Disaggregating Country Risk, Industry Exposure, and Required Returns in Emerging Markets

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Introduction

The Misallocation of Risk in Emerging Markets

Emerging and frontier markets occupy an uneasy position in global capital allocation. On the one hand, they demonstrate rapid population growth, limited capital, and substantial scope for productivity gains. These structural features should, in principle, support high marginal returns on investment (World Bank, 2023). On the other hand, these same markets are consistently priced as uniformly high risk. Elevated costs of capital suppress investment and slow convergence. Although this tension between theoretical attractiveness and observed pricing is well recognized, it remains unresolved in both academic research and investment practice.
Standard asset-pricing theory provides a clear benchmark. A globally diversified investor should allocate capital toward markets that offer high expected returns while improving portfolio diversification, particularly when returns are weakly correlated with global risk factors (Harvey, n.d.; Stulz, 1994). Within a CAPM-style framework, required returns are determined by exposure to systematic risk, defined by covariance with global shocks, rather than by local volatility or national classification. In practice, however, emerging markets continue to carry large and persistent country risk premia. This occurs even when the measured exposure to global capital cycles is modest, and the benefits of diversification are substantial (Horn et al., 2017). The difference between theoretical expectations and observed pricing behavior forms the first element of the puzzle.
A second tension comes from how risk is applied in valuation. Although there is a theoretical emphasis on systematic risk, investment analysis in emerging markets relies heavily on country-level risk adjustments. A single-country risk premium, commonly derived from sovereign bond spreads or governance indicators, is applied uniformly across firms and industries within a nation. As a result, required returns in emerging markets frequently exceed those in developed markets by wide margins. In some cases, they reach levels that render otherwise viable projects unattractive (Damodaran, 2025; Horn et al., 2017). This approach persists even when empirical estimates of global betas indicate that country-level exposure is only weakly correlated with global market movements. This calls into question whether risk is being priced at the appropriate level of aggregation.
A third stylized fact draws attention to the depth of the problem. The literature documents that cost-of-equity estimates for the same emerging-market firm can differ by more than 20 percentage points depending on the selected risk pricing methodology (Horn et al., 2017). This variation is not a minor technical issue. It leads to materially different valuation outcomes and investment decisions under models that are widely considered standard. The presence of such wide dispersion suggests that fundamental aspects of how risk is identified, located, and priced in emerging markets remain unsettled.
Taken together, these observations show a joint inconsistency. Emerging markets combine strong structural growth potential with meaningful diversification benefits. Yet they face uniformly high required returns and unstable valuations under prevailing country-level risk-pricing frameworks. Resolving the inconsistency in question does not require abandoning

established asset pricing theory. Instead, it requires revisiting a foundational assumption embedded in current practice, namely that the nation-state is the correct and sufficient unit for conceptualizing and pricing risk.

Country-level risk pricing assumes that macroeconomic, monetary, fiscal, and political shocks affect all firms and industries within a country in broadly similar ways. This assumption is embedded in empirical practice through the use of country risk premia and sovereign benchmarks. It is additionally strengthened by macroeconomic models that abstract from sectoral composition (Phylaktis & Xia, 2001; Raddatz & Rigobon, 2003). Both theory and evidence, however, suggest that this form of aggregation obscures the sources of risk in firm cash flows. Macroeconomic shocks operate through specific transmission channels, including pricing power, cost pass-through, foreign exchange exposure, credit sensitivity, and demand composition. These channels vary substantially across industries and firms (Ehrmann & Fratzscher, 2004; Hassan et al., 2019).

When risk is priced at the country level rather than at the level of these transmission channels, required returns become distorted. More resilient sectors with stable pricing power or limited external exposure are penalized, while more fragile sectors may not be adequately priced for their actual vulnerability. In this sense, the country risk premium functions as a false average. It is convenient, but economically misleading. Its persistence reflects analytical tractability, historical precedent, and institutional embedding within global asset allocation paradigms rather than conceptual precision (Harvey, n.d.; Horn et al., 2017).

This paper argues that the central issue in emerging-market risk pricing is not excessive volatility or underdevelopment, but the misallocation of risk across levels of aggregation. Risk is real, but it is neither uniform nor purely national. It lies in how industries translate macroeconomic shocks into cash flow volatility. Pricing risk as if it were uniformly national inflates required returns, distorts capital allocation, and contributes to persistent underinvestment.

The contribution of this paper is to make this misallocation explicit. Using Kenya as a case study, the analysis adopts a CAPM-consistent perspective for a globally diversified marginal investor. It analyzes how required returns change when country-level risk is decomposed into observable, industry-specific transmission channels. This introduction does not yet present empirical results. Its purpose is to establish why such a decomposition is theoretically justified, why prevailing country-level approaches are insufficient, and why Kenya offers an informative setting for testing whether reallocating risk from countries to industries yields more coherent pricing.

By framing emerging-market risk as a problem of measurement rather than magnitude, this paper lays the foundation for a re-examination of how risk should be conceptualized, quantified, and managed in high-growth economies. The sections that follow develop and implement an organized framework, evaluate its consequences for industry-level required returns, and assess how much of what is commonly labeled country risk can be traced to identifiable economic processes functioning within national borders.

Literature Review

Country Risk as a Shortcut—and Its Limits

A large body of research in international finance and asset pricing has converged on country-level risk measures as the primary tool for pricing investment in emerging markets. These approaches, most notably country risk premia, sovereign default spreads, and composite governance indices, form a coherent and internally consistent framework. They are designed to tackle a specific and non-trivial problem: estimating required returns in environments defined by market segmentation, limited data availability, and institutional heterogeneity. Rather than being ad hoc, country-risk models represent a disciplined response to the informational and real-world challenges faced by global investors.

At the core of this framework lies the premise that the national environment is a first-order determinant of investment risk. Sovereign default spreads, for example, are widely used as proxies for country risk because governments and firms are exposed to the same political, legal, and macroeconomic conditions. As Horn et al. (2017) explain, sovereign spreads provide a continuously updated, market-based signal of risks arising from weak institutions, policy uncertainty, and macroeconomic fragility. These risks are often difficult to observe directly at the firm level in many emerging economies. Country risk premia are constructed in a similar spirit, typically by anchoring valuations to developed-market benchmarks and applying an additional adjustment that reflects the perceived riskiness of the local environment (Damodaran, 2025).

This logic is particularly compelling when constraints within the data are binding. In many emerging markets, firm-level return histories are short, illiquid, or discontinuous. Accounting data may be inconsistent, and sector classifications often change over time. Under these conditions, estimating firm-specific betas or cash-flow sensitivities using standard asset-pricing techniques is frequently infeasible. Country-level measures address this drawback by relying on observable and comparable indicators, such as sovereign yields, macroeconomic volatility, and governance scores, that can be applied consistently across markets (Horn et al., 2017). In this sense, country-risk approaches are not simply convenient approximations. They are practical solutions to a binding informational problem.

Country-level risk pricing is also theoretically coherent within models of segmented or partially integrated capital markets. In such settings, the relevant source of systematic risk is defined at the national level rather than the global one. Harvey (n.d.) notes that when markets are segmented, assets are priced relative to the variance of the national market portfolio. Under these assumptions, all domestic firms share a common country-specific risk component. Applying a single country risk premium across firms is therefore analytically justified. Early empirical work reinforced this perspective by showing that country effects explained more variation in international equity returns than industry effects, further entrenching the country as the dominant unit of analysis (Phylaktis & Xia, 2001).

Beyond theory and data availability, country-risk approaches persist because they correspond closely with institutional practice. Global asset managers, regulators, and benchmark providers organize portfolios, mandates, and reporting structures along national lines. Governance indices and composite risk scores intentionally aggregate political, economic, and financial information into single metrics to facilitate cross-country comparison at scale. These tools function as first-pass screening devices, enabling investors to address the threshold question of whether capital

should be allocated to a country at all (Harvey, n.d.). For this purpose, abstraction and standardization are not shortcomings but design features.

The coherence of country-risk models, however, rests on a set of implicit assumptions that limit their analytical reach. Most importantly, they assume that macroeconomic and institutional shocks are transmitted broadly and uniformly across firms and industries within a country. While this assumption is rarely stated explicitly, it is embedded in the use of aggregate macroeconomic indicators and representative-agent frameworks that abstract from internal economic structure. Sectoral macroeconomic research has long demonstrated that aggregate responses to shocks can mask substantial divergence across industries, particularly when pricing power, cost structures, and financial dependence differ (Lawson & Rees, 2008).

