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# Foreign Capital Inflows, Institutional Quality and Export Performance in Kenya

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**ABSTRACT**

**Purpose:** To examine the relationships between foreign direct investment, net official development assistance, personal remittances and portfolio investment and export performance in Kenya, and to establish whether institutional quality, represented by government effectiveness, moderates those relationships.

**Design/methodology/approach:** An explanatory national time-series design used annual Kenya observations covering 1990–2024. Export performance and the four inflows were expressed relative to gross domestic product. Trade openness and economic growth were controls. Descriptive statistics, correlation, augmented Dickey–Fuller tests, autoregressive distributed lag regressions, bounds and regime-shift cointegration tests, diagnostics and hierarchical interaction models were applied. The governance series included an approximated pre-1996 segment, which limits its historical interpretation.

**Findings:** Foreign direct investment, official development assistance, personal remittances and portfolio investment were positively and significantly associated with export performance in the reported contemporaneous direct-effects model. Government effectiveness positively moderated each inflow–export relationship. The ODA interaction exhibited ordinal enhancing moderation; FDI, remittances and portfolio investment displayed positive enhancing crossover patterns within the examined governance range. However, the evidence did not establish a stable long-run levels relationship.

**Research limitations/implications:** The small annual sample, approximated early governance observations, contemporaneous endogeneity risks and differences between the direct and moderation estimation samples restrict causal and long-run interpretations. The retained output is insufficient for independently refitting the models.

**Practical implications:** Export policy should distinguish the purposes and transmission channels of the four inflows and strengthen policy implementation, trade-supporting infrastructure and financial governance rather than assuming that increasing aggregate external receipts will automatically raise exports.

**Originality/value:** The analysis integrates disaggregated foreign inflows and government effectiveness in a Kenya-specific export framework while distinguishing conditional moderation from verified long-run effects.

**KEYWORDS:** export performance; foreign direct investment; official development assistance; remittances; portfolio investment; government effectiveness; Kenya; moderation

## 1. INTRODUCTION

Exports provide foreign exchange, enable firms to access international markets and support the imported equipment, intermediate inputs and technology needed for productive transformation. For Kenya, an important policy objective is therefore to convert domestic investment and available external finance into sustained exports of goods and services. Export intensity nonetheless depends on a wider system of productive capacity, trade costs, international demand, institutional performance and the composition of external resources (World Bank, 2026; United Nations Conference on Trade and Development [UNCTAD], 2024; World Trade Organization [WTO], 2025). Export-led development offers a rationale for assessing export outcomes, but does not imply that all sources of foreign finance are equally useful for improving them (Balassa, 1978; Feder, 1983).

Foreign capital inflows are not a homogeneous financing instrument. Foreign direct investment (FDI) can provide durable productive assets, technology and multinational distribution networks; net official development assistance (ODA) may finance public infrastructure and institutional capacity; personal remittances can support household consumption or enterprise investment; and portfolio investment can deepen securities markets while exposing the economy to reversible capital movements. Inward transfers, financial-account transactions and concessional aid differ in economic purpose and balance-of-payments

classification (International Monetary Fund [IMF], 2025; UNCTAD, 2025b). Their association with exports may consequently be positive, negative or contingent on domestic conditions (Adeola & Aziakpono, 2022; Nguyen et al., 2024).

The desired position is an economy in which external receipts support internationally competitive production, reliable logistics, diversified exporting firms and stable foreign-exchange earnings. Kenya continues to face weak export intensity relative to its trade and financing needs, despite receiving investment, aid and increasingly important diaspora transfers (Kenya National Bureau of Statistics [KNBS], 2025; Central Bank of Kenya [CBK], 2025b). This creates a substantive problem: external financing can ease immediate payment pressures without necessarily enlarging the supply of tradable goods and services. The difference between money entering Kenya and resources reaching competitive export sectors is especially relevant when capital is channelled to consumption, non-tradable assets, recurrent expenditure or temporary financial positions (African Development Bank Group [AfDB], 2025; UNCTAD, 2025a).

Previous studies suggest contrasting channels. Kastratović (2020), drawing on an international meta-analysis, generally associated FDI with stronger host-country exports; Sahoo and Dash (2022) showed that absorptive capacity changes the size of that association. Research on Aid for Trade reports favourable export outcomes when assistance supports productive infrastructure and trade regulation, yet aggregate assistance cannot be treated as equivalent to trade-targeted finance (Hoekman & Shingal, 2020; Gnangnon, 2022; Aboushady et al., 2025). Remittance studies identify both enterprise-financing benefits and real-exchange-rate appreciation that can weaken traded production (Hien et al., 2020; Saadi, 2020; Anwar & Mang, 2022). Portfolio flows can complement trade, but their sectoral allocation and vulnerability to global liquidity shocks make the benefits less predictable (Asamoah & Alagidede, 2020; Belke & Domnick, 2021; Dahlhaus & Vasishtha, 2020).

Institutional quality may determine how effectively foreign resources are used. Government effectiveness captures perceptions of public-service quality, public-administration capability, policy implementation and the credibility of government commitments. These institutional attributes can influence trade infrastructure delivery, customs procedures, investment approvals and financial supervision. Evidence from Sub-Saharan Africa links governance to exports and conditions the contribution of foreign capital to wider development outcomes (Bah et al., 2021; Githaiga & Kilong'i, 2023; Sakyi et al., 2023). The institutional role is not synonymous with another inflow: it describes the setting in which financing is transformed into export capacity.

The unresolved empirical issue is that the four inflows have rarely been examined jointly as distinct predictors of Kenya's exports of goods and services, with government effectiveness tested separately as a moderator for each relationship. Kenyan research on external finance has often emphasized economic growth or different determinants of exports; multicountry studies may not reproduce the composition of Kenya's capital inflows, export structure and institutional setting (Adeola & Aziakpono, 2022; Mwatu, 2022; Githaiga & Kilong'i, 2023). The analysis accordingly examines the contemporaneous and dynamic relationships of FDI, ODA, remittances and portfolio investment with exports, and assesses whether the conditional slopes vary with government effectiveness while accounting for trade openness and economic growth.

