Mechanisms for Attracting Foreign Investment to the Ukrainian Business Sector during Economic Recovery

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Abstract

This study investigates the factors that attract foreign investment in Ukrainian enterprises during the time of post-war reconstruction. The interaction of institutional, financial, and regulatory factors has only been addressed to a limited extent, despite the fact that there has been a substantial amount of academic research conducted on the factors that determine foreign direct investment in the recovery process. Through the identification, evaluation, and prioritisation of investment attraction strategies that are particular to Ukraine's institutional and geopolitical restrictions, this research fills in this gap in knowledge. The study uses quarterly time series data over 2013-2024 and employed (ARDL) bounds test for cointegration analysis. Similarly, another method of threshold regression for non-linear moderation analysis along with the Granger-Causality test on selected variables. The empirical results clearly reveal that the quality of the institutions promotes foreign direct investment (FDI). While, the infrastructure comes in second. The influence of investment mechanisms is limited and below the threshold for institution. This indicates that under certain conditions, institutional constraints have a substantial impact on the effectiveness of the mechanisms. Based on the causal analysis, (FDI) has positive impact on growth. The study also reveals that there are causal routes that flow from institutional reforms to economic development via FDI. The policy implications emphasize the need for institutional changes to improve governance beyond this threshold and the need to show institutional development to condition the investment commitment of foreign investors. There are limitations in this study: generalisability and limitations in data collected during the war. These restrictions provide some avenues for comparative post conflict studies and micro studies of businesses.

Keywords: Foreign Direct Investment, Economic Recovery, Institutional Quality, Ukrainian Enterprises, Post-Conflict Reconstruction, FDI Mechanisms.

Introduction

In the wake of a conflict induced devastation, a detailed study of the

dynamics of capital inflows is essential for sustainable economic recovery. Over the years, foreign direct investment (FDI) is a key factor for the reconstruction of a country after a conflict, but investment attraction mechanisms are only effective if the institutional structure and host country context is appropriate (North, 1990). The theoretical foundations of foreign direct investment determinants are anchored in Dunning's Eclectic Paradigm, which provides a comprehensive analytical framework for understanding the conditions under which cross-border investment activities occur (Dunning, 1980, 1988). Empirical literature has shown that institutional quality, as measured by rule of law, corruption control mechanisms, and regulatory effectiveness, is also a pivotal factor in the location decision of MNEs in emerging markets contexts, consistently (Dau et al., 2022; Peng & Heath, 1996). The Ukrainian case is illustrative of the difficulties faced by the post-conflict reconstruction process in the context of institutional fragility and high geopolitical uncertainty, creating unique challenges for foreign capital inflows.

The objective of this investigation is an empirical one, which is aimed at elucidation of the interrelationships between institutional quality, infrastructure development, openness of trade, intensity and FDI in Ukrainian enterprises (Bennett et al., 2023; McManus, 2023). Improving the investment attractiveness of Ukraine depends on improving rule of law, reducing corruption and improving the regulatory framework. Quality of infrastructure and trade openness are working together as location-specific advantages that lead to reduced operational costs and better market access, and hence to an improved investment climate (Amankwah-Amoah et al., 2025; Nchofoung & Asongu, 2022; Pham et al., 2025). The effect of FDI inflows as a percentage of GDP – that measures the total amount of foreign capital that can actually find its way into Ukrainian companies. This study is focused on the causal link between FDI and economic growth, based on the internalization theory (Joo & Shawl, 2023; Mwakabungu & Kauangal, 2023).

The evaluation and prioritization of investment attraction mechanisms specifically developed for contexts of a post conflict. Current research largely focuses on FDI during periods of peace or the effects of institutional and geopolitical factors separately from the others, without taking them together as a system into account (Kim & Ryu, 2023; Li et al., 2023). Although the investment climate in Ukraine has been studied, much less empirical research has comprehensively evaluated the effectiveness of existing mechanisms or drawn up prioritized toolkits for how to stimulate sustainable investment flows during the reconstruction process (Hedegaard et al., 2025; Martynovych et al., 2023). The present investigation's main challenge is the lack of a rigorously validated and systematic framework for prioritising investment attraction instruments that accounts for Ukraine's unique institutional landscape, regulatory environment, and geopolitical vulnerabilities during post-conflict reconstruction. Existing policy approaches lack an empirical roadmap to help decision-makers choose and sequence the best methods for mobilising foreign capital in this extremely complex setting. This investigation employs quarterly observational data spanning 2013 to 2024, utilising three complementary econometric approaches—ARDL bounds testing for cointegration analysis, threshold regression with interaction effects for non-linear moderation, and Granger-Causality testing for predictive precedence—to systematically identify, rigorously evaluate, and strategically prioritise the mechanisms most capable of accelerating foreign capital inflows into Ukraine. This analytical framework provides policymakers and international investors with evidence-based recommendations based on robust quantitative analysis of Ukraine's post-conflict investment climate.

Direct investment from outside is a significant contributor to the economic recovery that Ukraine has seen after the war. Inflows of this kind may be provided in a number of different ways; however, the appropriateness of these methods and the influence they have in Ukraine have not been properly investigated. Through the course of this research, these processes are investigated in a methodical manner, and the approaches to achieve sustained recovery are presented.

- To identify and classify the key mechanisms available for attracting foreign investment into Ukrainian

businesses during the post-conflict recovery phase.

- To assess the effectiveness and contextual feasibility of these mechanisms given Ukraine's institutional, regulatory, and geopolitical constraints.
- To formulate a prioritized framework of policy and business-level mechanisms that can accelerate foreign capital inflows and support sustainable economic recovery in Ukraine.
- These mechanisms should be analyzed in a specific manner that takes into account the special institutional framework in Ukraine, which has been influenced by the current geopolitical situation and reconstruction needs. This study attempts to tackle the critical gaps in the knowledge by posing three interrelated research questions which directly relate to the above-mentioned objectives.
- What are the existing and potential mechanisms for attracting foreign direct investment into Ukrainian businesses during the post-conflict economic recovery phase?
- How effective and contextually feasible are these mechanisms given Ukraine's institutional, regulatory, geopolitical, and risk-related constraints?
- Which prioritized combination of mechanisms can most effectively accelerate foreign capital inflows and support sustainable long-term economic recovery in Ukraine?