Country-risk models also abstract from several well-documented channels through which risk is transmitted unevenly within an economy. Pricing power and cost pass-through vary sharply across sectors, shaping how inflation and exchange-rate movements affect cash-flow volatility. Balance-sheet exposure and input composition, especially reliance on imported intermediates, influence firm-level sensitivity to currency fluctuations in ways that sovereign spreads cannot capture. Monetary policy shocks, although frequently portrayed as national phenomena, have heterogeneous effects depending on industries' reliance on external finance and on working capital cycles (Ehrmann & Fratzscher, 2004). Fiscal risk similarly affects sectors with high exposure to government demand more directly than those driven by private or export demand. These mechanisms are well established in adjacent literatures but remain secondary in country-risk pricing because incorporating them would undermine analytical tractability and cross-country comparability.

The persistence of country-level aggregation, therefore, reflects a stable equilibrium shaped by theory, data limitations, statistical convenience, and institutional incentives. Country-risk approaches efficiently answer their intended question: what return is required to invest in a country at all. Their limitation becomes apparent only when the analytical objective changes. Once the decision margin shifts from country entry to capital allocation within a country, the sufficiency of national risk measures breaks down. By construction, country-risk models are unable to address how risk and required returns vary across industries, which sectors absorb or amplify macroeconomic shocks, or how cash-flow resilience differs within a shared institutional environment.

In this sense, country-risk approaches are analytically incomplete rather than incorrect. They are sufficient for national-level pricing decisions faced by a marginal global investor, but insufficient for questions concerning the internal distribution of risk and returns. Recognizing this boundary does not weaken the literature. It clarifies its domain of applicability. This paper's contribution builds directly on that clarification. Rather than replacing country-risk pricing, the analysis treats it as a first step and then relaxes its sufficiency assumptions to examine how macroeconomic risk is transmitted through industry-specific channels. In doing so, the paper broadens the analytical focus from whether to invest in an emerging market to where, within that market, risk-adjusted investment opportunities are most likely to be found.

Conceptual Framework

From Country Labels to Risk Transmission Channels

This paper's conceptual framework reframes emerging-market risk away from geography and toward exposure. Rather than treating countries as homogeneous risk objects, it focuses on how macro-financial shocks translate into cash flows through measurable channels. The central shift is from pricing location to pricing covariance. This is not a matter of methodological taste, but a theoretical requirement once risk is defined in terms of covariance with priced shocks rather than total volatility or national classification.

In canonical asset-pricing models, risk is defined by an asset's contribution to the risk of a diversified portfolio. Within the Capital Asset Pricing Model (CAPM), only systematic risk, measured as covariance with the market portfolio, earns a risk premium. Idiosyncratic volatility is diversifiable and therefore not priced (Fama & French, 2004). Geography plays no direct role in this logic. An asset is risky not because it is issued in a particular country, but because it performs poorly in states of the world where investors' marginal utility is high.

International extensions of CAPM preserve this principle. In integrated or partially integrated markets, expected returns are determined by covariance with global risk factors or state variables that shape future investment opportunities and consumption (Stulz, 1994). Countries matter only to the extent that institutions, policy regimes, and economic structure influence how global and local shocks affect asset cash flows. Country risk premia, sovereign spreads, and governance indices operate as practical proxies for these exposures under data and institutional constraints, but they do not change the theoretical object being priced, which remains exposure to adverse states of the world (Harvey, n.d.; Horn et al., 2017).

A key distinction underlying the framework is between the source of macro-financial shocks and their incidence. Country-level institutions such as central banks, treasuries, legal systems, and sovereign balance sheets are the origin of many relevant shocks, including monetary tightening, fiscal stress, inflation surprises, and exchange-rate movements. In this sense, country-level risk measures correctly identify where shocks arise.

The economic consequences of these shocks, however, are realized through their incidence on firm- and industry-level cash flows. Exposure reflects how revenues, costs, financing conditions, or discount rates respond to a given shock. This sensitivity varies systematically across industries because of structural characteristics such as pricing power, capital intensity, input composition, leverage, and demand dependence. As a result, two firms operating under the same national institutions can face very different systematic risk profiles if their industries translate macro shocks into cash flows in different ways (Fama & French, 2004).

This distinction is strongly aligned with the logic of asset pricing. Risk is priced because of covariance with shocks, not because shocks exist. Country labels describe the environment in which shocks originate, while industry exposure determines how those shocks affect valuation.

The framework focuses on macro-financial shocks that are economically primitive, in the sense that they directly affect cash flows or discount rates and cannot be reduced to simpler mechanisms. These include interest-rate shocks, exchange-rate movements, inflation surprises, fiscal stress, and external liquidity conditions.

Interest-rate shocks directly influence borrowing costs, balance-sheet constraints, and investment decisions, with effects that differ across industries depending on capital intensity and reliance on external finance (Ehrmann & Fratzscher, 2004; Lawson & Rees, 2008). Exchange-rate movements affect traded-goods sectors through export revenues and imported input costs, while leaving non-traded sectors relatively insulated (Phylaktis & Xia, 2001). Inflation shocks matter because equity represents a claim on nominal cash flows. Unexpected inflation alters real earnings and discount rates, with sector-specific effects shaped by differences in pricing power (Mankiw & Shapiro, 1984; King, 2023). Fiscal stress transmits through government demand, regulation, and payment cycles, having a greater impact on industries that depend on public expenditure or policy discretion (Hassan et al., 2019).

These channels are considered primitive because their incidence varies systematically across industries and because they map directly into valuation-relevant outcomes. Country-level risk measures abstract from these mechanisms by averaging across heterogeneous exposures.

The analytical perspective adopted in this conceptual framework is that of a globally diversified marginal investor. Under this assumption, only non-diversifiable exposure to priced shocks commands a risk premium, while idiosyncratic volatility remains unpriced (Fama & French, 2004; Harvey, n.d.). Markets are treated as partially integrated. Country-level institutions and policies shape the sources of shocks, but they do not impose uniform risk across all firms operating within national borders (Stulz, 1994; Phylaktis & Xia, 2001).

Risk is therefore priced through cash-flow exposure rather than categorical labels. Industry-level sensitivities are interpreted as reduced-form measures of how macro-financial shocks translate into expected cash flows and discount rates, not as structural causal parameters. Measurement is imperfect, though informative, and consistent with standard empirical practice in finance (Hassan et al., 2019).

The framework also has clear boundaries. It does not seek to replace country risk premia, which remain useful for entry-level investment decisions under conditions of insufficient data and institutional frictions (Horn et al., 2017). It does not aim to predict short-run returns, explain the origins of macroeconomic shocks, or offer normative investment prescriptions. Political tail risks, firm-specific governance issues, and nonlinear crisis dynamics are acknowledged but lie outside the scope of the analysis.

By separating shock sources from shock incidence, the framework makes clear why country-level risk pricing is internally coherent yet analytically incomplete. Country risk measures summarize where macro risk originates, while industry-level exposure determines who ultimately bears that risk. Pricing risk solely at the national level, therefore, conflates source with incidence. Reframing risk in terms of exposure to transmission channels preserves the logic of established asset-pricing theory while opening space to examine heterogeneity in required returns within countries, without pre-empting empirical conclusions.

Data and Measurement Strategy

This section explains how macro-financial risk is translated into empirically observable, industry-level exposure measures in a data-constrained emerging-market setting. The goal is not to estimate structural parameters or establish causal effects. Instead, it is to construct a transparent and reproducible measurement framework that links priced macro-financial shocks to differences in cash-flow vulnerability across industries. Consistent with established practice in empirical finance, the approach relies on imperfect but informative proxies, explicit normalization, and clearly defined analytical boundaries.