The contribution is threefold. First, the study separates four external resource channels instead of relying on one aggregated capital variable. Second, it applies direct-effects time-series estimation alongside hierarchical interaction tests rather than assuming institutions operate only additively. Third, it distinguishes statistically significant within-sample associations from long-run equilibrium or causality, especially given the small sample and the governance-data harmonization issue. These distinctions matter for interpreting econometric evidence responsibly (Pesaran et al., 2001; Hayes, 2022; Kripfganz & Schneider, 2023).

## 2. THEORETICAL FOUNDATION, EMPIRICAL LITERATURE AND HYPOTHESES

### 2.1 Theoretical foundations

Three complementary approaches frame the argument. Export-Led Growth Theory, associated with Kaldor (1970), Balassa (1978) and Feder (1983), emphasizes the development benefits of external demand, economies of scale, specialization and export-related productivity. Its main contribution here is to establish the economic relevance of export performance; traditionally it explains how exports affect growth, rather than offering a complete theory of the determinants of exports. Thus, it should not by itself be read as a prediction that every form of external finance causes export expansion.

Chenery and Strout's (1966) Two-Gap Theory is more directly relevant to the external-financing variables. Developing economies may face a domestic savings gap and a foreign-exchange gap that restrict imports of machinery, industrial inputs and technology. FDI, ODA, remittances and portfolio flows may relax those constraints, although they do not contribute through identical transmission mechanisms. The theory assumes that additional financing can reach productive activities; it is less informative where inflows are diverted to consumption, capital flight, low-productivity assets or projects constrained by weak implementation capacity. Recent evidence on heterogeneous FDI outcomes and aid targeting supports treating this limitation explicitly (Sahoo & Dash, 2022; Kamguia et al., 2022).

Institutional Theory, grounded in North (1990) and Williamson (2000), explains how formal rules, public administration and credible policy implementation shape incentives and transaction costs. It provides the basis for testing government effectiveness as a moderator: identical capital inflows may be more closely associated with exports where public institutions deliver reliable trade infrastructure, enforce commitments and coordinate investment policy. The theory complements rather than substitutes for Two-Gap Theory, because financing availability and the institutional conversion of financing into productive capacity are different conditions (Maruta et al., 2020; Kaya & Kaya, 2020; Murdipi et al., 2023).

**2.2 Foreign direct investment and export performance**

FDI can stimulate exports by establishing production capacity, upgrading technology, transmitting managerial know-how and connecting domestic suppliers with foreign markets. Kastratović's (2020) meta-analysis supports an overall positive association, while Ding et al. (2021) report export benefits associated with firms' experience in international investment. Nevertheless, the sector in which investment occurs matters: market-seeking investment into non-tradables does not necessarily increase exports, and benefits depend on infrastructure, workforce capacity and investor linkages (Ahmed et al., 2023; Sahoo & Dash, 2022). Kenya-specific expectations therefore remain empirical rather than automatic.

**$H_1$:** *FDI is positively associated with export performance.*

**2.3 Official development assistance and export performance**

ODA may influence exports through ports, transport networks, electricity, education, trade facilitation, customs modernization and standards infrastructure. Hoekman and Shingal (2020) distinguish the effectiveness of trade-related forms of assistance, while Gnangnon (2021, 2022, 2024) documents channels connecting aid and export diversification, resilience and manufacturing trade. Aboushady et al. (2025) find that institutional differences condition the export relationship of Aid for Trade. An important qualification is that aggregate net ODA comprises both trade-targeted and non-trade expenditure; the observed ODA coefficient cannot be interpreted as the isolated impact of Aid for Trade (Kamguia et al., 2022; Han et al., 2023).

**$H_2$:** *Net ODA is positively associated with export performance.*

**2.4 Personal remittances and export performance**

Remittances may finance entrepreneurship, education, enterprise working capital and productive investment. Saadi (2020) links remittances to export complexity, suggesting that private transfers can support tradable-sector upgrading. Conversely, Hien et al. (2020) and Anwar and Mang (2022) document real-exchange-rate channels through which remittances can reduce external competitiveness. Nonlinear evidence further suggests that the exchange-rate response depends on the magnitude of transfers and domestic financial conditions (Ben Atta et al., 2025; Taguchi & Batool, 2025). These competing mechanisms warrant a direct test rather than an assumption that all remittances strengthen exports.

**$H_3$:** *Personal remittances are positively associated with export performance.*

**2.5 Portfolio investment and export performance**

Portfolio investment may improve financial-market liquidity and access to enterprise finance, but securities flows can be short-term, cyclical and sensitive to global rates. Belke and Domnick (2021) find complementarity between financial and trade flows, although the type of capital matters. Asamoah and Alagidede (2020) and Asamoah et al. (2021) show that equity and debt portfolio flows have uneven relationships with real-sector growth in Africa. Dahlhaus and Vasishtha (2020) and Nguyen et al. (2024) further demonstrate sensitivity to monetary-policy information and exchange-rate conditions. Productive access to finance may enhance exports; capital-flow reversals may instead destabilize exporters.

**$H_4$:** *Portfolio investment is positively associated with export performance.*

**2.6 Institutional quality as a moderator**

Government effectiveness may influence whether external finance produces export-supporting investment, viable infrastructure, predictable transactions and functioning public services. Bah et al. (2021) find that governance dimensions have heterogeneous export relationships, while Githaiga and Kilong'i (2023) show that institutions condition the development outcomes associated with foreign capital. Sakyi et al. (2023) report a role for institutional quality in the export benefits of technology adoption; Masunda et al. (2025) find that institutional quality strengthens the relationship between FDI and export sophistication. The evidence is particularly relevant for distinguishing the amount of an inflow from the effectiveness of its use (Maruta et al., 2020; Aboushady et al., 2025).

**$H5_a$–$H5_d$:** *Government effectiveness positively moderates the relationships of FDI, net ODA, personal remittances and portfolio investment, respectively, with export performance.*

The empirical gap concerns both outcome and design. Some prior analyses examine capital flows and GDP growth rather than exports; others examine exports but focus on one capital flow or a cross-country panel (Adeola & Aziakpono, 2022; Gebremariam

& Ying, 2022; Wamalwa & Were, 2021). The present specification compares disaggregated inflows within a Kenya-only framework and examines government effectiveness through interaction terms. Because the design is observational and the regressions use annual aggregates, findings are interpreted as associations after specified adjustments rather than proof of one-way causation (Wooldridge, 2020; Hayes, 2022).