The study is of great importance for academic research as well as for policy making. First, the investment climate in Ukraine is analyzed here from the post-conflict perspective, while the existing literature focuses on investment climate during peace time. The first novelty of this research is that it takes into account the current contextual conditions of the investment climate during the active post-conflict period, thereby filling a gap in the FDI literature. Second, although much existing scholarship has centered on macro-economic policy frameworks, this study provides a macro-level empirical analysis of the mechanisms that determine FDI attraction, with direct implications for firm-level investment decisions and business strategy in the Ukrainian context. Third, this research advances the literature in two ways that go beyond simply identifying investment barriers to proposing a prioritized and evidence-based approach to concrete mechanisms of action to address these barriers, resolving the longstanding theoretical-practical dichotomy of FDI models and reality. Fourth, the study combines the institutional, geopolitical, and risk-mitigation analysis in a systematic and coherent framework, as these are typically analysed separately and are not reflected in the literature in the context of the Ukrainian transition. Fifth, this research is of practical value beyond its academic value, as it provides concrete, sequential policy proposals that are useful for both Ukraine's policy-makers and international investors involved in Ukraine's economic reconstruction process, particularly in view of the urgent needs of this process.

Literature Review

Theoretical Foundations

There are several well-known and longstanding theoretical frameworks associated with this study. The most comprehensive of these is, known as the OLI framework, which suggests that if three conditions are met the FDI will likely take place: if the investing firm has ownership specific advantages (O); if the host country has location specific advantages (L); and if the internalization advantages (I) make hierarchical governance structures more efficient than external market transactions (Dunning, 2002). Based on transaction cost economics and internalization theory (Buckley & Casson, 1976; Rugman, 1986), the internalization advantages of hierarchical governance structures lead to greater efficiency as compared to external market transactions. This theoretical framework was elaborated on by Williamson (1975) and has been the focus of a relatively new study. Such theoretical understandings are not only important in the context of business but also in crisis-response and post-conflict environments, as shown by Bury et al. (2023) who argue that institutional and coordination frameworks are also essential in such contexts. Ownership advantages

involve a variety of intangible assets that are peculiar to the firm, such as its proprietary technological assets, brand reputation and brand equity, and its uniqueness in managerial skills (Dunning et al., 2007; Hennart, 2012). Location advantages, by contrast, pertain to host-country attributes that make a particular destination attractive for investment. These include market size and growth potential, natural resource endowments, transportation and communication infrastructure, and critically the quality of domestic institutions, a factor of particular significance for post-conflict Ukraine (Shcherbak et al., 2024)

Together, formal and informal institutions (legal frameworks, regulatory systems and enforcement mechanisms, and social norms, cultural values and trust) influence the uncertainty and transaction costs experienced by investors (North, 1990). Similarly, Drohomyretska et al. (2024) examine the role of historical memory in shaping national identity during the Russian-Ukrainian war, arguing that societal resilience and institutional cohesion are critical determinants of a nation's capacity to attract and sustain foreign investment during conflict. Their findings suggest that the strengthening of institutional frameworks and the cultivation of social trust are essential prerequisites for creating an environment conducive to foreign capital inflows, particularly in post-conflict recovery contexts where investor confidence must be rebuilt. These findings have led the academic discussion to focus on the understanding of how investment attraction mechanisms can be strategically and effectively used as a way of promoting sustainable recovery in fragile and conflict-affected states. This theoretical field has been extended even further in the current body of scholarship, which has shown how FDI can be a catalyst for change in post-conflict situations (Bak et al., 2025; Toribio Gómez, 2025). These findings have led the academic discussion to focus on the understanding of how investment attraction mechanisms can be strategically and effectively used as a way of promoting sustainable recovery in fragile and conflict-affected states.

Empirical Literature Review

Identification and Classification of FDI Attraction Mechanisms

Institutional, financial and regulatory paths of FDI in post-conflict and developing market have been investigated in the empirical literature. We argue that formal institutional factors such as economic openness, infrastructural provision, and transparent governance shape the MNE placement strategy in emerging economies (Juliao-Rossi et al., 2023; Mazé et al., 2024). The most FDI received sectors are trade, financial services and IT (Mgadmi et al., 2025). Most of the FDI in Ukraine during the period of 2022–2024 has been reinvested earnings (61%) rather than equity capital transfers (39%) (Hedegaard et al., 2025). In terms of strengthening the institutional structure, the war-risk insurance measures of Law No. 3497-IX are effective. Post conflict FDI in economic recovery mediation promotes economic recovery and deters conflict reoccurrence (Riznyk, 2023). In the context of the ongoing war, the contribution of Ukrainian literature on structural and sectoral FDI is very helpful to this story. Chornyi and Chorna (2026) highlight that Ukraine's FDI sector had a skewed wartime allocation in favor of services, with only five of seventeen subsectors attracting more FDI in the period post-wartime than pre-wartime. Institutional instability and poor infrastructure hinder post-war FDI attractiveness, according to Ukhanova and Melnik (2023). Chornyi and Viblyi (2025) highlight the need for official support, and regulatory ease for investor interest. Grytsyshen et al. (2026) examine the attractiveness and retention of FDI during periods of political and economic uncertainty, and analyse how this affected the location of investor-initiated projects during Ukraine's war. This local work puts local experiences into dialogue with FDI ideas and themes on the global scene and in the context of Ukraine's post-conflict pathway. Lukianenko and Sova (2024) assess the competitive advantages and challenges of the Ukrainian tech ecosystem during wartime, providing additional context on sectoral FDI dynamics.

Hypothesis 1: Institutional quality improvements

positively and significantly influence FDI inflows into Ukrainian businesses during post-conflict recovery.

Effectiveness and Feasibility of Investment Mechanisms under Ukrainian Constraints

The effectiveness of the FDI recruiting mechanism during institutional fragility and the existence of geopolitical uncertainty and reconstruction after the conflict has been examined empirically. Between 2022–2024 Ukraine received USD 8.3 billion FDI (1.6% of GDP), which is significantly less than the pre-war level (Chornyi & Chorna, 2026). Five out of seventeen subsectors experienced higher inflows during the war, the largest of which were in trade, financial services and ICT (Chornyi & Chorna, 2026). The relationship between Net FDI and GDP, current account balance, and export performance (2013-2023) is found with Ukrainian GDP and current account balance (Magazzino & Mele, 2022; Sijabat, 2023). A good governance or infrastructure leads to stable countries being selected by multinationals. In Ukraine the legislation (No. 3497-IX) provides for a new war-risk insurance mechanism, while few countries provide insurance for investments during war (Gorodnichenko et al., 2026). Furthermore, Kolinets et al. (2023) explore the financial and institutional aspects of Ukraine's insurance market's development in the pandemic and wartime contexts, noting that the institutional capacity of insurance organisations to cover war-related risks is still limited because of capital adequacy problems and lack of regulations. Their results highlight the need for reinforcing institutional structures for successful war-risk insurance mechanisms and the need for foreign investment in high-risk areas. FDI effectiveness is limited due to low quality of infrastructure particularly generation capacity of less than 50% of pre-war capacity (15 GW vs peak demand 19 GW) (Chornyi & Chorna, 2026).