Unit of Analysis: Industry-Level Exposure

The empirical framework uses the industry, rather than the firm or the country, as the primary unit of analysis. This choice reflects a familiar trade-off in macro-finance between granularity and signal quality. Firm-level data, while conceptually precise, are often dominated by idiosyncratic noise and severe data gaps in emerging and frontier markets. Country-level aggregates, by contrast, eliminate economically meaningful variation by construction. Industry-level aggregation offers an empirically defensible middle ground. Belo et al. (2011) show that averaging across firms within industries reduces idiosyncratic noise and allows systematic differences in cash-flow exposure, such as dependence on government demand, to be identified more clearly. Similarly, Ehrmann and Fratzscher (2004) demonstrate that industry affiliation is a first-order determinant of equity responses to monetary policy shocks, even after controlling for firm-level balance-sheet characteristics. Together, these findings support industry aggregation as the lowest level at which macroeconomic shocks systematically and measurably transmit into cash flows.

Data Sources and Industry Construction

Industry-level exposure measures are constructed using Supply and Use Tables (SUTs), Input–Output (IO) data, and national accounts, rather than relying solely on financial-market returns. This reflects the conceptual objective of measuring cash-flow transmission rather than asset-price co-movement.

The primary structural foundation is the Africa Supply and Use Tables (ASUT) database (Mensah & De Vries, 2024), which provides harmonized industry-level data on output, intermediate consumption, imports, exports, and government demand. Where required, ASUT industries are concorded to Kenya National Bureau of Statistics (KNBS) production accounts using transparent aggregation rules. These concordances involve deliberate and documented merges, such as combining professional, administrative, and ICT activities into a single business services category, to preserve economic meaning while limiting classification noise.

This approach is consistent with international best practice. The United Nations (2018) defines SUT and IO frameworks as the standard architecture for linking production, income, and expenditure accounts. To reduce the effects of classification drift, the analysis prioritizes stable aggregation and within-classification comparisons, following Fort and Klimek (2018).

Channel-to-Proxy Mapping

Each macro-financial risk channel is mapped to observable industry-level proxies whose economic interpretation links the shock directly to expected cash flows.

Interest-rate and credit exposure are proxied using industry gross-output-to-intermediate-input ratios constructed from KNBS production accounts (KNBS, 2023), compared against lending rate indicators from the World Development Indicators (World Bank, 2024). This reflects the established result that the impact of monetary shocks is mediated by financial structure rather than geography (Ehrmann & Fratzscher, 2004; CGFS, 2024).

year	Lending interest rate (%)	Real_estate_gross_output_to_inputs_ratio	Wholesale and retail_output_to_inputs_ratio	Manufacturing_output_to_inputs_ratio
2010	14.3715	7.44	2.05	1.38
2011	15.04675999	7.34	2.05	1.38
2012	19.72340665	7.51	2.06	1.39
2013	17.31345769	7.59	2.09	1.40
2014	16.51393071	7.64	2.12	1.40
2015	16.08661379	7.53	2.13	1.42
2016	16.55963065	7.05	2.09	1.44
2017	13.66757252	7.05	2.16	1.41
2018	13.06075884	7.28	2.16	1.41
2019	12.44113289	7.23	2.17	1.41

Inflation exposure is proxied using industry gross-output-to-intermediate-input ratios constructed from KNBS production accounts (KNBS, 2023), combined with inflation measures from the World Development Indicators (World Bank, 2024). These ratios serve as reduced-form indicators of pricing power and cost pass-through, consistent with the pricing-power literature (Mankiw & Shapiro, 1984).

year	kenya_annual_inflation_rates	Real_estate_gross_output_to_inputs_ratio	Wholesale and retail_output_to_inputs_ratio	Manufacturing_output_to_inputs_ratio
2010	4.10%	7.44	2.05	1.38
2011	14.00%	7.34	2.05	1.38
2012	9.40%	7.51	2.06	1.39
2013	5.70%	7.59	2.09	1.40
2014	6.90%	7.64	2.12	1.40
2015	6.60%	7.53	2.13	1.42
2016	6.30%	7.05	2.09	1.44
2017	8.00%	7.05	2.16	1.41
2018	4.70%	7.28	2.16	1.41
2019	5.20%	7.23	2.17	1.41

Foreign-exchange exposure is captured along two dimensions. Import dependence is measured as imported intermediate inputs relative to total intermediate consumption using ASUT data (Mensah & De Vries, 2024). FX revenue intensity is computed from export shares using World Integrated Trade Solution (WITS) trade data (World Bank, 2022) and sector output from the ASUT data. Together, these measures allow construction of net FX positions by industry, covering both cost and revenue channels of exchange-rate shocks (Nydahl, 1999; Bartram et al., 2010).

Industry	%_of_imported_inputs_per_industry (import dependence)	fx_revenue_intensity (exports:sector output)
Real estate,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,…	14.24%	2.78%
Wholesale and retail trade; repairs	29.23%	17.59%
Accommodation and food service a	29.23%	14.97%
Manufacturing inc. Other manufac	31.22%	10.34%
Construction, inc. water supply, se	31.22%	6.20%
Mining and quarrying,Ä¶,Ä¶,Ä¶,Ä¶,…	3.96%	8.25%
Agriculture, forestry and fishing inc	1.96%	4.51%
Electricity, gas and water supply	14.31%	2.11%
Financial and insurance activities,	1.90%	3.61%
Business Services	1.90%	4.28%
Transportation and storage (inc. la	3.19%	0.51%

Fiscal exposure is proxied by the share of industry output attributable, directly or indirectly, to government final consumption. This measure is computed from ASUT government-demand

columns (Mensah & De Vries, 2024) and follows Belo et al. (2011) in mapping fiscal stress into cash-flow risk through input–output linkages rather than sovereign aggregates.

Industry	**Adjusted Government Consumption**	Total Output	Gov_Demand_Share
Real estate,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä	0	782934	0.00%
Wholesale and retail trade. Hospitality	1765	1491496	0.12%
Manufacturing	325	2523393	0.01%
Construction, inc. water supply, sewerage, w	0	1216274	0.00%
Mining and quarrying,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä	0	101629	0.00%
Agriculture, forestry and fishing inc. fishing &	47328	3934698	1.20%
Electricity, gas and water supply	0	431813	0.00%
Business Services	11675	650002	1.80%
Financial and insurance activities,Ä¶,Ä¶,Ä¶,.	6208	696452	0.89%
Transportation and storage	109	1404293	0.01%

Across all channels, proxies are interpreted as reduced-form indicators of exposure rather than structural parameters.

Normalization and Comparability

Exposure measures differ in units, scale, and dispersion, making normalization a substantive modeling choice rather than a cosmetic adjustment. Following the OECD (2008) methodology for composite indicators, all industry-level exposure measures are normalized using min–max scaling to the [0,1] interval within Kenya's industry cross-section, with higher values indicating greater fragility and higher implied required returns.

Industry	fx_fragility_score (0–1)
Real estate,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.29
Wholesale and retail trade; repairs,Ä¶,Ä¶,Ä¶,Ä¶,Ä	0.19
Accommodation and food service activities, inc. a	0.53
Manufacturing inc. Other manufacturing and repa	1.00
Construction, inc. water supply, sewerage, waste	0.99
Mining and quarrying,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.00
Agriculture, forestry and fishing inc. fishing & aqua	0.13
Electricity, gas and water supply	0.46
Financial and insurance activities,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.18
Business Services	0.14
Transportation and storage (inc. land transport, a	0.42

This normalization approach ensures unitless comparability across channels, supports linear aggregation, and facilitates interpretation in terms of relative vulnerability. Normalized values are understood as measures of exposure intensity rather than levels, consistent with best practice in applied asset pricing (Belo et al., 2011).

Aggregation and Weighting

Normalized industry exposures are combined using externally motivated channel weights derived from Kenya's aggregate risk composition. These weights reflect the relative importance of external liquidity and FX risk, fiscal stress, and monetary and inflation risk in explaining aggregate market risk, based on the observed macro-financial variance decomposition. The resulting composite exposure scores remain unitless but are scaled by aggregate risk contributions to allow comparison with country-level risk premia.

This aggregation preserves transparency and decomposability, in line with the OECD (2008) recommendation that composite indicators remain fit for decomposition.

Measurement Limits and Scope-Bounding

Several limitations are acknowledged explicitly. IO and national accounts data involve aggregation loss and benchmark rigidity (United Nations, 2018). Macroeconomic aggregates contain irreducible measurement error, even after revision (Chang & Li, 2015). Industry classifications are subject to artificial shifts due to reclassifications (Fort & Klimek, 2018). In addition, reduced-form exposures are regime-dependent and may evolve with financial integration or structural change (Harvey, n.d.; King, 2023).

