

Article

The Role of Institutional Quality in Chinese Outward Foreign Direct Investment and Domestic Investment's Impact on Economic Stability

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Abstract

Capital flow, integral to the global economy, is significantly influenced by business potential and institutional environments. As one of the world's largest economies, China's outflow plays a crucial role in the rapid development of its economy. This study examines domestic investment into public and private components to avoid aggregation bias, whether China's outward foreign direct investment (OFDI) serves as a substitute or complement to local investments, and how local institutional quality mediates this relationship. We employed Dynamic Autoregressive Distributed Lag model ARDL simulation methods for the period of 1996–2021 in order to control endogeneity, auto-correlation, cross-sectional bias, as well as heteroscedasticity issues, which normally arise in time-series datasets. Our findings reveal that OFDI has a dual impact on local economies. Firstly, OFDI has a generally positive effect on private and public investment, but this relationship is nonlinear. Furthermore, institutional quality significantly influences private investment more than public investment. Additionally, higher interest rates are shown to adversely affect both private and public investments by increasing borrowing costs. These results offer valuable insights for policymakers aiming to optimize investment flows and economic stability. Specifically, fostering institutional quality can amplify the positive spillovers of OFDI on private investment, while mitigating its crowding-out effects on public investment.

Keywords: OFDI; institutional quality; domestic investment; ARDL simulation methods; China



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1. Introduction

Chinese outward foreign direct investment (OFDI) rapidly increased in the last two decades, and its integration in international trade across the world is a realistic phenomenon that is taking place through different channels. Primarily, its trade connections with other countries through overseas investment (OFDI) have accelerated the Chinese economy to the top level, i.e., China is now a world leading economy and one of the biggest sources of

FDI in the world. China's OFDI increased with record-breaking digits that had exceeded over USD 1250 billion in 2016 and attained the second position in the world after the U.S.A (UNCTAD, 2017). Such outstanding rise in Chinese OFDI must be attributed to the open-door policy of the Govt. of China to encourage local enterprises to go global to further expand their business networks abroad and their efforts in the forward-moving Belt and Road initiative as well as strengthening their economic alliance with business partners in countries along Belt and Road routes (Ameer et al., 2017; Fan et al., 2016). Massive research literature suggests that the primary motives behind such a rapid increase in Chinese OFDI include natural resource seeking, technology resource seeking, as well as marketing seeking, tempted by surplus in the domestic market and risk diversification by investing abroad in different business portfolios (UNCTAD, 2017; You & Solomon, 2015).

China's economic model is highly dependent on domestic investment (You & Solomon, 2015). China's OFDI has rapidly increased over the last two decades since China announced its open open-door policy for international trade. Due to a high level of increase in Chinese OFDI in the last two decades, an interesting question arises whether Chinese OFDI substitutes for or complements domestic investment (DI) in the long run. More precisely, we are interested in exploring whether Chinese OFDI crowds in or crowds out DI in the long and short run as well. Hong and Sun, 2006 found that China's OFDI is highly linked with DI and thus, any fluctuation in DI might seriously affect China's overseas investment. As shown in Table 1, we found that there is significant relevancy between China's OFDI and DI (DCF), where a significant rise in China's OFDI is linked with lower DI, particularly after 2009. This significant reduction in DI can be ascribed to the utilization of other domestic resources for overseas investment (Desai et al., 2005).

Table 1. China's OFDI and gross DI (1996–2021).

Year	Public Investment (%GDP)	Private Investment (%GDP)	OFDI (%GDP)	DI (%GDP)	Gross Domestic Savings (% of GDP)	GDP Growth (Annual %)
1996	18.76	5.21	0.24	37.54	39.95	9.92
1997	19.09	5.43	0.39	35.52	40.35	9.23
1998	21.64	5.82	0.43	34.81	39.54	7.84
1999	21.30	6.05	0.36	34.10	37.42	7.66
2000	20.34	6.90	0.38	33.57	36.42	8.49
2001	20.27	8.11	0.72	35.54	38.06	8.33
2002	19.63	9.63	0.42	36.15	39.01	9.13
2003	20.37	11.79	0.50	39.62	41.97	10.03
2004	19.74	13.39	0.40	41.84	44.76	10.11
2005	18.56	14.87	0.60	40.34	45.61	11.39
2006	16.99	16.55	0.86	40.93	47.42	12.72
2007	15.77	17.76	0.48	41.46	49.00	14.23
2008	15.95	18.61	1.23	43.27	50.22	9.65
2009	18.70	20.64	0.86	46.44	49.91	9.39
2010	17.66	21.50	0.95	47.61	51.08	10.63
2011	15.39	24.06	0.64	47.69	49.84	9.55
2012	15.17	25.59	0.76	47.23	48.85	7.86
2013	15.04	26.58	0.76	47.39	48.28	7.76
2014	14.73	27.08	1.57	47.01	47.47	7.42
2015	15.31	28.14	1.92	45.40	46.00	7.04
2016	16.70	28.16	1.12	42.63	44.96	6.84
2017	17.26	28.28	1.02	43.01	45.13	6.94
2018	16.98	29.90	1.12	43.79	44.94	6.74
2019	17.33	30.20	0.95	43.25	43.98	5.95
2020	16.98	28.28	1.04	43.36	44.66	2.23
2021	17.26	29.90	1.00	43.14	46.07	8.44