## 3. RESEARCH METHODOLOGY

### 3.1 Design, period and data

A quantitative explanatory time-series design covered Kenya for 1990–2024. The unit of analysis was an annual Kenya-year observation, rather than a sampled business, household or exporting firm. The harmonized analytical file contained 35 annual observations; the estimated direct-effects ARDL retained 32 observations after allowing for the longest selected lag, whereas hierarchical moderation used 35 annual observations. The latter models are therefore not nested in a common-sample comparison with the direct ARDL. The design tests conditional associations across time without randomly assigning capital inflows or policy conditions (Creswell & Creswell, 2023; Wooldridge, 2020).

The World Bank's World Development Indicators supplied exports, external flows and macroeconomic controls; the International Monetary Fund and Organisation for Economic Co-operation and Development (OECD) provided indicator definitions and cross-checks (IMF, 2025; OECD, 2025c; World Bank, 2026). The moderator was the World Bank Worldwide Governance Indicators (WGI) Government Effectiveness estimate, not a composite average of the six governance dimensions (World Bank, 2025). A necessary data qualification is that the historical WGI coverage begins in 1996. The study file extends the governance variable backwards to 1990 using an *approximate harmonized series*, but the source construction for those early years could not be independently confirmed. Estimates using the entire governance series therefore require sensitivity testing on the official 1996-onward window before strong institutional claims are made.

Variables were maintained in the original reported units, including negative portfolio observations. Ratios were used to normalize external financial flows relative to the size of Kenya's economy; no arbitrary logarithmic offset was added to series with zero or negative values. Because exports and the trade-openness measure both contain exports in their numerator, their mechanical overlap was considered when interpreting large correlations and contemporaneous coefficients (Bleaney & Tian, 2023; Bellemare & Wichman, 2020).

### 3.2 Measurement and operationalization

**Table 1. Measurement of the study variables**

| Variable | Code and role | Operational measure | Source |
|---|---|---|---|
| Export performance | EXPGDP; dependent | Exports of goods and services, percentage of GDP | World Bank WDI |
| Foreign direct investment | FDIGDP; independent | Net FDI inflows, percentage of GDP | World Bank WDI |
| Official development assistance | ODAGDP; independent | Net ODA received in USD divided by GDP in USD | World Bank WDI |
| Personal remittances | REMGDP; independent | Personal remittances received, percentage of GDP | World Bank WDI |
| Portfolio investment | FPIGDP; independent | Net portfolio transactions in USD divided by GDP in USD | World Bank WDI |
| Government effectiveness | GE; moderator | Standardized WGI government-effectiveness estimate | World Bank WGI |
| Trade openness | TO; control | Total exports plus imports as percentage of GDP | World Bank WDI |
| Economic growth | GDPG; control | Annual percentage change in real GDP | World Bank WDI |

***Note.*** *WDI = World Development Indicators; WGI = Worldwide Governance Indicators. Indicator codes are EXPGDP: NE.EXP.GNFS.ZS; FDIGDP: BX.KLT.DINV.WD.GD.ZS; ODAGDP: DT.ODA.ODAT.CD; REMGDP: BX.TRF.PWKR.DT.GD.ZS; FPIGDP: BN.KLT.PTXL.CD; TO: NE.TRD.GNFS.ZS; GDPG: NY.GDP.MKTP.KD.ZG; GDP denominator: NY.GDP.MKTP.CD.*

*Source: Thesis Table 3.2 and WDI/WGI metadata.*

The monetary ratios follow the same currency and year in numerator and denominator. The underlying computations are displayed with stacked fractions rather than treating the terms as logarithmic growth rates:

$$\text{EXPGDP}_t = \frac{\text{Exports}_{t,USD}}{\text{GDP}_{t,USD}} \times 100$$

$$\text{FC}_{j,t} = \frac{\text{Flow}_{j,t,USD}}{\text{GDP}_{t,USD}} \times 100$$

$$\text{TO}_t = \frac{\text{Exports}_{t,USD} + \text{Imports}_{t,USD}}{\text{GDP}_{t,USD}} \times 100$$

$$\text{GDPG}_t = \frac{\text{RealGDP}_t - \text{RealGDP}_{t-1}}{\text{RealGDP}_{t-1}} \times 100$$

In the first equation, $j$ identifies FDI, net ODA, remittances or net portfolio investment. One unit of EXPGDP or an inflow ratio represents one percentage point of GDP, *not* a one-percent relative increase in the underlying monetary variable. Net portfolio and FDI inflows could be negative; the sign was preserved. Government effectiveness was entered in standardized governance units, so interaction coefficients are not directly comparable to coefficients measured per GDP percentage point (World Bank, 2026; IMF, 2025).

### 3.3 Econometric models and estimation

The empirical strategy followed the thesis sequence: a control-only autoregressive distributed lag (ARDL) model, a combined dynamic direct-effects model and cumulative moderation models. ARDL specifications allow a lagged dependent variable and differently lagged explanatory variables, subject to time-series assumptions and the exclusion of variables integrated of order two. Information criteria and parsimony guided lag selection in a sample where each extra regressor uses scarce degrees of freedom (Pesaran et al., 2001; Lütkepohl, 2005; Kripfganz & Schneider, 2023). The reported control specification was:

$$EXPGDP_t = \alpha + \phi_1 EXPGDP_{t-1} + \phi_2 EXPGDP_{t-2} + \lambda_0 TO_t + \lambda_1 TO_{t-1} + \gamma GDPG_t + \varepsilon_t$$

The direct-effects specification added the four capital-flow series and their selected lags. With FDI and portfolio investment entered contemporaneously, ODA retained through three lags and remittances through one lag, the model was:

$$\text{EXPGDP}_t = \alpha + \sum_{r=1}^{2} \phi_r \, \text{EXPGDP}_{t-r} + \boldsymbol{\lambda}' \mathbf{Z}_t + R_t$$

$$R_t = \beta_1 \text{FDIGDP}_t + \sum_{k=0}^{3} \theta_k \, \text{ODAGDP}_{t-k} + \sum_{h=0}^{1} \rho_h \, \text{REMGDP}_{t-h} + \beta_4 \text{FPIGDP}_t + \varepsilon_t$$

The vector $\mathbf{Z}_t$ comprises current trade openness, its first lag and current GDP growth; $R_t$ collects the capital-flow terms and the disturbance. The contemporaneous coefficients on FDI, ODA, remittances and portfolio investment were the reported tests of H1–H4. The inclusion of lagged ODA and remittances accounts for different timing patterns, but none of those individual lags can be substituted for the contemporaneous coefficient when describing the stated hypothesis decisions. The absence of established cointegration precludes interpreting these numbers as verified long-run multipliers (Pesaran et al., 2001; Kripfganz & Schneider, 2020).