For these reasons, exposure measures are interpreted as comparative, context-dependent rankings rather than as time-invariant structural coefficients. The framework does not claim causal identification, precise cost-of-capital estimation, or full asset-pricing completeness. Its aim is to decompose country-level risk into economically interpretable channels and to clarify how aggregate risk is distributed unevenly across industries.

Measurement Philosophy

The measurement strategy is consistent with a long-standing empirical principle in finance: meaningful inference does not require perfect data, but rather transparent proxies, explicit assumptions, and disciplined claims (Fama & French, 2004; Hassan et al., 2019). By emphasizing comparability, reproducibility, and scope discipline, the framework treats frontier-market data constraints as a condition to be managed, not as a reason to default to country-level labels.

Empirical Results I: Industry-Level Risk Heterogeneity

This section presents the first set of empirical results. The evidence shows that Kenya is not analytically indivisible from a risk-pricing perspective. Industries within the country exhibit materially different exposure to the same macro-financial shocks, and these differences are economically meaningful, structured, and persistent. They are not artifacts of aggregation noise or specification choice. Taken together, the results support the central claim that a single country-level risk premium masks substantial within-country heterogeneity in cash-flow risk.

Within-Country Dispersion in Industry Exposure

The analysis starts with a descriptive examination of cross-industry exposure distributions. Even before any formal modeling, the data reveal wide dispersion across all major risk channels (Getuba, 2026).

External exposure varies sharply across industries. Import dependence ranges from below 2 percent to more than 30 percent of intermediate inputs, while export revenue intensity spans from less than 1 percent to nearly 18 percent of sectoral output. Net foreign-exchange positions display especially large dispersion. Some industries hold strongly negative positions, implying net FX liabilities, while others maintain positive buffers. Coefficients of variation across these measures are high, indicating that differences are large relative to industry means.

Fiscal exposure is even more uneven. For most industries, government demand shares are close to zero. A small subset, however, exhibits materially higher exposure, producing a long right tail and a coefficient of variation exceeding 160 percent. This pattern implies that fiscal stress and procurement cycles operate as sector-specific risks rather than uniform national shocks.

Pricing-power proxies also show substantial heterogeneity. The gross-output-to-inputs ratio, measured over 2010–2019, ranges from roughly 1.4 to more than 7.6 across industries, with a coefficient of variation above 60 percent. Importantly, this variation persists over a full decade, pointing to structural rather than transitory differences in cost pass-through and margin stability.

Taken on their own, these distributions undermine the notion that Kenya can be priced using a single homogeneous premium. The relevant object for risk pricing is not a country average, but a set of industry-specific exposures to common shocks.

Industry Loadings on Common Macro-Financial Shocks

Reduced-form regressions linking industry cash-flow proxies to macro variables confirm that industries respond differently to identical shocks.

Inflation exposure varies sharply across sectors. Agriculture, utilities, transportation, and financial services exhibit strongly negative inflation betas, indicating high inflation fragility. Manufacturing, real estate, and wholesale and retail trade show muted or near-zero inflation betas, consistent with greater pricing discretion and cost pass-through. Because all industries face the same national inflation process, these differences indicate heterogeneous transmission rather than differences in shock incidence.

Interest-rate exposure displays a similar pattern. Financial services and transportation emerge as among the most interest-rate-fragile sectors, while real estate and business services appear relatively resilient. These differences are consistent with variation in balance-sheet structure, contract duration, and reliance on external finance, which are the core channels emphasized in monetary-transmission theory (Ehrmann & Fratzscher, 2004).

Industry	Industry_pricing_power_beta_vs_inflation	Industry_pricing_power_beta_vs_interest rates
Real_estate	-0.11	0.05
Wholesale and retai_hospitality	-0.64	-0.01
Manufacturing	-0.21	0.00
Construction	-1.13	-0.03
Mining and quarrying	-0.69	0.00
Agriculture	-7.51	0.00
Electricity, gas and water supply	-4.91	-0.03
Business_services	0.12	0.01
Financial_services	-6.23	-0.16
Transportation & Storage	-3.91	-0.05

Together, the dispersion in estimated betas and derived fragility scores shows that identical macro shocks translate into industry cash flows in systematically different ways. A single country-level premium cannot summarize this internal risk structure.

Industry	Inflation_fragility_score	interest_rate_fragility
Real_estate	0.03	0.00
Wholesale and retai_hospitality	0.10	0.30
Manufacturing	0.04	0.24
Construction	0.16	0.39
Mining and quarrying	0.11	0.26
Agriculture	1.00	0.26
Electricity, gas and water supply	0.66	0.38
Business_services	0.00	0.20
Financial_services	0.83	1.00
Transportation & Storage	0.53	0.49

Dominant Channels Driving Heterogeneity

To assess which macro channels account for the largest share of cross-industry heterogeneity, the analysis merges normalized exposure measures with reduced-form regressions linking macro variables to external capital sensitivity.

Three results support a clear ranking. First, regressions of foreign direct investment volatility on macro-financial indicators show that external-liquidity variables, particularly foreign-exchange reserves and the current-account balance, have the highest explanatory power. R^2 values are approximately 0.7 and 0.6, respectively, well above those for inflation or fiscal variables. Second, when signals are aggregated into a composite risk index using transparent and normalization-consistent weights, FX and external-liquidity factors account for roughly 65 percent of total explained variation. Monetary and inflation risk explain about 24 percent, while fiscal stress accounts for roughly 11 percent. Third, this ordering remains stable under alternative variable choices within each channel.

Channel dominance is interpreted in a reduced-form and comparative sense rather than as a causal decomposition. The results indicate which macro channels systematically explain more variation in industry-level exposure, not which shocks mechanically determine outcomes. This interpretation is consistent with composite-indicator practice and applied macro-finance norms (Leamer, 1983; OECD, 2008).

Weight table			
Risk Channel	**Variables Included**	**Combined R^2 (approx)**	**Factor Weight**
FX / External Liquidity	Reserves, Current Account, FX rate	**1.28**	65%
Fiscal Stress	Interest expense growth, debt service	**0.21**	11%
Monetary / Inflation	Inflation, Broad money, Credit	**0.48**	24%
Total		1.97	

Pricing Power and Cash-Flow Resilience

Pricing power appears as the central mechanism explaining why some industries are more resilient than others, even when operating under the same macroeconomic environment. Industries with stable gross-output-to-inputs ratios over 2010–2019, interpreted as stronger pricing-power proxies, consistently rank as less fragile to inflationary and interest-rate shocks. Manufacturing and business services show relatively low variation in output-input ratios and correspondingly higher resilience scores. Agriculture and transportation, by contrast, display high variation and near-maximal fragility.

Industry	avg_10yr_gross_outputs_to_inputs ratio (pricing power proxy)	Inflation_fragility_score	interest_rate_fragility
Real_estate	7.37	0.03	0.00
Wholesale and retai_hospitality	2.11	0.10	0.30
Manufacturing	1.40	0.04	0.24
Construction	1.65	0.16	0.39
Mining and quarrying	2.91	0.11	0.26
Agriculture	5.81	1.00	0.26
Electricity, gas and water supply	2.06	0.66	0.38
Business_services	1.89	0.00	0.20
Financial_services	4.06	0.83	1.00
Transportation & Storage	2.03	0.53	0.49

Because these patterns remain consistent over multiple macroeconomic cycles, they cannot plausibly be attributed to short-run coincidences or isolated shock episodes. Instead, they reflect durable structural differences in cost pass-through capacity. This interpretation is supported by a broad literature that treats markup stability and pricing power as first-order determinants of cash-flow resilience rather than statistical noise (Oliveira Martins et al., 1996; De Loecker & Eeckhout, 2021; Anderson et al., 2023).

Pricing power is therefore not a residual left over after other channels are considered. It is a core mechanism through which macro shocks generate heterogeneous cash-flow risk.

Internal Coherence and Falsification

The observed heterogeneity satisfies a strong falsification test. If dispersion were driven primarily by aggregation error, macro trend contamination, or fragile specification choices, industry rankings would appear unstable, economically opaque, or dominated by a single factor. Instead, the results show stable rank ordering, coherence across proxies, and alignment with economic priors.