Data source: WDI (World Bank, 2025); Fiscal Affairs Department (IMF, 2025).

The existing literature has extensively discussed various channels through which OFDI can expand or shrink DI. Several studies claimed that firms investing abroad achieve

economies of scale and reduce production costs by utilizing domestic as well as foreign resources at home and abroad. Thus, all this process increases their market competitiveness in both domestic and foreign markets. Accordingly, the domestic economy achieves economic gains through the spillover effects of local trading firms (Herzer, 2008; Hsu et al., 2015). On the other hand, Al-Sadiq (2013) claimed that OFDI is a substitute for domestic investment (DCF) as shifting local resources abroad reduces domestic investment and exports. Contrarily, if OFDI makes home country exports stronger due to a high rise in demand for imported goods from the host country, then OFDI complements DI in the long run (Hsu et al., 2015). Overseas investment (OFDI) may have an effect on domestic investment via financial markets (Al-Sadiq, 2013). Investment of funds abroad in the form of overseas investment may result in a rise in interest rates of domestic borrowings, which makes DI more difficult. Due to the utilization of domestic funds abroad in the form of OFDI, this relocation of domestic resources may result in a reduction in DI due to the displacement of domestic resources towards outward investment (Goh & Wong, 2014).

There is extensive empirical and theoretical literature available, which primarily discusses the impact of FDI inflows on the home country, while the impact of outward FDI is not thoroughly investigated with a particular focus on developing countries. Hence, there is no serious attention provided on analyzing the impact of OFDI on the home country, and this area is seriously neglected by scholars, except only limited studies investigated this topic (Ameer et al., 2017). Existing studies primarily focused on the Chinese economy at the micro-level using firm data, industrial analysis, and cross-country analysis at the aggregate or provincial level (Feldstein, 1995; Al-Sadiq, 2013). Limited studies have explored the nexus between OFDI and domestic investment at the macro level for China (Ameer et al., 2017). Empirical studies examining the nexus between OFDI and domestic investment produced mixed results for China. Evidence based on cross-country data; Feldstein (1995) found that a 1 U.S. dollar increase in OFDI decreases DI by 1 U.S. dollar, i.e., there is a negative association between OFDI and DI in the long-run. Evidence based on the United States, Germany, Japan, and United Kingdom by utilizing a time-series dataset results found that OFDI reduced DI in the long run by applying an error correction model. Similarly, empirical evidence based on the U.S.A. and Germany (Herzer & Schrooten, 2008) found a positive impact of OFDI on DI in the long-run for the U.S.A., but OFDI reduced DI significantly in the long run for Germany. For evidence based on developing and transition countries (excluded China), Al-Sadiq (2013) found that OFDI displaced DI in the long run. Analogous results were estimated by Goh and Wong (2014) for Malaysia, and they found that OFDI substituted DI in the long run.