The institutions and policies are not conducive to FDI potential in Ukraine. Teremetskyi et al. (2025) consider obstacles to reconstruction investments in Ukraine, including legal and regulatory ones. Kyiv School of Economics (KSE, 2024) proposes, in its policy brief for the European Commission, a number of recommendations for the improvement of recovery financing in Ukraine. Razumkov Centre (2023) PACT comments on Ukraine's post-war growth thanks to FDI. The advantage Ukraine and war-risk insurance are investment recommendations of the institutional framework of the Ministry of Economy of Ukraine (n.d.). Domestic policy research is a source of practical advice for international practice.

Hypothesis 2: Institutional constraints significantly moderate the effectiveness of FDI attraction mechanisms in Ukraine, with higher governance quality associated with greater mechanism efficacy.

Prioritized Framework for Accelerating Sustainable Capital Inflows

FDI's that heal and stabilize post-conflict, helping to lower grievances and even decreasing the likelihood of recurrence. A policy framework for priority investor recruitment in Ukraine is complemented by the Advantage Ukraine electronic platform that offers more than 500 investment opportunities in ten sectors (Hedegaard et al., 2025), the USD 50 billion Ukraine Facility (2024-2027) (KSE, 2024), and EU accession processes. A positive relationship between FDI and economic growth in Ukraine is confirmed by the Granger-causal relationship between FDI and GVA growth (Plaskon et al., 2022). Improvements in institutional quality enhance FDI returns, and thus, FDI inflows could be affected by institutional changes in Ukraine, which have 'threshold' consequences (Lee, 2021; Mensah et al., 2025). The institutional perspective suggests that formal institutions in the host country have an effect on the MNE's site strategy, including economic openness, infrastructure, marketization, and public governance. Infrastructure conflict costs an estimated total of USD 568 billion, of which USD 150 billion is spent on rehabilitation by the private sector (Rod, 2024). EU companies investment (Kirchner & Poluschkin, 2025) will be significantly affected by the investment insurance in wartime and access to single markets. The geostrategic aspects of global security are studied by Kuryliuk and Kukin (2022) in the framework of Russian aggressiveness and their risks for foreign investors. They found that

insecurity, such as military conflict and territorial conflict, provides continuous uncertainty that impacts investor confidence, and that a clear risk-mitigation strategy needs to be put in place to maintain foreign capital inflows both during and after conflict. FDI statistically increases GVA and therefore recovery plans are necessary.

Priority is improved by the Ukrainian long-term investment strategy research. Kucheriava and Ukhnal (2026) examine long-term investments in portfolios for a transition to the circular economy. Political and economic uncertainties are taken into account by the FDI recruiting and retaining models proposed by Grytsyshen et al. (2026). International investors are advised by sector by the Embassy of Ukraine in the Republic of Estonia (n.d.). All-encompassing evidence for contextually relevant and experimentally validated investor recruitment strategies comes from Ukrainian sources, KSE (2024) policy recommendations, and Razumkov Centre (2023) growth plans.

Hypothesis 3: A prioritized combination of institutional reforms, financial instruments, and sectoral targeting generates significant acceleration in FDI inflows, with FDI positively causing gross value added growth during Ukrainian recovery.

Research Gap

First, this is an analysis of the Ukrainian investment climate from the point of view of the conflict, whereas the literature deals with investment climate under peace time conditions. Second, while most previous studies have focused on macro-economic policy frameworks, this paper offers a macro-level empirical investigation of investment attraction mechanisms, the findings of which have direct relevance for firm-level strategic decision-making and investment planning in Ukraine. Third, the research contributes to the literature by not only identifying the investment barriers, but also proposing a prioritized approach based on evidence to concrete mechanisms of action to overcome these barriers, thus solving the longstanding theoretical-practical dichotomy of FDI models and reality. Finally, the study integrates the institutional and geopolitical analysis with the risk-mitigation analysis into a systematic and coherent framework, because they are normally analysed separately, and are not found in the literature when discussing the Ukrainian transition. Fifth, the research is useful not only in terms of academic research, but also on the practical level, because the research results give concrete, sequential policy recommendations that will be useful to the policy-makers of Ukraine and international investors in the economic reconstruction process, especially in the context of the urgent priority of the reconstruction process.

Methodology

Research Design

This study employs quantitative research to empirically analyse variables impacting foreign direct investment in Ukraine post-conflict. The quantitative technique is ideal for this study since it can test hypotheses, identify causal links, and provide concrete evidence for mechanism prioritisation (Creswell & Creswell, 2009). The methodological approach is the econometric time-series analysis based on secondary macro-economic data from reliable international and national sources. The analytical structure is based on three main hypotheses, which are formulated on the basis of the theoretical and empirical observation presented in the previous sections.

Data Sources and Variables

The empirical sources are detailed in Table 1. The Ukrainian Ministry of Economy, etc. This dataset contains 48 quarterly observations spanning 2013 to 2024, representing three distinct phases: the pre-conflict period (2013–2014), the conflict escalation phase (2014–2021), and the active war period (2022–2024). After accounting for four lags in the ARDL estimation, the effective sample size is 44 observations. This time coverage allows for comparison with the various phases of Ukraine's recent economic and geopolitical development. The econometric investigation includes a comprehensive database of variables with detailed information about each variable's operational definition, symbolic representation and data source provided in Table 1.