Manufacturing, which is highly import-intensive and holds a negative net FX position, loads primarily on the external-liquidity channel, as predicted by open-economy macro-finance models. Agriculture, characterized by weak pricing power and volatile input costs, loads mainly on inflation and monetary instability. Fiscal exposure appears as a tail risk affecting specific industries rather than as an economy-wide driver, consistent with its relatively modest weight in the channel decomposition.

These patterns are inconsistent with null models in which Kenya can be priced as a homogeneous unit.

Scope and Interpretation

The results are interpreted with discipline. Industry betas and fragility scores are reduced-form measures that capture co-movement with macro shocks rather than structural parameters. Channel dominance reflects comparative explanatory power, not causal identification. Given

known measurement noise and aggregation loss in macroeconomic data, the strongest supported claims concern relative exposure, ranking, and economic coherence, not point-precise estimates of required returns.

Within this scope, the evidence is unambiguous. Kenya's industries load differently on identical macro-financial shocks, and those differences are large, persistent, and economically structured enough to matter for risk pricing.

Empirical Results II: From Fragility to Required Returns

Pricing Objective and Identification Posture

This section translates the previously documented industry-level fragility into differences in required returns from the perspective of a globally diversified marginal investor. The aim is not to estimate equilibrium prices of risk or to claim causal identification. Instead, the goal is to provide a transparent, theoretically grounded, and investor-relevant mapping from heterogeneous macro-financial exposure to incremental adjustments in hurdle rates.

Consistent with linear asset-pricing theory and applied valuation practice, required returns are decomposed into a shared systematic base, reflecting global or country-level risk, and an incremental industry-specific premium that captures differences in exposure to priced macroeconomic risks. All claims in this section are reduced-form, comparative, and sample-conditional. They are explicitly bounded to avoid overinterpretation (Leamer, 1983; OECD, 2008).

Why Industry Fragility Can Be Interpreted as Incremental Pricing Risk

Canonical asset-pricing frameworks provide a clear rationale for mapping heterogeneous exposure into additive adjustments to required returns. Under the International CAPM with partial segmentation, expected returns compensate investors for global systematic risk as well as residual local risk that is not fully spanned by global assets. In these models, required returns are written as the sum of a shared global component and an additive local premium (Arouri, 2009). Industry-level differences in exposure to macroeconomic shocks therefore translate naturally into incremental compensation rather than proportional scaling of the base hurdle.

A similar logic applies under the Intertemporal CAPM. Expected returns are linear in exposures to state variables such as inflation, interest rates, and external liquidity, which shift investment opportunities over time. Industries that covary more strongly with adverse macro states earn higher expected returns, even for globally diversified investors (Pennacchi, n.d.; Sarisoy et al., 2024).

Arbitrage Pricing Theory leads to the same conclusion. Expected returns are linear functions of factor loadings, while idiosyncratic risk is diversified away. Additivity is therefore not an assumption but a no-arbitrage implication, since each priced factor contributes independently to expected returns (Huberman & Wang, 2005).

Taken together, these frameworks justify an additive pricing rule in which required returns equal a shared systematic hurdle plus an incremental industry premium. The incremental component reflects relative exposure to priced macro-financial risks rather than independent or orthogonal sources of uncertainty.

From Unitless Fragility Scores to Basis Points: Scaling Logic

Industry fragility scores are constructed as normalized, unitless measures on the [0,1] interval. By construction, they cannot be interpreted directly as returns. The translation into basis points is therefore anchored externally rather than estimated from the data.

Three anchors discipline this mapping. First, observed country risk premium ranges provide an upper bound. In practitioner frameworks, the country risk premium represents compensation for non-diversifiable country-level risk, implying that industry-level adjustments must lie within this range and cannot plausibly exceed it (Damodaran, 2024). Second, historical evidence on cross-industry cost-of-equity spreads in emerging and frontier markets shows that differences are

typically measured in hundreds rather than thousands of basis points, providing an order-of-magnitude benchmark (Hourani et al., 2023). Third, applied valuation practice follows a build-up approach in which incremental risks enter additively as small, interpretable overlays on a base hurdle rate, emphasizing transparency and auditability over structural completeness (Pratt, 2002; OECD, 2008).

Under this logic, a fragility score is interpreted as a measure of relative exposure intensity. It is mapped into the return space by allocating a fraction of the externally observed risk premium range. No new price of risk is estimated.

Magnitude Discipline and Explicit Non-Claims

The pricing rule imposes strict discipline on magnitudes. Industry premia comparable to or exceeding the full country risk premium are explicitly ruled out, as are adjustments on the order of thousands of basis points or any construction implying that industry risk dominates global or country-level systematic risk.

These exclusions follow directly from CAPM and ICAPM intuition. Industry exposure represents a covariance adjustment rather than an independent source of total risk (Pennacchi, n.d.). Empirically, even in frontier markets, industry cost-of-equity spreads are meaningful but secondary relative to country risk (Hourani et al., 2023). Practitioner frameworks likewise treat industry premia as overlays rather than primary drivers of discount rates (Damodaran, 2024; Pratt, 2002). The resulting industry adjustments are therefore modest fractions of the base hurdle and consistent with both theory and observed practice.

Industry	Inflation_fragility_score	variation_output_to_input_fragility_score	interest_rate_fragility	average_monetary_fragility	monetary_risk_premium_pp	r
Real_estate	0.03	0.13	0.00	0.05	0.03%	
Wholesale and retai_hospitality	0.10	0.08	0.30	0.16	0.09%	
Manufacturing	0.04	0.00	0.24	0.10	0.05%	
Construction	0.16	0.36	0.39	0.30	0.17%	
Mining and quarrying	0.11	0.27	0.26	0.21	0.12%	
Agriculture	1.00	0.79	0.26	0.68	0.38%	
Electricity, gas and water supply	0.66	0.67	0.38	0.57	0.32%	
Business_services	0.00	0.33	0.20	0.18	0.10%	
Financial_services	0.83	1.00	1.00	0.94	0.53%	
Transportation & Storage	0.53	0.87	0.49	0.63	0.35%	

Industry	fx_risk_premium_pp
Real estate,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.43%
Wholesale and retail trade; repairs,Ä¶,Ä¶,Ä¶,Ä¶,Ä	0.29%
Accommodation and food service activities, inc. a	0.79%
Manufacturing inc. Other manufacturing and repa	1.49%
Construction, inc. water supply, sewerage, waste	1.47%
Mining and quarrying,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.00%
Agriculture, forestry and fishing inc. fishing & aqua	0.19%
Electricity, gas and water supply	0.68%
Financial and insurance activities,Ä¶,Ä¶,Ä¶,Ä¶,Ä¶	0.27%
Business Services	0.21%
Transportation and storage (inc. land transport, a	0.63%

Aggregating Multiple Channels Without Double Counting

Foreign exchange, inflation, and fiscal fragility are not priced as separate additive premia in return space. Instead, they are aggregated into a single composite fragility index that serves as a reduced-form proxy for systematic covariance with adverse macroeconomic states.