Very limited studies investigated the nexus between OFDI and DI with a particular focus on the Chinese economy. Previous studies have focused on the impact of outward foreign direct investment (OFDI) on domestic investment in developing economies. This research uniquely investigates the mediating role of institutional quality in China, distinguishing the effects on public versus private investments. Our present research study deals with advances in the literature by (1) disaggregating domestic investment into public/private sectors to resolve aggregation bias; (2) introducing institutional quality as a mediator via interactive terms ($OFDI \times IQ$); (3) employing dynamic ARDL simulations to address endogeneity—a methodological leap for OFDI studies in China. Hong and Sun (2006) investigated the impact of domestic firms' investment on outbound investment and also provided a comprehensive evaluation of Chinese policies. They found that OFDI was highly linked with the variability of DI in the long run. By utilizing a regional level panel dataset, Choy et al. (2011) are the first to provide empirical analysis for China (You & Solomon, 2015) by implying FDI, savings, and gross domestic formation as prime variables of interest in this empirical model, and they found insignificant linkage between OFDI and

DI. [You and Solomon \(2015\)](#) investigated the nexus between OFDI and DI at the industrial level, and they found that OFDI crowds in DI in the long run. Studies based on a limited number of firms or industries suffered from sample selection bias due to the limitation of range restriction, and therefore, results estimation based on this limited sample would be biased ([Hsu et al., 2015](#)). However, these studies provided valuable insight into defining the nexus between OFDI and DI with a particular focus on the Chinese economy, but unfortunately, they provided limited inference from a macroeconomic perspective.

To the best of our knowledge, [Ameer et al. \(2017\)](#) is the first study that explored the nexus between OFDI and DI at the macroeconomic level for China. They found that OFDI promotes DI in the long run. Another study of [Ali and Wang \(2018\)](#) also examined the nexus between OFDI and DI with a macroeconomic perspective. They found that Chinese OFDI crowds out DI in the long run. These studies provide valuable insight into defining the nexus between OFDI and DI from a macroeconomic perspective, but they have not utilized the idea of the bifurcation of DCF into private and public capital. Economic theories claim that public and private capital crowd out each other, and aggregating them into one composite term may result in DCF aggregation bias. Henceforth, we contribute to the existing literature by decomposing DCF into public and private capital in order to avoid aggregation bias. Firstly, we explored the impact of OFDI and aggregate institutional quality IQ on public capital. Next, we explore the impact of OFDI and aggregate IQ on private investment. Next, we contribute to the literature by exploring the impact of OFDI and unbundling institutional quality [corruption, law and order, and socio-economic conditions] in promoting public investment. Furthermore, we explore the impact of OFDI and unbundling institutional quality in promoting private investment. In addition, we developed interactive proxy terms from prior literature and thus added interactive term proxies ($OFDI \times IQ$) in our model.

This empirical work seeks to overcome shortcomings and econometric weaknesses of previous studies and provides new interesting evidence on the outward foreign direct investment–private investment OFDI–PRI and outward foreign direct investment–public investment OFDI–PUBI nexus by applying the most robust time-series dynamic ARDL simulation methods for controlling endogeneity, auto-correlation, cross-sectional bias, as well as heteroscedasticity issues, and provides reliable as well as robust outcomes. This study also utilizes the latest available dataset over the time span of 1996–2021 annually for China. Our empirical models include important macroeconomic variables like public and private investment, inflation, interest rate, exchange rate, IQ indicators, and political risk for civil liberty, that are not been investigated before at the macroeconomic level for China. Hence, this analysis provides strong evidence to support the idea that China’s outbound investment crowds in public and private investment in the long-run.

2. Literature Review

The current literature investigates the linkage between OFDI and domestic investment (DCF), and it is divided into three categories. The first tier of literature supports the notion of positive impact of OFDI on domestic investment (DCF) in the long run ([Desai et al., 2005](#); [Stevens & Lipsey, 1992](#)). For a study based on the United States, empirical results suggest that OFDI augments domestic investment (DCF) in the long run ([Desai et al., 2005](#); [Stevens & Lipsey, 1992](#)). For evidence based on seven MNCs of the United States, empirical analysis strongly supports the positive linkage between OFDI and DCF in the long run ([Stevens & Lipsey, 1992](#)). Similarly, for evidence based on the Chinese economy at the industrial level, empirical results strongly support the positive impact of OFDI on DCF in the long run ([You & Solomon, 2015](#)). Based on empirical results, [You and Solomon \(2015\)](#) attributed this positive linkage between OFDI and DCF due to excessive domestic

savings, abundant foreign reserves, as well as the progressive role played by the state in the economic development of a country. [Ameer et al. \(2017\)](#) investigated the nexus between OFDI and DCF with evidence based on China at the macroeconomic level. Empirical results strongly support the positive impact of OFDI on DCF in the long run. On the contrary, short-run results suggest a neutral nexus between OFDI and DCF. There is a unidirectional causality running from OFDI to DCF in the long run ([Ameer et al., 2017](#)). Based on an industrial level analysis for Canada, [Hejazi and Pauly \(2003\)](#) found that OFDI expanded domestic investment (DCF) in the long run. Empirical results suggested that this positive linkage between OFDI and DCF might be attributed to firms that exported raw materials and unfinished goods abroad. They found that the impact of OFDI on DCF might differ across countries, as per the economic structure of countries. As Canada's OFDI to the U.S.A increased domestic investment (DCF) in the home country, Canada's OFDI to the rest of the world displaced DCF in the long run.