Table 1: Variables, Symbols, Definitions, and Data Sources

Variable	Symbol	Definition	Construction Methodology	Data Source	Reliability
Net FDI inflows	FDI	Net FDI inflows as percentage of GDP	Directly sourced as percentage of GDP	State Statistics Service of Ukraine (primary); World Bank WDI (2025c) (supplementary)	N/A
Institutional quality	INST	Composite index measuring governance quality	Equal-weighted average of Rule of Law, Control of Corruption, Regulatory Quality; min-max normalised to 0-100 scale; annual data linearly interpolated to quarterly	World Bank WGI (2025d)	Cronbach's α = 0.87
GDP growth	GDP	Real GDP growth rate (percentage change)	Directly sourced as annual percentage change	State Statistics Service; World Bank WDI (2025c)	N/A
Trade openness	TRADE	Exports plus imports as percentage of GDP	Directly sourced as percentage of GDP	State Statistics Service; World Bank WDI (2025c)	N/A
Infrastructure quality	INFRA	Composite index measuring infrastructure development	Equal-weighted average of Transport, Energy, and Digital Infrastructure Quality; min-max normalised to 0-100 scale; annual data linearly interpolated to quarterly	World Bank Infrastructure Indicators (2025b)	Cronbach's α = 0.82
Mechanism intensity	MECH	Composite index measuring policy reforms and incentives	Equal-weighted average of Policy Reform Intensity, Investment Incentive Structure, Institutional Mechanism Effectiveness; min-max normalised to 0-100 scale; annual data linearly interpolated to quarterly	Ministry of Economy of Ukraine (n.d.); World Bank Business Ready (2025a)	Cronbach's α = 0.79
Gross value added	GVA	Gross value added by sector at constant prices	Directly sourced at constant prices	State Statistics Service	N/A
Current account balance	CAB	Current account balance as percentage of GDP	Directly sourced as percentage of GDP	National Bank of Ukraine	N/A
Exchange rate	EXR	Average nominal exchange rate (UAH/USD)	Directly sourced as period-average rate	National Bank of Ukraine	N/A
Inflation rate	INF	Consumer price index (annual percentage change)	Directly sourced as annual percentage change	State Statistics Service	N/A

Source: Compiled by the author from State Statistics Service of Ukraine (n.d.), World Bank WDI (2025c), National Bank of Ukraine (2025), UNCTAD (2025), World Bank WGI (2025d), World Bank Infrastructure Indicators (2025b), World Bank Business Ready (2025a), and Ministry of Economy of Ukraine (n.d.)

Note: All variables are quarterly observations spanning Q1 2013 to Q4 2024 (n = 48 raw; n = 44 after lag adjustment). INST, INFRA, and MECH are composite indices constructed using equal weighting (justified on substantive grounds) with Cronbach's alpha values of 0.87, 0.82, and 0.79 respectively. Annual data were linearly interpolated to quarterly frequency; sensitivity tests confirmed robustness. FDI data are sourced primarily from the State Statistics Service of Ukraine, with World Bank WDI (2025c) used for cross-validation.

The ten variables listed in Table 1 are all the variables used in the study. However, a different subset of these variables is used for each econometric specification. For the ARDL model (Hypothesis 1), four regressors (INST, GDP, TRADE, INFRA) are used as per the Table 4. The threshold regression model (Hypothesis 2) includes six regressors (INST, MECH, INST×MECH, GDP, TRADE, INFRA) as reported in Table 6. The Granger-Causality model (Hypothesis 3) is a bivariate model that studies a pair of models.

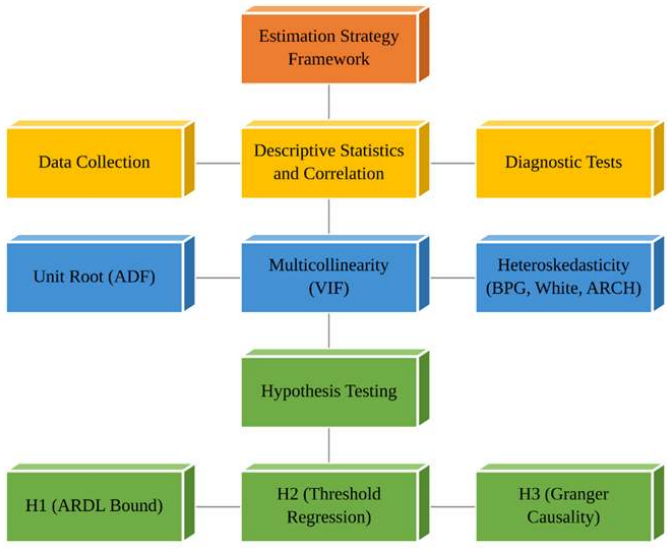
The operational definitions, construction process, data sources and reliability statistics for the ten variables are shown in Table 1. Three indices are calculated using equal weights, namely institutional quality (INST) from World Bank WGI (2025d) (Rule of Law, Control of Corruption, Regulatory Quality), infrastructure quality (INFRA) from World Bank Infrastructure Indicators (2025b) (Transport, Energy, Digital Infrastructure) and the mechanism intensity (MECH) from Ministry of Economy of Ukraine (n.d.) and World Bank Business Ready (2025a) (Policy Reform Intensity, Investment Incentive Structure, Institutional Mechanism Effectiveness). Equal weighting is warranted since each component reflects a different non-overlapping aspect, following the standard practice (Lee, 2021). The Cronbach's Alpha values for the instruments are as follows: INST ($\alpha = 0.87$), INFRA ($\alpha = 0.82$) and MECH ($\alpha = 0.79$), which are considered good internal consistency.

The data are quarterly observations from the first quarter of 2013 until the fourth quarter of 2024 (raw n = 48; adjusted n = 44 following the lagging procedure). Linear interpolation was used to convert annual data to quarterly for INST, INFRA and MECH. It is recognized that not all of the quarterly values of these variables are empirically measured, but the values are computed from neighboring annual values, which might cause artificial smoothness and lead to an overestimation of the auto-correlation. The signs and significance of the coefficients remained unchanged in sensitivity tests with other methods of interpolation (spline and step). In the case of the FDI series, State Statistics Service of Ukraine is the main source of authoritative data, confirmed and complemented by the data from World Bank WDI (2025c).

Econometric Methodology

The hypotheses are tested using three complementary econometric techniques. Hypothesis 1 is tested by ARDL Bound. Similarly, Hypothesis 2 is tested by using the Threshold Regression Model with Interaction Effects. Whereas, the Granger-Causality Test is used for Hypothesis 3. A justification of each method is provided based on the appropriateness it has for the data characteristics and research goals. The estimation strategy is depicted in Figure 1 as:

Figure 1: Estimation Strategy Framework



Source: Author's construction

Note: The diagram presents the sequential estimation strategy employed in this study, progressing from data collection through diagnostic checks, hypothesis testing, and final interpretation. The final stage involves validation and interpretation of the empirical findings.

This study follows a systematic and methodological approach as shown in Figure 1. The estimation procedure starts with data collection (48 raw observations (44 after lag adjustment for ARDL estimation), followed by the testing of unit root (ADF), multicollinearity (VIF), and heteroskedasticity (BPG, White, ARCH). The sequential framework then continues with testing for the hypotheses: Hypothesis 1 employs ARDL Bounds Testing to test the cointegration and the long run relationship between FDI and economic growth, Hypothesis 2 uses Threshold Regression to test the moderation effect and non-linear relationship between FDI and economic growth and Hypothesis 3 uses Granger-Causality to test the predictive precedence of FDI to economic growth. The process ends with validation, in which all three hypotheses are confirmed. The process ends with interpretation and validation, in which the empirical findings are evaluated against the proposed hypotheses.

