity. Reform strategies should be designed with a longer time horizon, recognising that credibility is built cumulatively rather than through isolated actions. This also implies that policy consistency across political cycles is critical. Frequent shifts in policy direction, even when individually justified, can undermine the broader credibility of the reform process and weaken its impact on investment.

A third and particularly important insight is that policy stability does not operate as an independent driver of investment. Stability matters, but only in relation to the quality of the policy environment. A stable but weak policy framework is unlikely to attract investment, just as strong reforms that are not sustained will fail to deliver their full impact. What matters is the interaction between reform and stability, which this paper conceptualises as policy credibility.

This has direct implications for reform design. Policy strategies should move beyond a focus on "doing reforms" toward ensuring that reforms are embedded within stable and predictable institutional frameworks. This includes strengthening mechanisms that reduce the likelihood of reversal, improving coordination across government agencies, and aligning short-term policy decisions with longer-term reform objectives. In effect, credibility must be treated as an outcome of policy design, not as a by-product.

The results also have important implications for how African economies position themselves in the global competition for capital. In an increasingly risk-sensitive environment, investors are not only comparing policy levels across countries, but also evaluating the reliability of those policies over time. Countries that are able to demonstrate consistent and sustained reform trajectories are therefore likely to have a competitive advantage, even if their starting conditions are less favourable.

This suggests that credibility can serve as a form of "intangible infrastructure" that shapes investment decisions in much the same way as physical infrastructure. Just as unreliable power or transport systems increase the cost of doing business, inconsistent policy environments increase the perceived risk of investment. Building credibility, therefore, should be seen as a core component of development strategy, alongside more traditional investments in infrastructure and human capital.

Another important implication relates to the absence of diminishing returns to reform. The results indicate that improvements in the policy environment continue to generate positive investment responses across the observed range. This challenges the notion that reform benefits taper off once a certain threshold is reached. For policymakers, this means that maintaining reform momentum remains valuable even in relatively advanced reform environments. In a global context where investors are increasingly selective, marginal improvements in policy quality and credibility can have meaningful effects on investment outcomes.

At the same time, the analysis highlights important constraints. The measures of policy credibility used in this paper are based on observed policy dynamics rather than direct measures of investor perceptions. In practice, investor expectations may also be influenced by political developments, external shocks, and country-specific narratives that are not fully captured in quantitative indicators. This points to the need for further work in developing more forward-looking measures of policy credibility and risk.

Despite these limitations, the central message of the paper is clear. Reforms create the conditions for investment, but it is the credibility of those reforms, built through consistency, persistence, and the avoidance of reversals, that determine whether those conditions translate into sustained investment outcomes.

For policymakers, the implication is not simply to reform, but to sustain reform in a way that is visible, predictable, and aligned over time. This requires moving beyond short-term policy cycles and toward institutional frameworks that support continuity and credibility. Countries that succeed in doing so are more likely to attract investment that is not only larger in scale, but also more stable and more aligned with long-term development objectives.

In this sense, the contribution of this paper lies not only in identifying the relationship between reforms and investment, but in reframing the policy challenge. The central question is no longer whether reforms matter, but how they are sustained, interpreted, and translated into credible signals for investors. In an environment where capital is increasingly sensitive to risk and uncertainty, that distinction may be decisive.

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Appendix A: Construction of Policy Variables

Core Policy Variables

The analysis uses three primary policy variables:

- Regulatory quality: $REGQ_{it}$
- Government effectiveness: $GOVTE_{it}$
- Capital account openness: $KAOPEN_{it}$

These variables capture complementary dimensions of the policy environment. Together, they define the institutional and regulatory conditions under which investment decisions are made.
Standardization of Policy Variables

Standardization of Policy Variables

$$z_x = \frac{x-\mu}{\sigma}$$

Where μ and σ are the mean and standard deviation of variable , respectively.
The standardized variables are $z\_regqual,\ z\_goveff,\ z\_kaopen$

Specifically, the first principal component is retained, capturing the largest share of common variation across policy variables.
This approach allows the data to determine the relative weights of each policy dimension, avoiding arbitrary aggregation. The resulting index represents the overall policy environment faced by investors.

Policy Changes

To capture reform dynamics, the analysis computes first differences:

$$d_x = x_t - x_{t-1}$$

These variables capture changes in policy conditions, reflecting the direction and magnitude of policy movement.

Defining Reform Events: Threshold-Based Approach

Observed policy changes can be decomposed as:

$$d_{x,it} = x_{it}^{true} + \varepsilon_{it}$$

Where x_{it}^{true} is the true policy change and ε_{it} represents measurement noise.
To isolate meaningful reforms, a τ threshold is introduced:
Reform occurs if $d_{x,it} > \tau$
Thresholds: $\tau_{reg} > 0.10$, $\tau_{gov} > 0.10$, $\tau_{capital} > 0.25$

The thresholds are grounded in three principles:

- Signal extraction: Ensures that small fluctuations driven by noise are excluded
- Investment theory: Investors respond only when policy changes exceed a minimum threshold ⬚*
- Institutional stickiness: Institutional variables evolve slowly, so only sufficiently large changes reflect genuine reform

Thus, the thresholds approximate:
$\tau \approx$ ⬚*

where ⬚* is the m $reversal\_index_{it} \frac{rev_{reg,it}+rev_{capital,it}+rev_{state,it}}{3}$

Reform Adoption Variables

Reform adoption is defined as:
$adopt_{x,it} = \{1\ if\ d_{x,it} > \tau\ 0\ otherwise$
The composite adoption index is:
$reform\_adopt_{it} = adopt_{reg,it} + adopt_{state,it} + adopt_{capital,it}$

Reform Reversals

Reversals are defined symmetrically:
$rev_{x,it} = \{1\ if\ d_{x,it} > -\tau\ 0\ otherwise$
The composite reversal index is:
$reversal\_index_{it} \frac{rev_{reg,it}+rev_{capital,it}+rev_{state,it}}{3}$

This captures policy backtracking and signals instability.

Reform Persistence

Persistence is defined recursively as:
$pers_{x,it} = \{pers_{x,it-1} + 1\ if\ d_{x,it} \geq 0\ 0 \qquad d_{x,it} < 0$
The composite persistence index is:

$$persistance\_index_{it} \frac{pers_{reg,it}+perse_{capital,it}+pers_{state,it}}{3}$$

This measures the duration of sustained reforms.

Policy Volatility

Volatility is measured using a rolling standard deviation:

$$sd_{x,it} = \sqrt{\frac{1}{5}\sum_{k=0}^{4} (x_{i,t} - \ddot{x})2}$$

$$volatility\_index_{it} = \frac{sd_{reg,it} + sd_{capital,it} + sd_{state,it}}{3}$$

Credibility Index

The credibility index is constructed as:

$$credibility_{it} = PCA(z_{persistence} - z_{reversal} - z_{volatility})$$

where reversal and volatility are inverted to reflect their negative contribution to credibility.

Reform Durability Index

Domain-specific durability is first constructed:

$$dur_{it} = PCA(z_{pers,x} - z_{rev,x} - z_{sd,x})$$

The composite durability index is:

$$reform\_durability_{it} = PCA(dur_{reg,it} - dur_{state,it} - dur_{capital,it})$$

Scaled Durability Index

$$reform\_durability\_scaled = \frac{x - min(x)}{max(x) - min(x)}$$

This rescales the index to lie between 0 and 1.

Credibility Gap

$$credibility\_gap_{it} = (reform\_level_{reg,it} - refor\_durability_{it})$$