The second tier of literature discussed the negative impact of OFDI on domestic investment (DCF) ([Sauramo, 2008](#); [Morrissey & Udomkerdmongkol, 2012](#)). Similarly, [Desai et al. \(2005\)](#) investigated the nexus between OFDI and DCF at the macroeconomic level, and they found that OFDI dislocates DCF by a ratio of one to one in the long run. Based on a time-series analysis of the U.S.A. and Germany, [Herzer and Schrooten \(2008\)](#) investigated the linkage between OFDI and DCF in the short run and long run. They found a negative impact of OFDI on DCF in the long run for Germany. Alternatively, in the short run, OFDI expands DCF for Germany. As for empirical results, [Andersen and Hainaut \(1998\)](#) argued that OFDI significantly reduces exports in the long run, but the OFDI effect on DCF is quite neutral for the U.K., Japan, Germany, and the U.S.A. OFDI displaces domestic investment (DCF) if it is used as a replacement for exports ([Andersen & Hainaut, 1998](#); [Hejazi & Pauly, 2003](#)). In a time-series study based on Malaysia, empirical results found a negative linkage between OFDI and DCF in the long run ([Goh & Wong, 2014](#)). For evidence based on Finland, [Sauvant \(2008\)](#) found a negative impact of OFDI on DCF by a fraction of one by one. For evidence based on developing countries at the aggregated level dataset on an annual basis, [Morrissey and Udomkerdmongkol \(2012\)](#) found that OFDI reduces DCF significantly in the long run. Empirical analysis based on OECD countries; [Feldstein \(1995\)](#) found that OFDI reduced DCF by a ratio of one to one. Based on empirical analysis of the GCC region, [Durani et al. \(2021\)](#) discovered that DCF squeezed OFDI in the long run by applying panel CS-ARDL methods. On the contrary, DCF was found to be neutral with OFDI in the long run if it did not overcome the issue of CD bias in this panel dataset. Thus, we found that failure to overcome the issue of CD bias might result in biased results.

The third tier of literature provided mixed support, i.e., either positive, negative, or neutral, while defining the linkage between OFDI and DCF ([Andersen & Hainaut, 1998](#)). [Desai et al. \(2005\)](#) utilized two different methods to investigate the linkage between OFDI and DCF in the long run. In their first method, [Desai et al. \(2005\)](#) used model specifications that were closer to Feldstein's but used a much wider-ranging sample of OECD countries. In their second method, [Desai et al. \(2005\)](#) utilized a dataset of U.S. MNCs on capital expense. Their results of the two approaches are quite different to each other. The first method results suggested that OFDI displaced DCF in the long run. The second method results found that U.S MNCs' higher capital expense was interconnected with a higher domestic expense by parallel firms. They concluded that foreign and domestic firms were complements instead of substitutes. Domestic firms imported unfinished goods through foreign partners via OFDI at a lower price and enhanced raw material exports that were used by overseas firms. Domestic firms worked in close collaboration with their close affiliates to decrease the cost of production of final goods, and thus, in turn, this process helped firms to achieve a high level of profitability through external and internal economies

of scale, and ultimately, this process expanded DCF in the home country (Desai et al., 2005). In a nutshell, the overall effect of OFDI on DCF has become an enigmatic, controversial, and inconclusive issue.

A study by Ameer et al. (2020) investigated whether OFDI obstructed or expanded public and private investment in the long and short run in the context of developed and emerging countries. This study applied CS-ARDL methods in order to analyze the impact of OFDI and institutional quality on public & private investment over the time span 1996–2017 annually. Empirical results found that OFDI expanded private investment for developed countries. Additionally, Institutions (IQ) are a strong driving force that attracts private investment in developed countries. On the contrary, OFDI displaced public investment in developed countries while IQ enhanced public investment in the long run. For emerging countries, OFDI had a neutral impact on private & public investment in the long & short run. Interestingly, IQ had a negative impact on private & public investment for emerging economies, i.e., IQ restricted public & private investment in the long-run. They inferred from their findings that institutions must continue to be transformed in developed countries in order to promote more private investment in the home country, while IQ must pass the threshold level for emerging countries in order to have a significant impact in promoting public & private investment in the context of emerging countries (Ameer et al., 2025).