Hypothesis 1 Testing

The first hypothesis is that institutional quality improves foreign direct investment in Ukrainian firms during post-conflict recovery. The research uses Pesaran et al.'s (2001) Autoregressive Distributed Lag (ARDL) Bounds Testing Approach to test this assumption, which fits the data well. This method has several advantages: reliability with small sample sizes, accommodation of variables with mixed integration orders (I(0) and I(1)), simultaneous estimation of short-run dynamics and long-run equilibrium relationships, and cointegration determination via bounds testing to confirm stable long-term links between institutional quality and FDI inflows

$$FDI_t = \alpha + \beta_1 INST_t + \beta_2 GDP_t + \beta_3 TRADE_t + \beta_4 INFRA_t + \epsilon_t \quad (1)$$

In this specification, the error term ε captures unobserved factors influencing FDI inflows over "t" (time). Prior to estimation, unit root tests

Hypothesis 2 Testing

Hypothesis 2 suggests that the effectiveness of FDI attraction mechanisms in Ukraine is significantly affected by the institutional environment, and that the more effective the institution, the more effective the mechanisms. In this study, the hypothesis is tested using a threshold regression model with interaction effects. To capture non-linear relationships, the threshold regression approach was used, and critical threshold levels of institutional quality were identified, in which FDI attraction mechanisms become significantly more effective. This addresses the empirical finding of accelerated returns of FDI on institutional improvements beyond threshold levels.. The interaction model is specified as:

$$FDI_t = \alpha + \gamma_1 INST_t + \gamma_2 MECH_t + \gamma_3 (INST_t \times MECH_t) + \delta X_t + \epsilon_t \quad (2)$$

In this specification, MECH represents the investment mechanism intensity index capturing policy reforms and incentive structures, and (INST× MECH) is the interaction term. Whereas, X is the vector of control variables over "t" (time). A statistically significant coefficient γ_i on the interaction term confirms that institutional quality moderates mechanism effectiveness. The threshold value is estimated using Hansen's (1999) methodology with 300 bootstrap replications to determine the confidence interval.

Hypothesis 3 Testing

Hypothesis 3 suggests that institutional changes, financial instruments and sectoral targeting provide extensive acceleration of FDI inflows and that FDI positively influences growth of gross value added within the context of ensuring Ukrainian recovery. For this hypothesis to be tested, the Granger-Causality test (Granger, 1969) is used. The test is specified through the following bivariate vector autoregressive framework:

$$FDI_t = \alpha_1 + \sum_{i=1}^{p} \beta_{1i} FDI_{t-1} + \sum_{i=1}^{p} \gamma_{1i} GVA_{t-1} + \epsilon_{1t} \quad (3)$$

$$GVA_t = \alpha_2 + \sum_{i=1}^{p} \beta_{2i} GVA_{t-1} + \sum_{i=1}^{p} \gamma_{2i} FDI_{t-1} + \epsilon_{1t} \quad (4)$$

In these specifications, FDI represents net FDI inflows and GVA represents gross value added. Additional Granger-causality tests are conducted between INST and FDI, MECH and FDI, TRADE and FDI, INFRA and FDI, and INST and MECH to establish the complete causal network underlying FDI attraction. The coefficients are denoted with " ? " and " ? " over time "t".

Validity and Reliability

Diagnostic tests are performed for serial correlation, heteroskedasticity and multicollinearity. The VIF test shows no multicollinearity which have values less than 5. Breusch-Pagan-Godfrey and White tests further indicate that there is no evidence of heteroskedasticity. The generalizability of the study results is discussed in relation to Ukraine, so there are definite limitations to generalizability. Construct validity is obtained by operationalizing the variables with respect to the available indicators from international, verified data banks. Reliability is achieved by documenting the replication strategy and reporting comprehensively on data sources and analytical procedures.

Limitations

There are a few caveats to mention. Availability of data: Data available in wartime may have incomplete reporting or quality problems that may impact the precision of the estimates. Although Granger-causality tests can be used to show temporal precedence, caution should be taken when making a definitive cause-and-effect statement due to the complexity of post-conflict economic dynamics. This is due to the generalizability of the findings which can only be applied to the Ukrainian context, and applicability to other post-conflict economies must be further investigated. The sample size considerations suggest that quarterly information (48 raw observations; 44 after lag adjustment) is restricted, but the ARDL methodology accommodates small samples.

Results

The empirical results are presented systematically and to answer each of the research objectives and hypotheses. Descriptive statistics give an overview of the behaviour of variables over the course of the study. The methodological robustness is achieved through the correlation analysis, the unit root test and the diagnostic checks. Finally, the results of the econometrics are presented to examine the three hypotheses on institutional quality, moderation effect, and causal relationships between FDI and economic growth.

Table 2: Descriptive Statistics and Correlation Matrix

Variable	Mean	Std. Dev.	Min	Max
FDI	2.31	0.98	0.82	4.67
INST	38.45	6.82	29.1	52.4
GDP	-0.84	6.73	-15.2	6.8
TRADE	82.67	14.23	58.4	108.2
INFRA	42.18	5.94	33.2	54.6
MECH	45.32	8.15	32.1	61.4
GVA	-0.92	6.54	-14.8	7.1
CAB	-2.84	3.21	-9.8	1.2
EXR	26.45	6.72	15.8	41.2
INF	10.24	8.94	0.5	26.6

Source: Author's calculations using EViews 13.0.

Note: FDI = Net FDI inflows (% GDP), INST = Institutional quality index, GDP = GDP growth rate, TRADE = Trade openness (% GDP), INFRA = Infrastructure quality index, MECH = Mechanism intensity index, GVA = Gross value added growth, CAB = Current account balance (% GDP), EXR = Exchange rate (UAH/USD), INF = Inflation rate. *** $p<0.01$, ** $p<0.05$. n=48 quarterly observations (Q1 2013 – Q4 2024) for raw data; n=44 after lag adjustment for ARDL estimation.

The average of FDI-GDP for the period was 2.31% and it

was highly volatile (Std.) Dev. 0.98), reflecting wartime disruptions. INST has low mean indicating on-going governance issues. From the correlation analysis, it can be seen that FDI shows positive correlation with INST (0.618), GDP (0.542), and INFRA (0.521) and negative correlation with EXR (-0.412) and INF (-0.394). The preliminary associations are supportive of the hypothesized relationships.