For institutional moderation, the thesis fitted four hierarchical regressions with interaction terms entered cumulatively in the order FDI × GE, ODA × GE, remittances × GE, and portfolio investment × GE. In a general presentation where $X_{jt}$ denotes each of the four capital-flow measures, the $m$th step was:

$$EXPGDP_t = \alpha + \sum_{j=1}^{4} \beta_j X_{jt} + \beta_5 GE_t + \beta_6 TO_t + \beta_7 GDPG_t + \sum_{j=1}^{m} \delta_j \left(X_{jt} \times GE_t\right) + u_t, \quad m = 1,2,3,4.$$

The estimated conditional slope of inflow $X_j$ for a specified government-effectiveness value is:

$$\frac{\partial E(EXPGDP_t \mid X, GE, TO, GDPG)}{\partial X_{jt}} = \beta_j + \delta_j GE_t.$$

This uncentered representation reproduces the conditional slopes in the reported results. Although the thesis methods describe mean centering, the printed marginal slopes correspond numerically to raw GE values and raw lower-order coefficients; the centering convention therefore requires reconciliation against the actual estimation code before submission. As in any interaction model, a significant product term tests whether a slope changes with the moderator; it does not show that each conditional simple slope is statistically significant. The retained output contains interaction confidence intervals but not the covariance terms needed to reconstruct confidence intervals for every conditional slope (Hayes, 2022).

### 3.4 Diagnostic strategy and inference

The Augmented Dickey–Fuller (ADF) unit-root test screened stationarity with the null of a unit root; level non-rejection was not treated as proof of first-difference stationarity. The Pesaran–Shin–Smith bounds approach and Gregory–Hansen regime-shift tests

examined possible long-run level relationships, while CUSUMSQ screened parameter stability (Dickey & Fuller, 1979; Pesaran et al., 2001; Gregory & Hansen, 1996; Brown et al., 1975). The reported diagnostics also included residual Shapiro–Wilk normality, Breusch–Godfrey serial correlation, White heteroscedasticity and variance inflation factors (Breusch, 1978; Godfrey, 1978; White, 1980; Wooldridge, 2020).

Statistical decisions used a 5% significance level, subject to confidence intervals and the distinct hypotheses associated with each test. Residual normality supports the plausibility of certain small-sample inferences but does not prove unbiased estimation; failure to reject a serial-correlation or heteroscedasticity null is similarly not proof that every specification problem is absent. The interaction models have many fitted terms relative to 35 observations and may be particularly sensitive to influential years, governance-series reconstruction and collinearity among regressors (Wooldridge, 2020; Kripfganz & Schneider, 2023). The analysis thus reports the thesis estimates without claiming an independent rerun.

## 4. EMPIRICAL RESULTS

### 4.1 Descriptive statistics

Table 2 summarizes the annual distributions before lag losses. The mean export share of GDP was 21.325 percentage points, with substantial variability across years. Average trade openness was considerably higher because it contains both exports and imports. FDI accounted for less than one percentage point of GDP on average, while net ODA represented a larger share. Remittances varied over time and portfolio investment included significant net outward episodes. The mean government-effectiveness estimate was negative, meaning that the harmonized series tended to lie below the zero reference of the standardized measure; it is not a monetary indicator and should not be interpreted as a percentage (World Bank, 2025, 2026).

**Table 2. Descriptive statistics of the study variables, 1990–2024**

| Variable | N | Mean | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| Export performance (EXPGDP) | 35 | 21.325 | 6.684 | 11.428 | 38.904 |
| Trade openness (TO) | 35 | 50.374 | 11.097 | 30.399 | 72.858 |
| Economic growth (GDPG) | 35 | 3.745 | 2.277 | −0.799 | 8.058 |
| Foreign direct investment (FDIGDP) | 35 | 0.756 | 0.790 | −0.005 | 3.095 |
| Net ODA (ODAGDP) | 35 | 4.929 | 3.341 | 1.963 | 15.919 |
| Personal remittances (REMGDP) | 35 | 2.310 | 1.115 | 0.392 | 4.535 |
| Portfolio investment (FPIGDP) | 35 | −0.039 | 1.029 | −5.443 | 1.305 |
| Government effectiveness (GE) | 35 | −0.465 | 0.292 | −1.104 | 0.184 |

***Note.*** *Percentages of GDP except government effectiveness (standardized estimate) and GDPG (annual real-GDP percentage growth).*

***Source:*** *Mercy's thesis, Table 4.1 and underlying statistical output.*

The wider range of exports and trade openness compared with FDI illustrates the importance of retaining comparable units and avoiding unsupported percentage interpretations of regression coefficients. The negative mean of net portfolio investment also cautions against describing the entire historical portfolio series as a uniformly positive inflow. Variation is informative for estimating covariation, but aggregate ratios do not show whether FDI entered tradable sectors or whether ODA targeted trade infrastructure. Nor do remittance totals reveal enterprise investment or households' intended use of receipts (IMF, 2025; Saadi, 2020; Murdipi et al., 2023).

### 4.2 Pearson correlation analysis

Table 3 presents the full lower-triangular Pearson matrix, using the variable order in the descriptive table. Export performance had a strong positive bivariate correlation with trade openness and a substantial positive correlation with ODA. The contemporaneous association with remittances was negative, whereas the correlation with FDI, portfolio investment and government effectiveness was relatively weak. In particular, the remittance correlation changes direction in the direct regression (Wooldridge, 2020).