As per the existing updated literature, we have contributed to the research literature in numerous ways. Previous research studies mainly explored the impact of OFDI and institutional quality on aggregated DCF based on time-series and panel dataset studies. This study analyzed the impact of OFDI and institutional quality (IQ) on DFC by decomposing public and private investment in the context of the Chinese economy at the macroeconomic level. Thus, this study fills the gap in the current literature by analyzing the impact of OFDI and IQ on public and private investment one by one separately in order to avoid the issue of DCF aggregation bias.

The core hypothesis of this study posits that OFDI positively impacts domestic investment (both public and private), with institutional quality (IQ) playing a moderating role as explain in Table 2. Public and private investments respond differently to changes in IQ due to the varying roles of institutions in each sector. Public investment, influenced by institutional stability, is expected to respond more strongly to improvements in IQ, while private investment is impacted by market-driven incentives linked to regulatory environments and governance. The influence of the control variables in our results section is as follows: The control variables—such as GDP growth (GDPG), exchange rate (EXCH), interest rate, inflation, and others—serve to account for macroeconomic conditions that could influence domestic investment, independent of OFDI as shown in Figure 1. For instance, higher GDP growth encourages more domestic investment by increasing income levels, while a favorable exchange rate can encourage outbound investment. Interest rates, on the other hand, may reduce domestic private investment if they rise due to the outflow of capital for OFDI, as borrowing costs increase.

According to our explicit hypotheses analysis:

H1. *OFDI crowds in public/private investment.*

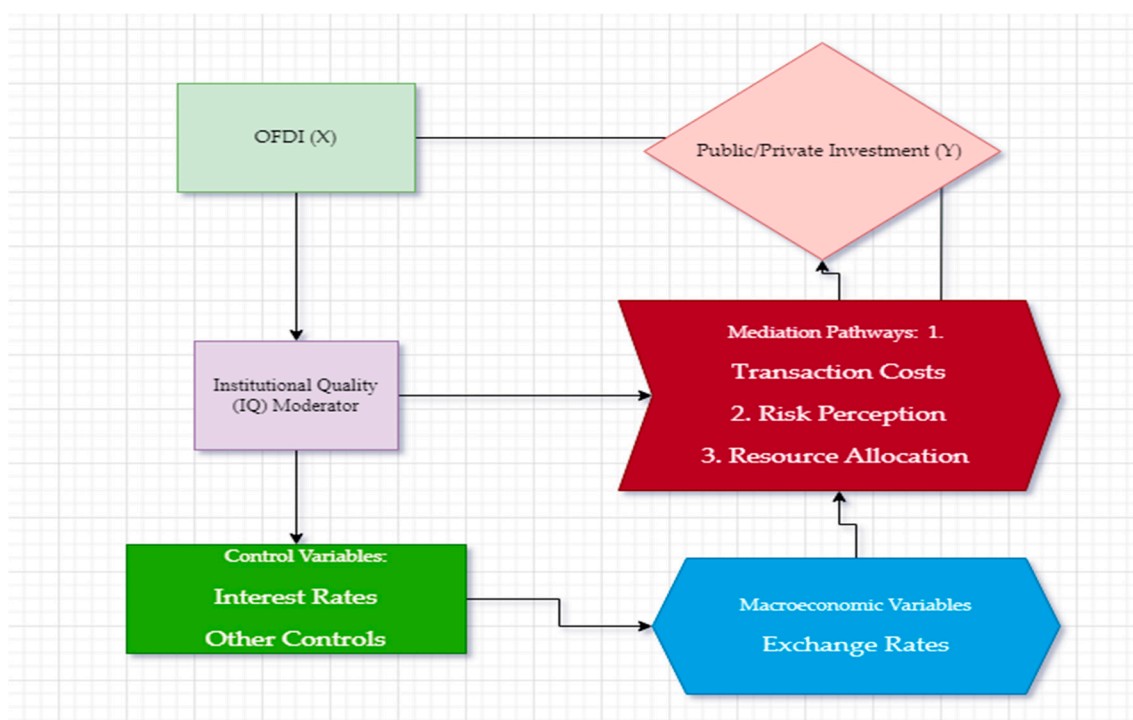
H2. *The effect of OFDI on public/private investment is moderated by institutional quality (IQ).*

H3. *IQ's components (e.g., rule of law) differentially affect public/private investment.*

Table 2. Summary of Research Variables and Pathways.