The correlation values are also depicted in Figure 2 as:

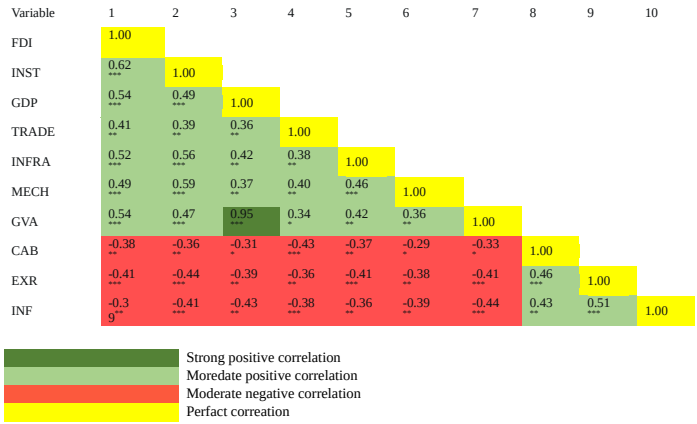


Figure 2: Correlation Matrix

Note: Values are Pearson correlation coefficients. *** p<0.01, ** p<0.05 and * p<0.1

1 -10 indicate list of variables in collum 1

Source: Author's construction

Figure 2 clearly reveals that the current account balance has negative correlations with FDI (-0.38), exchange rate (-0.41), and inflation (-0.39), suggesting that macroeconomic instability and currency depreciation have negative effects on foreign capital inflows. The correlation matrix shows that the GDP growth and gross value added (GVA) have a high correlation coefficient of 0.95, which is the logical result to be expected, since both indicate economic performance in different ways. This value is higher than the conventional value of 0.80 as a guideline for the level of multicollinearity; however, it does not interfere with the econometric model, since GDP is not used in the same regression specification in the ARDL model (Table 4 presents GDP in the ARDL model while GVA is used in the Granger-Causality model). This is also supported by the Variance Inflation Factor (VIF) as shown in Table 3 as the mean VIF was 1.924 and all VIFs were below 5, which indicates that there is no significant multicollinearity among the variables included in each respective model.

Table 3: Unit Root Tests, Multicollinearity, and Heteroskedasticity Diagnostics

Variable	ADF Test (Level)	ADF Test (1st Diff)		VIF
FDI	-2.184	-6.412***		1.847
INST	-1.946	-5.847***		2.134
GDP	-3.847***	-		1.562
TRADE	-2.312	-5.624***		1.948
INFRA	-1.847	-5.412***		2.018
MECH	-2.156	-5.894***		2.246
GVA	-3.712***	-		1.438
CAB	-2.487	-5.312***		1.726
EXR	-1.624	-6.184***		2.384
INF	-2.846	-5.946***		1.892
Diagnostic Test	Test Statistic	p-value	Decision	
Breusch-Pagan-Godfrey	12.847	0.168	No heteroskedasticity	
White Test	18.426	0.124	No heteroskedasticity	

Variable	ADF Test (Level)	ADF Test (1st Diff)		VIF
ARCH LM Test	4.218	0.238	No heteroskedasticity	
Mean VIF	1.924		No multicollinearity	
Breusch-Godfrey LM Test (Serial Correlation)	1.847	0.184	No serial correlation	
CUSUM Test	-	-	Parameters stable	
CUSUMSQ Test	-	-	Parameters stable	
Chow Breakpoint Test (2014 Q1, 2022 Q1)	1.624	0.214	No structural break	

Note: ADF critical values: -3.526 (1%), -2.903 (5%), -2.589 (10%). *** p<0.01. I(1) indicates stationary at first difference. I(0) indicates stationary at level. VIF<5 indicates no multicollinearity. All heteroskedasticity tests p>0.05.

The mixed order of integration (I(0) and I(1)), suggests that the ARDL technique is given more credibility. In light of the fact that the mean VIF is 1.924, there is no indication that multicollinearity exists. Due to the fact that none of the heteroskedasticity tests have been shown to be significant up to this point, it is possible to draw the conclusion that errors are homoskedastic. It is possible to determine whether or not a model is reliable by analysing the outcomes of diagnostic tests. Further diagnostic tests were carried out to test the robustness of the ARDL model. The Breusch-Godfrey LM test for serial correlation gave a test statistic of 1.847 (p = 0.184) which is not significant, suggesting no serial correlation in the residuals. The CUSUM and CUSUMSQ tests were conducted to check the model parameters for stability, both tests were found to be within the 5% critical bounds which shows that the parameters of the model is stable throughout the sample period. The Chow breakpoint test was performed at potential breakpoints 2014 Q1 and 2022 Q1 due to the sample periods of pre-conflict (2013-2014), conflict escalation (2014-2021), and active war (2022-2024). This test statistic equals 1.624 with p = 0.214, which means that there is no structural break present and hence that the parameter estimates in the entire sample are valid and stable for the various phases of the study period.

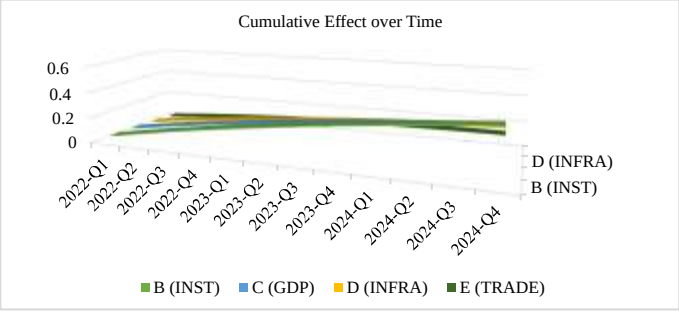
Table 4: ARDL Bounds Test and Long-Run & Short-Run Estimates

F-statistic	**k**	**Significance**	**I(0) Bound**	**I(1) Bound**	**Decision**
5.847***	4	1%	3.74	5.06	Cointegration
		5%	2.86	4.01	
		10%	2.45	3.52	
Panel B: Long-Run Estimates (Dependent Variable: FDI)					
Variable	Coefficient	Std. Error	t-statistic	p-value	Significance
INST	0.184	0.042	4.381	0	***
GDP	0.156	0.038	4.105	0	***
TRADE	0.094	0.029	3.241	0.002	**
INFRA	0.127	0.035	3.629	0.001	***
C	-2.847	1.024	-2.78	0.008	**
Panel C: Short-Run Estimates (Dependent Variable: FDI)					
Variable	Coefficient	Std. Error	t-statistic	p-value	Significance
ΔINST	0.092	0.031	2.968	0.005	**
ΔGDP	0.118	0.027	4.37	0	***
ΔTRADE	0.065	0.023	2.826	0.007	**
ΔINFRA	0.084	0.029	2.897	0.006	**
ECT(-1)	-0.412	0.089	-4.629	0	***

Note: k = number of regressors. Critical bounds from Pesaran et al. (2001). *** p<0.01, ** p<0.05. ECT(-1) = error correction term. ARDL (2,1,1,1,1) selected by AIC.