**Table 3. Pearson correlation matrix**

| Variable | EXPGDP | TO | GDPG | FDI | ODA | REM | FPI | GE |
|---|---|---|---|---|---|---|---|---|
| EXPGDP | 1.000 | | | | | | | |
| TO | .961** | 1.000 | | | | | | |
| GDPG | −.309 | −.214 | 1.000 | | | | | |
| FDIGDP | .017 | .113 | .154 | 1.000 | | | | |
| ODAGDP | .696** | .587** | −.366* | .188 | 1.000 | | | |
| REMGDP | −.417* | −.452** | .042 | −.035 | −.351* | 1.000 | | |
| FPIGDP | .052 | −.013 | −.153 | −.131 | −.089 | .131 | 1.000 | |
| GE | .040 | −.085 | .012 | .142 | .604** | .014 | −.119 | 1.000 |

***Note.*** *N = 35. p < .05 (); p* < .01 (**), as indicated in the thesis matrix. Full variable names appear in Table 1.*

***Source:*** *Mercy's thesis, Table 4.2.*

The correlation analysis revealed a strong positive relationship between trade openness and export performance (r = .961), indicating that higher levels of trade openness were associated with higher export performance in Kenya. Similarly, official development assistance exhibited a moderately strong positive relationship with government effectiveness (r = .604), indicating that higher levels of official development assistance were associated with higher levels of government effectiveness during the period under investigation. These findings established positive relationships between the respective variables in Kenya over the study period (Wooldridge, 2020; Pesaran et al., 2001).

**4.3 Lag selection, unit-root screening and diagnostics**

Lag-order selection favoured two lags of exports, one lag of trade openness, no lag of economic growth, and flow-specific dynamic orders. The selected ODA order was three; remittances retained one lag, while FDI and portfolio investment entered contemporaneously. These orders preserve a channel for delayed associations while limiting the parameter count in a short sample. Information criteria are useful for model selection but do not establish stable structural coefficients or remove endogeneity (Lütkepohl, 2005; Kripfganz & Schneider, 2023).

**Table 4. Selected lag orders and ADF level tests**

| Variable | Selected lag | ADF statistic | p-value | Level decision |
|---|---|---|---|---|
| EXPGDP | 2 | −2.630 | .2664 | Unit root not rejected |
| TO | 1 | −2.899 | .1626 | Unit root not rejected |
| GDPG | 0 | −5.693 | < .001 | Stationary at level |
| FDIGDP | 0 | −4.515 | .0014 | Stationary at level |
| ODAGDP | 3 | −2.755 | .2138 | Unit root not rejected |
| REMGDP | 1 | −2.858 | .1764 | Unit root not rejected |
| FPIGDP | 0 | −5.182 | < .001 | Stationary at level |
| GE | 1 | −2.324 | .4205 | Unit root not rejected |

***Note.*** *Augmented Dickey–Fuller level specification as reported in the thesis. The 5% critical value was −3.564. Failure to reject at level is not a completed I(1) classification without first-difference tests.*

***Source:*** *Tables 4.3 and 4.4.*

The Augmented Dickey–Fuller (ADF) unit-root test results indicated that five variables were non-stationary at level, while the remaining variables were stationary at level. The Autoregressive Distributed Lag (ARDL) bounds-testing approach was employed to examine the existence of a long-run relationship among export performance, foreign capital inflows, government effectiveness and the control variables. The bounds-test results did not establish a statistically significant long-run relationship among the

variables based on the reported critical values. Consequently, the findings did not provide sufficient statistical evidence of cointegration among the variables during the study period (Dickey & Fuller, 1979; Pesaran et al., 2001).

**Table 5. Diagnostic tests, null hypotheses and reported results**

| Diagnostic | Statistic or range | Decision and interpretation |
|---|---|---|
| Residual normality (Shapiro–Wilk) | W = .9588; p = .2106 | Normality not rejected |
| First-order serial correlation (Breusch–Godfrey) | $\chi^2(1) = .565$; p = .4523 | No detected first-order serial correlation |
| Heteroscedasticity (White) | $\chi^2(34) = 35.00$; p = .4204 | Constant variance not rejected |
| Variance inflation factor | 1.07–6.53; mean 2.65 | Moderate overlap for ODA; no VIF ≥ 10 |
| ARDL bounds F-test | F = 2.707 | Below reported 10% lower bound 2.744; no cointegration established |
| ARDL bounds t-test | t = −2.970 | Inconclusive at reported 5% bounds |
| Gregory–Hansen level shift | ADF = −4.46; 5% CV = −5.56 | No break-adjusted cointegration detected |
| Gregory–Hansen level/trend shift | ADF = −4.62; 5% CV = −5.83 | No break-adjusted cointegration detected |
| Gregory–Hansen regime shift | ADF = −4.49; 5% CV = −6.41 | No break-adjusted cointegration detected |
| CUSUM of squares | Path within plotted 5% boundaries | No plotted instability detected |

***Note.*** *Diagnostic results and critical values are reproduced from the thesis; unavailable higher-order serial-correlation and alternative specification tests are not invented. VIF for ODA = 6.53, GE = 3.72 and TO = 3.18.*
***Source:*** *Thesis Tables 4.5–4.6 and Figure 4.3.*

The diagnostic test results indicated that the regression model satisfied the assumptions of residual normality, serial independence and homoscedasticity at conventional significance levels. The multicollinearity test revealed that official development assistance had a variance inflation factor (VIF) exceeding five, indicating a relatively high degree of correlation with other explanatory variables. The ARDL bounds test produced an F-statistic below the lower critical bound, while the associated t-statistic yielded an inconclusive result. Similarly, the Gregory–Hansen cointegration test did not establish a statistically significant long-run relationship among the variables. Consequently, the findings did not provide sufficient evidence to support the estimation and interpretation of long-run coefficients or an error-correction adjustment parameter (Pesaran et al., 2001; Gregory & Hansen, 1996). Furthermore, the CUSUM of Squares test indicated parameter stability during the study period, as the plotted statistic remained within the critical boundaries (Brown et al., 1975). The results therefore indicated that the estimated model remained stable over the period examined (Pesaran et al., 2001; Gregory & Hansen, 1996; Brown et al., 1975).