Variable Category	Variable/Path	Relationship
Independent Var.	OFDI	Direct effect on public/private investment (Y).
Dependent Var.	Public/Private Investment	Outcome variable influenced by OFDI, IQ, and controls.
Moderator	Institutional Quality (IQ)	Moderates OFDI's effect via:
		1. Transaction costs ↓
		2. Risk perception ↓
		3. Resource allocation efficiency ↑
Control Vars.	Macroeconomic Factors:	Adjust for confounding effects:
	Interest Rates	Cost of capital → Investment decisions.
	Exchange Rates	OFDI profitability/risk → Investment flows.

Note. Arrows indicate directional relationships. IQ moderates the strength or sign of OFDI's effect on investment. Controls are external factors kept constant to isolate OFDI's impact.

**Figure 1.** Conceptual diagram of OFDI effects and moderating pathways. Source: Author Compilation.

3. Materials and Methods

3.1. Methodology and Data

Methodology

We apply the Dynamic Simulated Autoregressive Distributed Lag (DS-ARDL) framework to estimate our model. The DS-ARDL model extends the traditional ARDL approach of Pesaran et al. (2001) by incorporating dynamic simulations that enhance its capability to predict and analyze complex economic relationships. This Standard ARDL approach is known for its ability to estimate the short-run and long-run coefficients of integrated series of different orders. However, the DS-ARDL model introduces a simulation mechanism that allows it to address scenarios where there are regime shifts or structural breaks in data series, which are common in economic time-series datasets, and this approach possesses

several critical features. First, this method is a significant advancement in econometric analysis, especially for investigating the short-term and long-term relationships between variables within the context of non-stationary data. Second, DS-ARDL effectively incorporates the dynamics of both Autoregressive and Distributed Lag models, providing robust insights, particularly useful in economic research where the lagged effects of variables are of invaluable interest.

$$\begin{aligned}\Delta y_t = & \alpha_0 + \theta_0 y_{t-1} + \theta_1 x_{1,t-1} + \dots + \theta_k x_{k,t-1} + \Sigma \text{ (from } i \\ & = 1 \text{ to } p) \alpha_i \Delta y_{t-i} + \Sigma \text{ (from } j \\ & = 0 \text{ to } q_1) \beta_{1j} \Delta x_{1,t-j} + \dots + \Sigma \text{ (from } j \\ & = 0 \text{ to } q_k) \beta_{kj} \Delta x_{k,t-j} + \varepsilon_t\end{aligned}\quad (1)$$

where

Δy represents the dependent variable (public or private investment);

x_1 includes independent variables (OFDI, IQ, macroeconomic controls);

j refers to the interaction term (OFDI $\times$ IQ);

ε_t is the error term.

In Equation (1), y demonstrates the variation in the dependent variable public or private investment, x_1 includes independent variables (OFDI, IQ), macroeconomic controls, θ_0 is the intercept, -1 is the maximum p -value of the regressor, j refers to the interaction term (OFDI $\times$ IQ), Δ is the first difference, and ε is the error term.

The above equation is recursively applied, using estimates from previous steps as inputs for future steps, allowing the model to simulate future outcomes based on the dynamic relationships identified in this historical data. In the methodological framework, Equation (1) models the dynamic relationship between Outward Foreign Direct Investment (OFDI), institutional quality (IQ), and domestic investments (public and private). Specifically, we employ the Dynamic ARDL simulation method as introduced by [Jordan and Philips \(2018\)](#), which allows for capturing asymmetric long-run and short-run responses to variable shocks.

3.2. Data

Data on selected variables for China, ranging from 1996 to 2021 annually, are reported in Table 3 along with the names and descriptions of variables. Moreover, Table 2 also provides theoretical justification and sources of the data. PUBI and PRI are dependent variables while OFDI, IQ, and their components are independent variables in the above equations. GDPPCG and EXCH are control variables. The description of the variables is given in Table 2.

Table 3. Definition of variables and theoretical justification.