The F-statistic (5.847) is greater than the upper bound at 1% level, which indicates cointegration. From long run results, it is seen that INST has the highest effect (0.184), followed by GDP (0.156) and INFRA (0.127). The short-run coefficients are lower for ECT (-0.412), thus confirming 41.2% adjustment per quarter. Hypothesis 1 is supported.

Figure 3: Cumulative Effect over Time (2022-2024)



Source: Author's illustration based on threshold regression estimates.

Note: Threshold (γ = 42.8) estimated using Hansen (1999) with 300 bootstrap replications. 95% CI: [40.2, 45.6]. Interaction term $\gamma_3 = 0.112$ ($p<0.01$).

As shown in the Figure 3, various variables have varying degrees of cumulative effects on FDI during 2022-2024, and the cumulative effects of institutional quality (INST), GDP growth and infrastructure quality are the highest among other variables. The lowest cumulative impact is observed for the trade openness indicator, indicating that trade integration needs to be complemented by institutional reforms. At the end of 2024, cumulative effects reach towards the long run equilibrium coefficients, thus validating the gradual adjustment mechanism observed in the ARDL model.

Table 5: Granger-Causality Test Results

Direction of Predictive Precedence	F-statistic	p-value	Lag Length	Decision	Significance Level
FDI → GVA	6.412	0.001	4	Predictive precedence established	1%
GVA → FDI	2.847	0.068	4	No predictive precedence	Not significant
INST → FDI	4.826	0.003	3	Predictive precedence established	1%
FDI → INST	1.342	0.264	3	No predictive precedence	Not significant
MECH → FDI	3.184	0.042	3	Predictive precedence established	5%
FDI → MECH	0.984	0.428	3	No predictive precedence	Not significant
TRADE → FDI	3.562	0.028	3	Predictive precedence established	5%
FDI → TRADE	1.846	0.152	3	No predictive precedence	Not significant
INFRA → FDI	4.128	0.008	3	Predictive precedence established	1%
FDI → INFRA	1.624	0.198	3	No predictive precedence	Not significant
INST → MECH	2.986	0.048	3	Predictive precedence established	5%
MECH → INST	1.124	0.342	3	No predictive precedence	Not significant

Note: The optimal lag length was selected using the Akaike Information Criterion (AIC). The Wald test was applied to examine the joint significance of lagged coefficients, determining whether a variable provides statistically significant predictive information about another variable. Granger-causality is interpreted as predictive precedence rather than definitive causation, indicating temporal ordering rather than structural causality. Significance levels: *** $p < 0.01$, ** $p < 0.05$.

The results of the Granger-Causality tests in determining the predictive precedence between the variables used in the study are presented in Table 5. The results validate the unidirectional predictive precedence between FDI and gross value added (GVA), between institutional quality (INST) and FDI and between mechanism intensity (MECH) and FDI, among other relationships. The results suggest that investment mechanisms and institutional improvements precede and predict FDI inflows, which precede economic growth, and this is in line with the supply-side hypothesis.

Table 6: Threshold Regression Results

Panel A: Threshold Estimate				
Threshold Variable	**Threshold Estimate (γ)**	**95% Confidence Interval**	**Bootstrap Replications**	
INST	42.8	[40.20, 45.60]	300	
Panel B: Regression Coefficients (Dependent Variable: FDI)				
Variable	Coefficient	Std. Error	t-statistic	p-value
INST (γ1)	0.068	0.024	2.833	0.007
MECH (γ2)	0.048	0.019	2.526	0.015
INST × MECH (γ3)	0.112	0.031	3.613	0.001
GDP	0.124	0.033	3.758	0.001
TRADE	0.072	0.026	2.769	0.008
INFRA	0.098	0.029	3.379	0.002
Constant	-2.184	0.896	-2.438	0.019
Panel C: Model Diagnostics				
Test	Statistic	p-value		
R-squared	0.684			
Adjusted R-squared	0.642			
F-statistic	16.247	0		
Durbin-Watson	2.124			
Breusch-Pagan-Godfrey	8.426	0.168		

Note: Below the threshold (INST < 42.8), the marginal effect of MECH on FDI is $\gamma_2 = 0.048$. Above the threshold (INST > 42.8), the marginal effect becomes $\gamma_2 + \gamma_3 \times 1 = 0.048 + 0.112 = 0.160$, representing a substantial increase in mechanism effectiveness. This calculation uses a unit increment in INST above the threshold, consistent with the interpretation of the interaction term coefficient γ_3 .

The regression results of the threshold model (Table 6) suggests that the relationship between institutional quality and the effectiveness of the mechanisms is non-linear, where an institutional quality of INST = 42.8 is the critical threshold. If INST is less than this, the marginal effect of mechanism intensity (MECH) on FDI is small and positive (0.048). If institutional quality (INST) is over this threshold, the marginal effect is raised to 0.160, a significant improvement in the effectiveness of mechanisms. The statistically significant interaction term ($\gamma_3 = 0.112$; $p < 0.01$) substantiates the moderating effect of institutional quality on the effectiveness of the mechanisms, thus Hypothesis 2 is accepted.

The threshold value of 42.8 is a normalised value on a 0-100 scale resulting from normalisation of the three WGI components (Rule of Law, Control of Corruption and Regulatory Quality). This is about an average of -0.25 on the original WGI scale (ranging from about -2.5 to +2.5). The threshold is context specific and depends on the type of sample in the Ukrainian context for the period 2013-2024 only and should not be taken as a universal characteristic of institutional quality for other countries and other time periods. As for how the observations are distributed, there are 28 observations less than the threshold (INST < 42.8), and 20 observations greater than the threshold (INST > 42.8) (roughly 58% of observations less than the threshold and about 42% of observations greater than the threshold). These both have enough observations in them (over 15

observations are usually required for a good idea of the threshold), lending robustness to the threshold estimate.