**4.4 Control-variable dynamic regression**

The control ARDL related the export share to its two lagged values, current and lagged trade openness and contemporaneous real-GDP growth. The first export lag was positive and statistically significant, consistent with persistence in export patterns, while the second was not significant. Current trade openness had a positive association and its lag a negative one, which should not be read as two independent policy effects because the underlying measure includes the export share. Economic growth was negatively associated with contemporaneous export performance in this baseline equation; this coefficient became negligible in the model containing foreign flows (Bleaney & Tian, 2023; Wamalwa & Were, 2021).

**Table 6. Control-variable ARDL regression**

| Term | B | SE | p-value | 95% CI |
|---|---|---|---|---|
| EXPGDP, lag 1 | .772 | .142 | < .001 | [.481, 1.064] |
| EXPGDP, lag 2 | −.093 | .074 | .223 | [−.246, .060] |
| TO, current | .487 | .043 | < .001 | [.399, .576] |
| TO, lag 1 | −.345 | .077 | < .001 | [−.502, −.187] |
| GDPG, current | −.216 | .102 | .044 | [−.425, −.006] |

| Term | B | SE | p-value | 95% CI |
|---|---|---|---|---|
| Constant | .397 | 1.702 | .817 | [−3.095, 3.890] |

***Note.*** *Thesis reports 34 annual observations (1991–2024) for the ARDL(2,1,0) control specification. Coefficients and intervals are reproduced as printed. Source: Thesis Table 4.7.*

The control-variable ARDL model examined the relationships between trade openness, economic growth and export performance in Kenya. The results showed that the estimated relationships varied across the model specifications. Following the inclusion of foreign direct investment, net official development assistance, personal remittances and portfolio investment in the direct-effects model, the coefficients of trade openness and economic growth differed from those obtained in the control-variable model. These findings indicated that the relationships between the control variables and export performance varied with the explanatory variables and lag structures included in the estimated models (Wooldridge, 2020; Kripfganz & Schneider, 2023).

**4.5 Direct effects of foreign capital inflows**

The combined direct-effects ARDL model revealed that foreign direct investment, net official development assistance, personal remittances and portfolio investment had positive and statistically significant relationships with export performance in Kenya. Foreign direct investment had a positive and statistically significant coefficient (B = 0.632, p < .001), indicating that a one-percentage-point increase in foreign direct investment as a share of GDP was associated with a 0.632 percentage-point increase in export performance, holding other explanatory variables constant. Similarly, net official development assistance had a positive and statistically significant coefficient (B = 0.595, p = .009), implying that a one-percentage-point increase in net official development assistance as a share of GDP was associated with a 0.595 percentage-point increase in export performance. Personal remittances also exhibited a positive and statistically significant relationship with export performance (B = 0.313, p = .001), indicating that a one-percentage-point increase in personal remittances as a share of GDP was associated with a 0.313 percentage-point increase in export performance. Furthermore, portfolio investment had a positive and statistically significant coefficient (B = 0.581, p = .010), indicating that a one-percentage-point increase in portfolio investment as a share of GDP was associated with a 0.581 percentage-point increase in export performance. All four coefficients were statistically significant at the 5% level, leading to the rejection of the respective null hypotheses. However, the lagged coefficients for net official development assistance and personal remittances were not statistically significant.

**Table 7. Combined direct-effects ARDL: contemporaneous focal coefficients**

| Foreign capital inflow | B | SE | t | p-value | 95% CI |
|---|---|---|---|---|---|
| Foreign direct investment | .632 | .146 | 4.32 | < .001 | [.333, .930] |
| Net official development assistance | .595 | .204 | 2.91 | .009 | [.165, 1.024] |
| Personal remittances | .313 | .082 | 3.82 | .001 | [.143, .482] |
| Portfolio investment | .581 | .207 | 2.81 | .010 | [.155, 1.008] |

***Note.*** *N = 32 (1993–2024); dependent variable EXPGDP. The thesis reports $R^2$ = .650 and adjusted $R^2$ = .566. Figures are contemporaneous coefficients from a specification also containing export lags, controls and selected ODA and remittance lags.* ***Source:*** *Thesis Table 4.8.*

The ARDL regression results further revealed that the first lag of export performance had a positive and statistically significant relationship with current export performance in Kenya, indicating that higher export performance in the previous year was associated with higher export performance in the current year. Trade openness also exhibited a positive relationship with export performance in the current period. However, the lagged coefficients of net official development assistance and personal remittances were not statistically significant, indicating that their lagged values did not have statistically significant relationships with export performance in the estimated model. These findings demonstrated the importance of previous export performance and current trade openness in explaining variations in Kenya's export performance during the study period.

**Table 8. Dynamic terms and controls in the direct-effects model**

| Term | B | SE | p-value | 95% CI |
|---|---|---|---|---|
| EXPGDP, lag 1 | .846 | .216 | .001 | [.397, 1.295] |
| EXPGDP, lag 2 | −.103 | .102 | .327 | [−.318, .112] |
| TO, current | .458 | .055 | < .001 | [.342, .573] |
| TO, lag 1 | −.161 | .104 | .138 | [−.379, .057] |
| GDPG, current | −.002 | .104 | .982 | [−.221, .216] |
| ODA, lag 1 | −.048 | .224 | .833 | [−.518, .422] |
| ODA, lag 2 | −.291 | .174 | .112 | [−.658, .075] |
| ODA, lag 3 | .216 | .141 | .143 | [−.080, .512] |
| REM, lag 1 | −.339 | .236 | .168 | [−.835, .157] |
| Constant | −2.091 | 2.446 | .404 | [−7.230, 3.048] |

***Note.*** *Additional parameters in the same 32-observation direct ARDL, excluding the four current flow coefficients already shown in Table 7. Source: Thesis Table 4.8.*

These direct relationships are consistent with the possibility that different forms of external finance relax investment and foreign-exchange constraints, but the model does not identify the pathways through which a specific year's receipts reached export producers. FDI may have entered non-tradable services, ODA may have financed general social expenditure, remittances may have supported household consumption, and portfolio transactions may have transferred pre-existing securities. This distinction separates the testable associations from mechanisms proposed by Two-Gap Theory and from the heterogeneous evidence in previous studies (Chenery & Strout, 1966; Hoekman & Shingal, 2020; Asamoah et al., 2021).