Variables	Description of Variables	Theoretical Justification	Source of Dataset
OFDI	Outbound foreign direct investment	OFDI influences DCF by various channels. First Channel through which OFDI enhances DCF if it is financed by ample savings and excessive foreign reserves of a country (Stevens & Lipsey, 1992).	World Development Indicators, World Bank (World Bank, 2024)
DCF	Domestic investment (DI)	We decomposed DCF into public and private investment as neo-classical economist believe that public and private capital crowd out each other and aggregating them into one composite measure may result in DCF aggregation bias (Khan & Reinhart, 1990 ; Morrissey & Udomkerdmongkol, 2012 ; Narayan, 2005).	World Development Indicators, World Bank (World Bank, 2024)

Table 3. Cont.

Variables	Description of Variables	Theoretical Justification	Source of Dataset
PRI	Private investment	PRI absorbs economic shocks and stabilizes the economy. Private capital is more resilient, active, and productive than public capital investment. Overall, impact of OFDI on private capital is quite productive in an economy (Khan & Reinhart, 1990).	Fiscal Affairs Department, International Monetary Fund (International Monetary Fund [IMF], 2024)
PUBI	Public investment	PUBI is considered to be less effective in promoting OFDI. Generally, higher PRI means less PUBI and more OFDI	Fiscal Affairs Department, International Monetary Fund (International Monetary Fund [IMF], 2024)
IQ	Institutional quality	IQ is the driving factor that enhances private investment in developed countries and it reduces economic cost of business transactions in an economy (Ameer et al., 2020). Therefore, the net effect is going to decide whether IQ is going to increase OFDI or decrease it (Globerman & Shapiro, 1999). Institutional quality (IQ) is measured using the ICRG dataset, where a higher value reflects better institutional performance. A negative value indicates weaker institutional quality, where lower scores suggest higher corruption, a weaker rule of law, and other factors that impede the business environment. Hence, a negative IQ value signifies suboptimal institutional conditions that can reduce the effectiveness of policies aimed at promoting domestic investment.	ICRG dataset (2024) (International Country Risk Guide [ICRG], 2018)
OFDI × IQ	Interactive variable of OFDI and IQ	OFDI is supposed to produce better results in the presence of quality institutions and thus, in turn, promotes economic development in a country (Ameer et al., 2020).	Authors' calculation
GDPG	GDP growth	High GDP growth is a reflection of growing domestic income and investment. High income increases outbound investment (Uneze, 2013)	World Development Indicators, World Bank (World Bank, 2024)
EXCH	Exchange rate	A favorable exchange rate encourages investors in developed countries to invest abroad. But on the other hand, favorable exchange rates deter exports which can possibly affect domestic capital formation.	World Development Indicators, World Bank (World Bank, 2024)
INTEREST	Interest rate	Investment of funds abroad in the form of overseas investment may result in rise of interest rate of domestic borrowings that makes DI more difficult (Goh & Wong, 2014).	World Development Indicators, World Bank (World Bank, 2024)
INFLATION	Inflation rate	A healthy level of inflation promotes investment and economic stability in an economy (Ameer et al., 2020).	World Development Indicators, World Bank (World Bank, 2024)

Source: Author's Calculation.

4. Empirical Results and Discussion

4.1. Descriptive Analysis

Table 4 presents summary statistics for various economic variables over a dataset of 26 observations. The average public investment is approximately 17.81, and the average private investment is around 18.79. The mean value for the variable of 'Institutional Quality' is negative (−0.49789), suggesting that this metric is measured in a way where higher values indicate poorer quality or vice versa. A higher standard deviation indicates more variability. For example, private investment has a standard deviation of 9.12028, which is quite a bit higher relative to its mean, indicating a wide range of values. Conversely, 'Institutional Quality' has a low standard deviation, suggesting the data points are closer to the mean.

The lowest recorded value for 'FDI Outflow' is 0.24474, and the lowest value for 'Real Interest Rate' is −2.3056. For instance, 'Real Effective Exchange' has a maximum value of 130.04,4 which is quite a bit higher compared to its mean, indicating there might be some very high values skewing the average. The 'Real Effective Exchange' has the highest variability, with a standard deviation of 15.0102 and a range from 84.920 to 130.044. Institutional Quality appears to have a small range of variation, with values hovering around −0.5. The 'Real Interest Rate' has both positive and negative values, suggesting that

there may have been periods of very low (possibly negative) real interest rates. ‘Inflation’ also varies significantly, as the range starts from -1.2630 to 8.0756 , which may indicate periods of deflation as well as inflation.