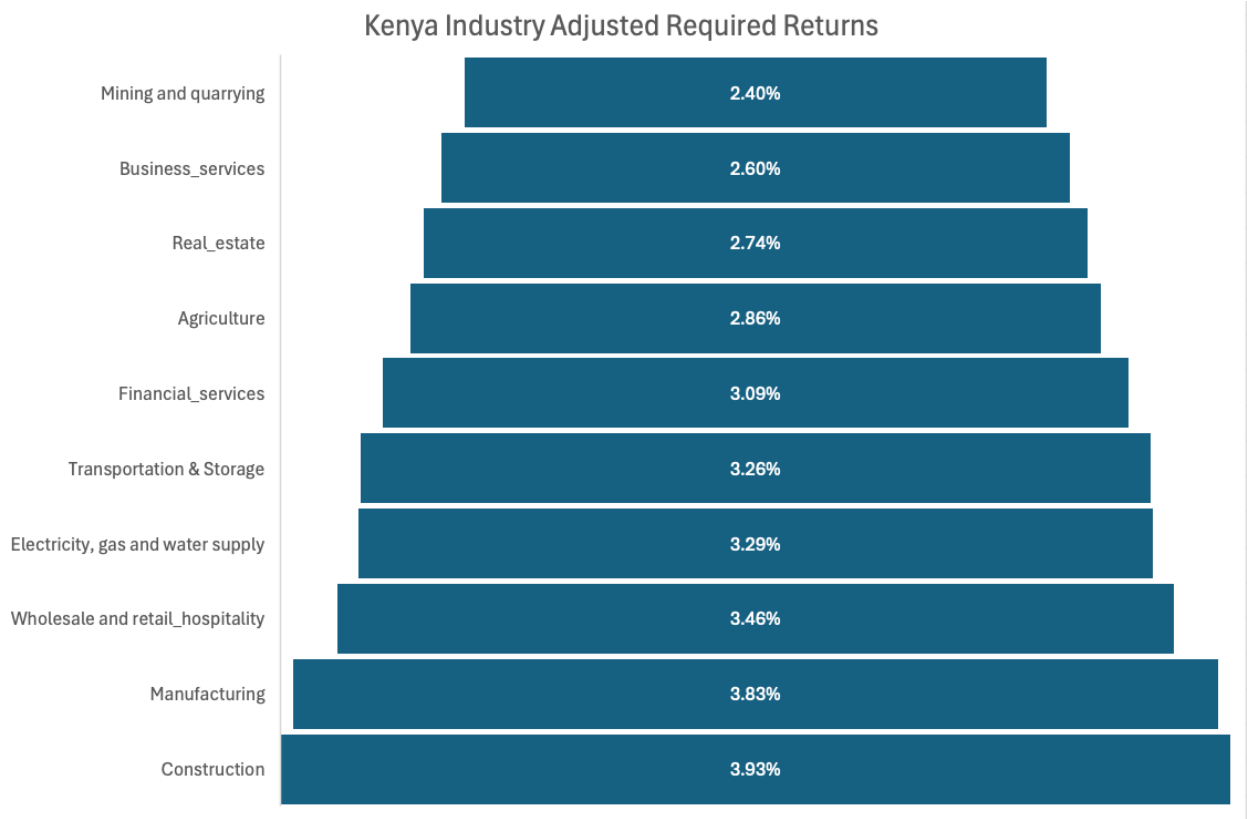
This aggregation avoids double-counting. A given macro shock often transmits simultaneously through exchange rates, financing conditions, and fiscal stress. Pricing each channel independently would implicitly assume orthogonality that does not exist. The approach is consistent with linear factor pricing, in which multiple exposures jointly determine expected returns through a single linear mapping (Huberman & Wang, 2005; Sarisoy et al., 2024). The final adjustment therefore, takes the form of one incremental return rather than a stack of mechanically additive premia.

Industry	kenya_base_required_return	fx_risk_premium_pp	gov_risk_premium_pp	monetary_risk_premium_pp	Industry_adjusted_required_returns
Real_estate	2.29%	0.43%	0.00%	0.03%	2.74%
Wholesale and retai_hospitality	2.29%	1.08%	0.00%	0.09%	3.46%
Manufacturing	2.29%	1.49%	0.00%	0.05%	3.83%
Construction	2.29%	1.47%	0.00%	0.17%	3.93%
Mining and quarrying	2.29%	0.00%	0.00%	0.12%	2.40%
Agriculture	2.29%	0.19%	0.00%	0.38%	2.86%
Electricity, gas and water supply	2.29%	0.68%	0.00%	0.32%	3.29%
Business_services	2.29%	0.21%	0.00%	0.10%	2.60%
Financial_services	2.29%	0.27%	0.00%	0.53%	3.09%
Transportation & Storage	2.29%	0.63%	0.00%	0.35%	3.26%

Investor Interpretation of the Results

The results are intended to be read in two complementary ways. First, as a pricing adjustment, they indicate that a given industry warrants approximately a specified number of basis points above or below the Kenya base required return, given its relative exposure to priced macroeconomic risks. Second, as a distributional statement, they place the industry within the upper or lower portion of the Kenya industry risk distribution.

They should not be interpreted as forecasts of realized returns, structural or causal estimates, or claims of equilibrium completeness. This combined interpretation is deliberate and mirrors how investors and valuation professionals typically reason about relative risk.



Implications and Boundaries

The empirical results imply that uniformly high hurdle rates are analytically unjustified. While Kenya carries meaningful country-level risk, industries within the country differ systematically in their exposure to priced macro-financial shocks. Applying a single discount rate, therefore, discards economically relevant information.

At the same time, the analysis does not claim to recover true prices of risk or to model higher-order interactions. The additive pricing rule is a reduced-form approximation chosen to balance conceptual consistency, empirical feasibility, and investor relevance (Leamer, 1983; OECD, 2008).

Summary

Industry-level fragility translates into incremental required returns through an additive pricing rule grounded in linear asset-pricing theory and applied valuation practice. The mapping is externally anchored, disciplined in magnitude, and explicitly bounded. It respects CAPM and ICAPM intuition while recognizing partial integration and data constraints. The central implication is unambiguous. Pricing Kenya as an analytically indivisible unit obscures material and systematic differences in required returns across industries.

What generalizes beyond Kenya

Shared macro shocks with heterogeneous within-country loadings
Kenya's core empirical finding—that industries respond differently to the same macro-financial shocks—has clear parallels in other markets. Firm- and sector-level studies document substantial within-country dispersion in exchange-rate exposure, with systematic differences linked to tradability and external exposure rather than national domicile (Gelos, 2015; Long et al., 2012). Institutional and asset-manager evidence similarly shows that industry effects can rival country effects, particularly during periods of stress. This implies that "country risk" does not fully capture within-country heterogeneity (Norges Bank Investment Management [NBIM], 2019).

FX and external liquidity are first-order EM risk channels.
Kenya's results, which show that FX and external-liquidity risk dominate other channels, are consistent with open-economy macro-finance evidence. Under the Dominant Currency Paradigm, movements in the U.S. dollar play an outsized role in influencing trade prices and cash-flow transmission, confirming the value of external liquidity and FX exposure in many emerging markets (Casas et al., 2017). In such settings, decomposing risk by exposure rather than relying on a single country label better reflects how macro shocks propagate through operating cash flows (Long et al., 2012).

What should change in emerging-market risk analysis?
The main generalization is methodological rather than geographic. Country premia or sovereign spreads should be treated as a shared baseline in partially segmented markets, not as sufficient statistics for all operating cash flows within a country (Bekaert & Harvey, 1995; Arouri, 2009). In valuation practice, this implies moving away from applying a uniform country risk premium across sectors and toward a framework that combines a common baseline with exposure-driven increments. Such an approach produces discount-rate narratives that are decomposable and auditable rather than opaque (Guimaraes & Koller, 2021).
This shift additionally highlights sector selection within emerging markets as a first-order portfolio decision. If macro shocks are shared but exposures differ, allocation decisions concern not only which countries to invest in, but which country–industry exposures to hold. Practically, this implies stress-testing and sizing positions based on exposure to external liquidity and FX risk, monetary and inflation risk, and fiscal demand, rather than assuming that the country label dominates the cross-section (Gelos, 2015; NBIM, 2019). This logic is consistent with linear pricing intuition, in which expected returns vary with systematic factor loadings rather than location labels (Fama & French, 2004).

Applicability conditions: when the Kenya logic travels, weakens, or breaks
The framework is not presented as universal. Its external validity depends on market structure and data feasibility rather than geography.
It is most likely to generalize when markets are partially integrated, so that global risk is priced while residual local and sectoral risks remain relevant. This environment supports a shared baseline with incremental exposure adjustments, consistent with partially segmented international pricing models (Bekaert & Harvey, 1995; Arouri, 2009). Generalization is also more likely when the tradable versus non-tradable distinction is economically meaningful, making FX shocks asymmetric across industries (Gelos, 2015; Long et al., 2012), and when

external-liquidity transmission is first-order under dollar-centric trade and finance (Casas et al., 2017). Limited hedging depth and constrained arbitrage further allow exposure differences to remain decision-relevant without requiring equilibrium efficiency (Gromb & Vayanos, 2010).
The framework weakens as hedging markets deepen and measured exposure is increasingly neutralized in cash flows (OECD, 2008), as trade baskets diversify and FX sensitivity averages out at the industry level (Gelos, 2015), or as integration rises toward full integration, reducing the economically relevant local component (Bekaert & Harvey, 1995).
It breaks down when markets approach near-complete integration with strong arbitrage capacity, so that incremental local or industry premia plausibly collapse toward global factor pricing (Gromb & Vayanos, 2010). It is also less applicable in closed economies where external channels are negligible, making FX and external liquidity a poor organizing principle (Casas et al., 2017), or where observed return differentials are driven primarily by non-fundamental distortions or severe information segmentation rather than cash-flow exposure (Easley & O'Hara, 2001).