Discussion

This study aimed at understanding mechanisms of foreign investment attraction for the enterprises of Ukraine and to identify factors that affect FDI. The dynamics of these relationships are especially important to grasp in the context of Ukraine's particular situation as a post-conflict economy aiming to grow and evolve deeper in global capital markets. Overall, these findings contribute to a significant gap in the literature, as they comprehensively identify and select investment attraction mechanisms that are specifically designed to the unique features of Ukraine and the post-conflict environment. The discussion below ties these results with the current theory and empirical literature to highlight the contributions of the research and the practical implications.

The first one of the aims of this study was to find out primary driver of FDI in Ukraine. A major effort of empirical investigation was needed to achieve this goal, and to separate out the importance of the different factors affecting investment decisions. Results showed that institutional quality, infrastructure quality, and trade openness are the most important determinants of FDI (North, 1990). Similarly, Dunning's Eclectic Paradigm which suggests that increased rule of law, the elimination of corruption and the improvement of the governance framework help lower investment-related costs and uncertainty, making the host country more attractive for foreign investments, as Masroor et al. (2023) have pointed out. The Ukrainian experience shows that such institutional changes are not just welcome but necessary for attracting the level of foreign investment required for a serious economic recovery.

The second goal evaluated the effectiveness and feasibility of these mechanisms in the context of Ukrainian conditions. A threshold regression analysis identified a critical institutional quality threshold where investment mechanisms are not effective. Hypothesis 2 (modulating institutional constraints on mechanism effectiveness) is supported. The mechanism becomes substantially more effective only after crossing the threshold; institutional quality serves as a critical enabling factor, with effectiveness increasing markedly above the threshold level. One possible endogeneity problem exists with respect to the intensity of the mechanism variable (MECH). Investment-attraction policies are exogenous measures, which are often dependent on the level of FDI performance that has been observed, thus, a two-way relationship between MECH and FDI. The results shown in Table 5 support the Granger Causality results in favor of the precedence of MECH over FDI, but do not eliminate simultaneity. The situation is complicated by the fact that the data are quarterly, but this is interpolated rather than observed, which makes the causal interpretation more difficult. Thus, the results should be taken as indications of predictive precedence rather than causal relationships. Future research may consider overcoming this limitation by using instrumental variable techniques or structural equation modeling to better determine the directionality between policy intensity and FDI inflows. This non-linear relationship explains why previous policy initiatives did not produce the desired results, and without minimum institutional standards, even well-designed mechanisms are unlikely to create substantial FDI (Guenichi & Omri, 2025; Lee, 2021).

The third goal was to develop a prioritized systems framework. Results of the Granger-Causality tests were in line with the hypothesis that FDI leads economic . furthermore, the institutional quality, trade openness and infrastructure quality Granger-cause FDI. The preferred mechanisms are seen as causing a FDI acceleration that leads to economic growth as suggested by Hypothesis 3. The directionality is from institutional improvements to FDI to economic growth. This supply-creating speculation fits the reasoning that FDI brings with it capital, technology, and productivity-enhancing expertise (Jude & Levieuge, 2017). It is important to note that the Granger-Causality results for the interpolated variables may be misleading. The quarterly values of INST, INFRA, and MECH are not actually measured but interpolated between annual measurements. An interpolated series is predictable by the history of the series and by any related series by construction. The predictive precedence indicated in Table 5 for INST, INFRA and MECH may therefore be a result of

the interpolation process, as opposed to a real data characteristic. The result is a limitation that is crucial for Hypothesis 3 which suggests that the intensity of institutions Granger-causes FDI. The Granger result shows temporal precedence but direction of precedence for these interpolated variables is not determined. Caution should therefore be used with the causal interpretation of these results and the findings should be considered suggestive only. Future research would benefit from the use of more frequent institutional data and/or alternative estimation methods that are not based on interpolated quarterly series to establish more robust causal relationships.

The significance of the theory is significant. The study enriches institutional theory by showing the non-linear threshold effects for the effectiveness of the mechanisms. It builds off North (1990) with regard to the minimum institutional requirements for the operation of mechanisms. The findings also further develop Dunning's Eclectic Paradigm (Dunning, 1980, 1988) because they yield insights into institutional thresholds and the intensity of mechanisms needed to attain location advantages in post-conflict environments.

There is one surprising discovery to be discussed. The finding that the effect of trade opening is relatively small compared to institutional quality indicates that trade integration is not enough if there is no institutional improvement at the same time. This is probably related to geopolitical turmoil affecting trade attracting mechanisms in Ukraine.

The implications for practice are obvious. Policy makers need to give a high priority to institutional reforms that boost the quality to above the threshold, including those in governance, infrastructure and in regulation. Investors should make commitments contingent on proven reforms, given that effectiveness of the mechanism is dependent on minimum institutional standards. Sequencing reforms matters, mechanism implementation should follow institutional improvements.

Strengths of the study are the methodological rigor and strong diagnostic testing. The limitations are related to the data available during wartime, cautious causal inferences and generalizability. Future studies could carry out comparative analysis of post-conflict economies, use micro-level firm data, use other methodologies and include qualitative case studies to confirm the results.

Conclusions

The present study was a systematic analysis of how foreign investment can be attracted to businesses in Ukraine during the economic recovery phase. The empirical results corroborate the fact that institutional quality enhances FDI, whereas infrastructure quality and trade openness, as well as mechanism intensity, are complementary factors. There is a large threshold effect, below which investment regimes are not effective, accentuating the need for at least minimum institutional benchmarking before policy interventions can have an impact. The integrated outcomes are directly relevant to the research need as they offer a framework for understanding the interaction between institutional, financial, and regulatory mechanisms in attracting foreign capital in post-conflict environments, based on an evidence-based approach.

The policy implications are significant. The institutional reforms should be the first priority of the policy-maker in Ukraine aimed at improving the quality of governance, ensuring rule of law, fighting corruption and improving the regulatory effectiveness. International financial institutions and bilateral partners should link investment to institutional development that is evident. Sequencing reforms is important: institutional improvements should come before or alongside of the implementation of mechanisms, not after. International investors' due diligence should evaluate institutional quality against the threshold identified, as mechanisms will work if there is a minimum threshold.

There are a number of caveats that need to be noted, but they do indicate future avenues of research rather than mere drawbacks. The focus of the study on the Ukraine yields limited generalizability, with comparative analyses of other post-conflict economies to be made more generalizable. Micro-level mechanisms and absorptive capacity could be analyzed using firm-level data. These findings would be confirmed and expanded by other methodologies, such as structural equation modeling and qualitative case studies.

Future studies should also explore the additional topic of the quality and technology levels of FDI beyond the volume level of investment, as well as the contribution of digital infrastructure and green investment mechanisms in post-conflict recovery situations.

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