### 4.6 Moderating role of government effectiveness

The hierarchical moderated regression results revealed that institutional quality, measured by government effectiveness, positively and significantly moderated the relationships between foreign capital inflows and export performance in Kenya. Government effectiveness positively and significantly moderated the relationship between foreign direct investment and export performance (B = 7.890, p = .011), indicating that higher government effectiveness strengthened the positive relationship between foreign direct investment and export performance. Similarly, government effectiveness positively and significantly moderated the relationship between net official development assistance and export performance (B = 0.774, p = .001). The interaction between personal remittances and government effectiveness was also positive and statistically significant (B = 5.741, p = .008), indicating that government effectiveness strengthened the relationship between personal remittances and export performance. Furthermore, government effectiveness positively and significantly moderated the relationship between portfolio investment and export performance (B = 15.842, p < .001). All four interaction coefficients were statistically significant at the 5% level, and their respective 95% confidence intervals excluded zero. The findings therefore established positive enhancing moderation across the four relationships, leading to the rejection of null hypotheses H05a, H05b, H05c and H05d.

**Table 9. Hierarchical moderation: interaction coefficients at entry**

| Interaction added | B | SE | t | p-value | 95% CI |
|---|---|---|---|---|---|
| FDI × government effectiveness | 7.890 | 2.889 | 2.73 | .011 | [1.953, 13.828] |
| ODA × government effectiveness | .774 | .214 | 3.62 | .001 | [.335, 1.212] |
| Remittances × government effectiveness | 5.741 | 1.992 | 2.88 | .008 | [1.630, 9.851] |
| Portfolio investment × government effectiveness | 15.842 | 3.278 | 4.83 | < .001 | [9.060, 22.624] |

***Note.*** *Hierarchical cumulative entry: FDI, ODA, remittances, then portfolio interactions; N = 35. Confidence intervals apply to the interaction coefficients, not to individual conditional simple slopes.*

***Source:*** *Thesis Table 4.9.*

The hierarchical moderated regression results revealed a progressive increase in the explanatory power of the models following the sequential inclusion of interaction terms between foreign capital inflows and government effectiveness. The first model, which incorporated the interaction between foreign direct investment and government effectiveness, recorded an $R^2$ of .890, indicating that the model explained 89.0% of the variation in export performance. The second model, which additionally included the interaction between net official development assistance and government effectiveness, recorded an $R^2$ of .900, explaining 90.0% of the variation in export performance. The third model, following the inclusion of the interaction between personal remittances and government effectiveness, recorded an $R^2$ of .926, accounting for 92.6% of the variation. Finally, the fourth model, which incorporated the interaction between portfolio investment and government effectiveness, recorded an $R^2$ of .963, explaining 96.3% of the variation in export performance. These findings indicated that the explanatory power of the estimated models increased progressively as the interaction terms were introduced, demonstrating improved model fit across the hierarchical regression stages.

**Table 10. Conditional slopes across observed government-effectiveness values**

| Flow | GE minimum (−1.104) | GE mean (−.465) | GE maximum (.184) | Reported pattern |
|---|---|---|---|---|
| FDI | −6.277 | −1.232 | 3.892 | Enhancing crossover |
| Net ODA | .027 | .522 | 1.025 | Ordinal enhancing |
| Personal remittances | −5.265 | −1.594 | 2.134 | Enhancing crossover |
| Portfolio investment | −5.862 | 4.269 | 14.555 | Enhancing crossover |

***Note.*** *Marginal slopes are the thesis's reported model-based point estimates at the observed GE minimum, mean and maximum, not separately tested coefficients. Conditional-slope confidence intervals cannot be constructed from the retained summary output because coefficient covariances are not provided.*
***Source:*** *Thesis Table 4.9A.*

The conditional slope analysis revealed ordinal positive enhancing moderation for official development assistance, as its relationship with export performance remained positive and strengthened with increasing government effectiveness. In contrast, foreign direct investment, personal remittances and portfolio investment exhibited disordinal positive enhancing moderation, with their estimated slopes changing from negative to positive as government effectiveness increased. These findings demonstrated that government effectiveness strengthened the relationships between foreign capital inflows and export performance, although the statistical significance of individual conditional slopes was not established (Hayes, 2022).

## 5. DISCUSSION

### 5.1 Foreign direct investment

The positive contemporary FDI association is consistent with the broad evidence of export complementarities from Kastratović (2020), Sahoo and Dash (2022) and Kastratović (2024), but Kenya-specific interpretation should remain focused on the type of FDI rather than its volume alone. Investment that upgrades agro-processing, manufacturing, logistics or exportable services is more likely to raise export capacity than investment into purely domestic non-tradables. Ding et al. (2021) similarly show that foreign-market experience can shape exporting behaviour. The FDI–GE interaction strengthens the institutional interpretation: infrastructure implementation, public-service reliability and export-investment facilitation may determine whether capital reaches competitive production, in line with institutional evidence from Masunda et al. (2025) and Githaiga and Kilong'i (2023). The negative conditional slope at low GE is a point estimate, not evidence that weak institutions necessarily make every FDI project harmful.

### 5.2 Net official development assistance

The positive ODA coefficient is compatible with trade-supporting infrastructure and human-capital pathways, but a fundamental distinction remains between aggregate ODA and specifically designed Aid for Trade. Hoekman and Shingal (2020), Gnangnon (2021, 2022, 2024) and Aboushady et al. (2025) document differences according to aid composition, country conditions and institutional distance. The Kenyan ODA–GE result indicates a more positive fitted export association as effectiveness increases, without a plotted reversal over the examined governance range. These findings support prioritizing project execution quality,

border systems, standards capacity and infrastructure maintenance, not treating general assistance as automatically export-enhancing. Kamguia et al. (2022) provide a reminder that some categories of aid may be less supportive of productive upgrading.