Policy and data implications beyond Kenya: bounded but actionable
The policy implication is not to prescribe discount rates, but to improve monitoring of where macro shocks are likely to affect cash flows by sector, particularly under external-liquidity and FX stress. Reduced-form stress-testing frameworks support this type of vulnerability mapping while avoiding equilibrium claims (Chow, 2015).
Data capacity remains a binding constraint on responsible generalization. Scaling the framework calls for statistical systems that support consistent industry mapping and exposure construction, including SUT and IO infrastructure and transparent concordances. The aim is repeatability and sensitivity analysis rather than false precision (OECD, 2008; Leamer, 1983).

Boundary statement for external readers
The paper's general claim is conditional. In emerging and frontier markets characterized by partial integration, a meaningful tradable and non-tradable structure, material external liquidity exposure, and constrained hedging or arbitrage, risk analysis improves when the emphasis shifts from country labels to exposure maps. The approach remains reduced-form and decision-oriented. It does not claim a unique equilibrium price of risk, nor does it claim that observed premia are fully efficient in the presence of segmentation and limits to arbitrage (Fama & French, 2004; Gromb & Vayanos, 2010; Leamer, 1983).

Conclusion: From Narrative Risk to Measured Risk

This paper's core contribution is to show that emerging-market risk has been systematically mischaracterized because it has been analyzed and priced at the wrong level of aggregation. Treating risk as a uniform country attribute collapses heterogeneous, channel-specific industry exposures into a single sovereign or country premium. The predictable result is mispricing across industries whose cash flows differ sharply in their exposure to exchange rates, external liquidity, inflation, interest rates, and fiscal demand.

The empirical evidence shows that this is not a marginal refinement but a first-order error in how risk is conceptualized. Macro-financial shocks do not transmit through countries as homogeneous units. They transmit through specific cash-flow channels whose relevance varies systematically across industries operating within the same national environment. When these exposures are measured directly and aggregated with discipline—avoiding double counting and anchoring adjustments to a shared baseline—much of the dispersion typically attributed to "country risk" resolves into structured, exposure-based variation.

What this paper changes is not the logic of asset pricing, but where that logic is applied. Emerging-market risk should no longer be treated as a monolithic country premium. Instead, it should be understood as a shared baseline reflecting genuinely common risk under partial integration, combined with heterogeneous incremental exposure to a small set of priced macro-financial transmission channels. This altered viewpoint is fully consistent with multi-factor pricing logic and partially segmented international asset-pricing models, while rejecting the sufficiency of location-based risk narratives (Bekaert & Harvey, 1995; Fama & French, 2004).

Two empirical findings are particularly robust. First, industry-level exposure heterogeneity is both large and economically meaningful. Industries within the same emerging market display persistent differences in sensitivity to FX, external liquidity, inflation, and fiscal shocks, often exceeding cross-country differences (Gelos, 2015; Long et al., 2012). Second, specific transmission channels dominate generic notions of "country risk." For many tradable and import-dependent industries, FX and external-liquidity exposure explains substantially more variation in fragility than sovereign spreads or aggregate country indicators, consistent with dominant-currency pricing and external-finance mechanisms (Casas et al., 2017).

Taken together, these results imply that "country risk" is not a primitive object. It is largely an unresolved mixture of heterogeneous exposures that can be measured, ranked, and interpreted more coherently at the industry level.

Equally important are the limits of the paper's claims. The analysis does not equate measurement with causality. It does not claim that the estimated increments represent equilibrium prices of risk, that markets are fully efficient, or that mispricing will necessarily be arbitraged away. Nor does it claim universality or time invariance. All interpretations are explicitly conditional on partial financial integration, uneven hedging capacity, and the empirical window studied. This separation between what is measured, what is inferred, and what remains unresolved follows best practice in macro-finance and limits-to-arbitrage research (Leamer, 1983; Gromb & Vayanos, 2010). The contribution is therefore diagnostic rather than doctrinal: it identifies where risk resides and how it is misallocated under standard frameworks without asserting a fully specified equilibrium model.

The implications of this reframing are concrete rather than rhetorical. For theory, emerging-market risk is better understood as heterogeneous exposure to priced macro-financial shocks rather than as a single location attribute, without abandoning partial-integration frameworks or

factor-pricing logic (Bekaert & Harvey, 1995; Fama & French, 2004). For investment and valuation practice, uniform country risk premia are analytically blunt. A two-step workflow that retains a shared baseline and then applies disciplined exposure-based increments at the industry or project level dominates blanket country adjustments for capital allocation decisions (Guimaraes & Koller, 2021). For policy and surveillance, vulnerability is more informatively monitored by transmission channel and sector than inferred from sovereign stress alone, consistent with reduced-form stress-testing approaches that emphasize exposure mapping over equilibrium claims (Chow, 2015; OECD, 2008). Throughout these fields, the key shift is from narrative uncertainty to measured exposure, and from blanket avoidance to selective risk assessment.

The paper also delineates a focused and bounded agenda for future research. One open question is whether exposure-based convergence persists over time or varies systematically across macro-financial regimes, carrying implications for steady-state valuation versus stress testing (Ferreira, 2022; Edwards & Lazzara, 2013). A second concerns the role of arbitrage capacity in distinguishing priced exposure from residual premia sustained by limits to arbitrage, which would refine interpretation without undermining the framework's diagnostic value (Gromb & Vayanos, 2010). A third entails pinpointing observable conditions—such as FX invoicing structure, hedging depth, and degree of integration—under which exposure-based decomposition generalizes beyond Kenya, strengthening external validity while avoiding overreach (Bekaert & Harvey, 1995; Casas et al., 2017; Gelos, 2015). These questions extend the paper's logic without promising resolution of equilibrium pricing, causality, or universality.

Bottom line

The central lesson is that emerging-market risk has been misunderstood not because it is unknowable, but because it has been priced at the wrong level of analysis. Once risk is decomposed along the channels through which macro shocks actually affect cash flows, much of what appears as undifferentiated "country risk" resolves into structured, industry-specific exposure anchored by a shared baseline. This shift—from country to exposure, from narrative to structure, and from blanket to selective—does not end the debate on emerging-market risk. It reframes it on empirical ground where measurement, theory, and practice can align.

References

Anderson, E., Rebelo, S., & Wong, A. (2023). Markups across space and time. The Quarterly Journal of Economics, 138(2), 1113–1165. https://www.kellogg.northwestern.edu/faculty/rebelo/htm/markups.pdf

Arouri, M. E. H. (2009). Are stock markets integrated? Evidence from a partially segmented ICAPM with asymmetric effects. Journal of International Financial Markets, Institutions and Money, 19(3), 439–454. https://arxiv.org/pdf/0905.3875

Bartram, S. M., Brown, G. W., & Minton, B. A. (2010). Resolving the exposure puzzle: The many facets of exchange rate exposure. Journal of Financial Economics, 95(2), 148–173. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1429286

Bekaert, G., & Harvey, C. R. (1995). Time-varying world market integration. The Journal of Finance, 50(2), 403–444. https://doi.org/10.1111/j.1540-6261.1995.tb04790.x

Belo, F., Gala, V. D., & Li, J. (2011). Government spending, political cycles, and the cross section of stock returns. Journal of Financial Economics, 99(2), 305–324. https://doi.org/10.1016/j.jfineco.2010.09.006

Casas, C., Díez, F. J., Gopinath, G., & Gourinchas, P.-O. (2017). Dominant currency paradigm. American Economic Review, 107(7), 1973–2010. https://doi.org/10.1257/aer.20171201

Chang, A. C., & Li, P. (2015). Is economics research replicable? Sixty published papers from thirteen journals say "usually not." Finance and Economics Discussion Series 2015-083. Board of Governors of the Federal Reserve System. https://doi.org/10.17016/FEDS.2015.083

Chow, J. T. S. (2015). Stress testing corporate balance sheets in emerging economies (IMF Working Paper No. 15/216). International Monetary Fund. https://www.imf.org/external/pubs/ft/wp/2015/wp15216.pdf

Committee on the Global Financial System. (2024). Interest rate risk exposures of non-financial corporates and households. Bank for International Settlements. https://www.bis.org/publ/cgfs70.htm

Damodaran, A. (2023). The equity risk premium: Discount rates II [Lecture slides]. NYU Stern School of Business. http://pages.stern.nyu.edu/~adamodar/

Damodaran, A. (2024). Equity risk premiums (ERP): Determinants, estimation and implications. NYU Stern School of Business. http://pages.stern.nyu.edu/~adamodar/

Damodaran, A. (2025). Country risk premiums for other markets. NYU Stern School of Business. http://pages.stern.nyu.edu/~adamodar/

De Loecker, J., & Eeckhout, J. (2021). Global market power. Princeton University Press. https://www.janeeckhout.com/wp-content/uploads/Global.pdf

Easley, D., & O'Hara, M. (2001). Information and the cost of capital. The Journal of Finance, 59(4), 1553–1583. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=300715

Ehrmann, M., & Fratzscher, M. (2004). Taking stock: Monetary policy transmission to equity markets. Journal of Money, Credit and Banking, 36(4), 719–737. https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp354.pdf

Fama, E. F., & French, K. R. (2004). The capital asset pricing model: Theory and evidence. Journal of Economic Perspectives, 18(3), 25–46. https://doi.org/10.1257/0895330042162430

Fort, T. C., & Klimek, S. D. (2018). The effects of industry classification changes on U.S. employment composition. U.S. Census Bureau Working Paper. https://www.census.gov/library/working-papers/2018/adrm/ces-wp-18-28.html

Gelos, G. (2015, October 6). Which sectors have increased exposure to exchange rate fluctuations? World Economic Forum. https://www.weforum.org/agenda/2015/10/which-sectors-have-increased-exposure-to-exchange-rate-fluctuations/

Getuba, M. (2026). Industry-level macro-financial exposure measures for Kenya (Version 1.0) [Data set]. https://docs.google.com/spreadsheets/d/1jZ_dX5iaEHLoC10di9DpJn2bC2UHTdD2/edit?usp=sharing&ouid=112229379450188112814&rtpof=true&sd=true

Gromb, D., & Vayanos, D. (2010). Limits of arbitrage: The state of the theory. Annual Review of Financial Economics, 2, 251–294. https://doi.org/10.1146/annurev-financial-073009-104107

Guimaraes, P., & Koller, T. (2021). Don't overthink your approach to valuation in emerging markets. McKinsey & Company.

Harvey, C. R. (n.d.). Asset pricing in emerging markets. Duke University. https://people.duke.edu/~charvey/Teaching/CDROM_BA453_2003/Other_Harvey_Papers/W54_Asset_pricing_in.pdf

Hassan, T. A., Hollander, S., van Lent, L., & Tahoun, A. (2019). Firm-level political risk: Measurement and effects. The Quarterly Journal of Economics, 134(4), 2135–2202. https://www.bu.edu/econ/files/2019/05/Firm-levelPoliticalRisk.pdf

Horn, M. P., Hoang, D., Emmel, H., Gatzer, S., Lahmann, A., & Schmidt, M. (2017). Country risk – Cost of equity measurement: Methodologies and implications. Karlsruhe Institute of Technology. https://finance.fbv.kit.edu/rd_download/Country%20Risk%20-%20Cost%20of%20Equity%20Measurement%20Methodologies%20and%20Implications_vF.pdf

Hourani, A., Wang, Y., Demiralay, S., & McGroarty, F. (2023). Industry costs of equity: Evidence from frontier markets. Journal of International Financial Markets, Institutions and Money, 83, 101726. https://eprints.soton.ac.uk/475605/1/Evidence_from_frontier_markets.pdf

Huberman, G., & Wang, Z. (2005). Arbitrage pricing theory (Staff Report No. 216). Federal Reserve Bank of New York. https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr216.pdf

King, T. (2023). Monetary policy and the stock market in the COVID era. Economic Perspectives, (5). Federal Reserve Bank of Chicago. https://www.chicagofed.org/publications/economic-perspectives/2023/5

Kenya National Bureau of Statistics. (2023). Annual production accounts by industry, 2018–2022 [Data set]. Open Africa (Code for Africa). https://open.africa/dataset/economic-performance-data-kenya-economic-survey-2023/resource/847863b6-7d9f-4b7d-839a-f0c57073c7c4

Lawson, J., & Rees, D. (2008). A sectoral model of the Australian economy (RDP 2008-01). Reserve Bank of Australia. https://www.rba.gov.au/publications/rdp/2008/pdf/rdp2008-01.pdf

Leamer, E. E. (1983). Let's take the con out of econometrics. American Economic Review, 73(1), 31–43. https://gwern.net/doc/economics/1983-leamer.pdf

Long, L., Tsui, A. K., & Zhang, Z. (2012). Estimating time-varying currency betas: New evidence from nine developed and emerging markets. Journal of International Financial Markets, Institutions and Money, 22(4), 902–923. https://acfr.aut.ac.nz/__data/assets/pdf_file/0010/30007/402353.pdf

Mankiw, N. G., & Shapiro, M. D. (1984). Risk and return: Consumption versus market beta (Working Paper No. 1399). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w1399/w1399.pdf

Mensah, E., & de Vries, G. (2024). Africa Supply and Use Tables (ASUT) Database (Version 2.0) [Data set]. DataverseNL. https://doi.org/10.34894/IMKXNT

Norges Bank Investment Management. (2019). Country and industry effects in global equity returns (Discussion Note No. 01-2019). https://www.nbim.no/contentassets/70b80f2f81fb4a3dbd703dde9d568b0f/country-and-industry-effects-in-global-equity-returns.pdf

Nydahl, S. (1999). Exchange rate exposure, foreign involvement and currency hedging of firms. European Financial Management, 4(2), 241–257. https://onlinelibrary.wiley.com/doi/abs/10.1111/1468-036X.00091

OECD. (2008). Handbook on constructing composite indicators: Methodology and user guide. OECD Publishing. https://doi.org/10.1787/9789264043466-en

Oliveira Martins, J., Scarpetta, S., & Pilat, D. (1996). Mark-up ratios in manufacturing industries: Estimates for 14 OECD countries (OECD Economics Department Working Papers No. 162). OECD. https://www.oecd.org/content/dam/oecd/en/publications/reports/1996/01/mark-up-ratios-in-manufacturing-industries_g17a13c8/007750682315.pdf

Pennacchi, G. (n.d.). Equilibrium asset returns. University of Illinois at Urbana–Champaign. https://gpennacc.web.illinois.edu/ChPres13.pdf

Phylaktis, K., & Xia, L. (2001). The changing roles of industry and country effects in the global equity markets. European Journal of Finance, 7(1), 1–23. https://www.bayes.citystgeorges.ac.uk/__data/assets/pdf_file/0004/29074/Phylaktis_ChangingRoles.pdf

Pratt, S. P. (2002). Cost of capital: Estimation and applications (2nd ed.). John Wiley & Sons. https://www.psc.state.fl.us/library/filings/2016/07490-2016/Support/204b_Pratt%20-%20Cost%20of%20Capital%20Estimation%20and%20Applications%202nd%20Edition.pdf

Raddatz, C., & Rigobon, R. (2003). Monetary policy and sectoral shocks: Did the Fed react properly to the high-tech crisis? (NBER Working Paper No. 9835). https://www.nber.org/system/files/working_papers/w9835/w9835.pdf

Sarisoy, C., de Goeij, P., & Werker, B. J. M. (2024). Linear factor models and the estimation of expected returns. Journal of Financial Econometrics, 22(1), 1–29. https://www.federalreserve.gov/econres/feds/files/2024014pap.pdf

Stulz, R. M. (1994). International portfolio choice and asset pricing: An integrative survey. Review of Financial Studies, 7(4), 969–1006. https://www.nber.org/system/files/working_papers/w4645/w4645.pdf

United Nations. (2018). Handbook on supply and use tables and input–output tables with extensions and applications. United Nations Department of Economic and Social Affairs. https://unstats.un.org/unsd/nationalaccount/docs/SUT_IOT_HB_Final_Cover.pdf

World Bank. (2022). Kenya product exports and imports by product group [Data set]. World Integrated Trade Solution (WITS). https://wits.worldbank.org

World Bank. (2023). World development indicators [Data set]. https://databank.worldbank.org/source/world-development-indicators