**5.3 Personal remittances**

The remittance findings are especially informative because the bivariate correlation with exports was negative but the conditional contemporaneous ARDL coefficient was positive. This sign difference may arise from correlations with controls, time trends and the other inflows; it is not evidence that a simple positive causal mechanism has been identified. Saadi (2020) supports the possibility of remittance-financed export upgrading, while Hien et al. (2020), Anwar and Mang (2022), Ben Atta et al. (2025) and Taguchi and Batool (2025) highlight exchange-rate appreciation and nonlinear channels. The positive remittance–GE interaction is consistent with institutions potentially enabling productive household and diaspora investments, but national annual data cannot identify how much remittance income actually reached exporting enterprises. Voluntary diaspora financial products, secure transfer systems and entrepreneurship support would be more defensible policy responses than prescriptions for households' remittance use.

**5.4 Portfolio investment**

The positive contemporaneous portfolio coefficient does not imply that liquid financial claims automatically finance new export facilities. Belke and Domnick (2021) document trade–finance complementarity, but Asamoah and Alagidede (2020) and Asamoah et al. (2021) find heterogeneous portfolio relationships with African real sectors. Dahlhaus and Vasishtha (2020) and Nguyen et al. (2024) further identify sensitivity to global monetary conditions and capital reversals. The portfolio–GE interaction is consistent with governance affecting the financial system's capacity to accommodate inflows, manage volatility and promote credible market participation (Murdipi et al., 2023). Stronger market supervision, macroprudential monitoring and access to appropriate long-term enterprise finance are therefore more relevant than maximizing short-term portfolio receipts.

**5.5 Institutional and econometric implications**

Together, the findings accord with the claim that access to external resources and institutional capacity may be complementary, but the three theoretical perspectives are not interchangeable. Export-Led Growth Theory explains why export performance matters; Two-Gap Theory explains why external finance could relax savings and foreign-exchange constraints; Institutional Theory explains why the relationship may vary with government effectiveness (Balassa, 1978; Chenery & Strout, 1966; North, 1990; Williamson, 2000). Positive estimated interactions are compatible with the institutional proposition but do not empirically identify a specific causal mechanism, such as customs efficiency or project implementation quality. Disaggregated institutional indicators and sector-level trade measures would be needed to test those pathways directly (Bah et al., 2021; Sakyi et al., 2023).

The methodological boundaries are equally important. The direct model and moderation equations use different samples and dynamics. The trade-openness control incorporates exports in its numerator and correlates strongly with the dependent variable. Government effectiveness is a perception-based estimate and the thesis includes approximated values before official data coverage. The output also reports direct-model fit summary degrees of freedom that should be reconciled with the full set of printed ARDL coefficients before submission. These concerns do not warrant fabricating replacement estimates; they warrant access to the reproducible dataset, estimation commands and a matched-sample sensitivity analysis (Bleaney & Tian, 2023; Kripfganz & Schneider, 2023; World Bank, 2025). The absence of established cointegration remains decisive for avoiding unsupported long-run language (Pesaran et al., 2001).

## 6. CONCLUSION, POLICY IMPLICATIONS AND LIMITATIONS

The reported estimates show positive contemporaneous associations between each of four foreign capital inflows—FDI, net ODA, personal remittances and portfolio investment—and Kenya's export performance after adjusting for the included dynamic and macroeconomic terms. Government effectiveness also positively moderated each flow–export relationship in the cumulative interaction models. The results were consistent with ordinal enhancing moderation for ODA and point-estimate crossover enhancing moderation for the other three inflows. These are sample-period conditional relationships rather than established causal or long-run effects, because cointegration was not demonstrated and the underlying data were observational.

Export-development policy should prioritize the *use* of foreign resources. For FDI, investment facilitation can favour internationally connected production, reliable energy and export-ready logistics. For ODA, trade infrastructure, customs modernization, standards laboratories and institutional delivery capacity offer a clearer export channel than aggregate aid growth alone. For remittances, voluntary diaspora investment opportunities and enterprise finance may make productive use possible without presuming that private transfers should be redirected by government. For portfolio investment, credible regulation and

mechanisms that improve long-term enterprise financing can mitigate the risks created by reversible flows (UNCTAD, 2025b; OECD, 2025a; AfDB, 2025; Murdipi et al., 2023).

Government effectiveness deserves attention as a complementary policy condition. Coordination among trade, infrastructure, investment, revenue and standards authorities may reduce implementation delays and increase the likelihood that external financing supports exporters. However, the analysis does not identify which element of government effectiveness drove the observed interactions, and the fitted coefficients do not establish that a particular policy reform would produce a specified percentage-point export increase. Policy recommendations should be assessed alongside feasibility, cost, sectoral needs and independently measured export outcomes (North, 1990; Aboushady et al., 2025; Bah et al., 2021).

Limitations include the short annual sample, a national aggregate outcome rather than firm- or sector-level exports, possible simultaneity and omitted macroeconomic shocks, and the pronounced definitional overlap between export intensity and trade openness. Most importantly, the official government-effectiveness series starts after the study's opening year, and the pre-1996 approximate values are not source-verifiable from the material provided. The direct and moderation specifications also differ in sample size and dynamic form; the reproduced direct-model fit statistics warrant reconciliation with the coefficient table. The conditional slope results cannot be assigned individual significance without covariance estimates. These limitations affect external validity, precision and causal interpretation rather than just manuscript presentation (World Bank, 2025; Wooldridge, 2020; Hayes, 2022).

Future research should re-estimate the interaction models using only officially covered WGI years, retain the same effective sample for nested model comparisons, and investigate export performance by sector and domestic value added. External instruments or credible identification strategies could address simultaneity. Disaggregating ODA into trade-related components, FDI into export-oriented and domestic-market investment, remittances into productive channels and portfolio flows into equity and debt would clarify the mechanisms behind the pooled associations. Replication using verified time-series files and structural-break sensitivity tests is also advisable before drawing conclusions about persistent or long-run relationships (Gregory & Hansen, 1996; Kastratović, 2020; Hoekman & Shingal, 2020; Kripfganz & Schneider, 2023).

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