Table 4. Descriptive statistics.

Variable	Obs	Mean	Std. dev.	Min	Max
Public Investment	26	17.81032	2.04721	14.7389	21.646
Private Investment	26	18.79041	9.12028	5.2109	30.201
FDI Outflow	26	0.803843	0.40179	0.24474	1.926
Institutional Quality	26	-0.49789	0.10125	-0.6217	-0.273
Real Interest Rate	26	2.66561	2.71185	-2.3056	7.356
Real Effective Exchange	26	103.8341	15.0102	84.920	130.044
Inflation	26	3.051691	2.82261	-1.2630	8.0756

Source: Author’s Calculation.

Furthermore, the correlation matrix of dependent and independent variables is displayed in Table 5, which depicts a strong nexus between dependent and independent variables of this study, and additionally, this correlation matrix strongly supports our empirical findings of this study.

Table 5. Correlation matrix with significance levels (p -values in parentheses).

Variables	PI	PRI	FDI_O	RIR	REER	INF	IQ
PI	1						
PRI	0.539 **	1					
FDI_O	0.325 *	0.486 *	1				
RIR	0.144	-0.233	-0.402	1			
REER	-0.291	-0.121	-0.265	0.382	1		
INF	-0.197	-0.392	-0.328	0.515 **	0.631 **	1	
IQ	0.428 *	0.389 *	0.318 *	-0.301	-0.124	$-0.411 *$	1

Note: * $p < 0.1$, ** $p < 0.05$. Source: Author’s Calculation.

4.2. Results

Result Estimations and Analysis (Time-Series ARDL Simulated Graphical Approach)

1. OFDI and Macroeconomic Factors response to Public and Private Investment

The following graphs show the relationship between OFDI and other variables with public and private investment. In the first segment of the graph, Figure 2A,B, show that a rise in OFDI increases public and private investment. The curve of private investment is more linear, while that of public investment is hyperbolic. This shows that private investment increases gradually with an increase in OFDI while public investment increases quickly with an increase in OFDI, but after a certain time, its growth retards.

As shown in Figure 3A,B, we notice that the impact of real interest rate on public investment is positive, while the nexus between real interest rate and private investment is negative. This shows that private investment decreases with a rise in the real interest rate. Investment of funds abroad in the form of overseas investment may result in a rise in interest rates of private borrowings, which makes private investment more difficult. Due to the utilization of domestic private funds abroad in the form of OFDI, this relocation of domestic resources may result in a reduction in private investment due to the transfer of domestic resources abroad in the form of overseas investment (OFDI).

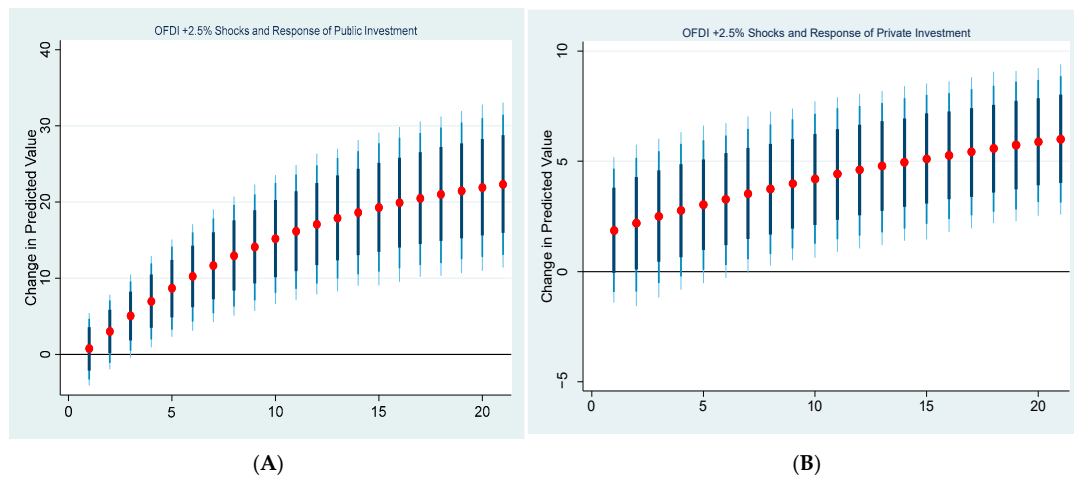


Figure 2. Source: Author's Calculation.

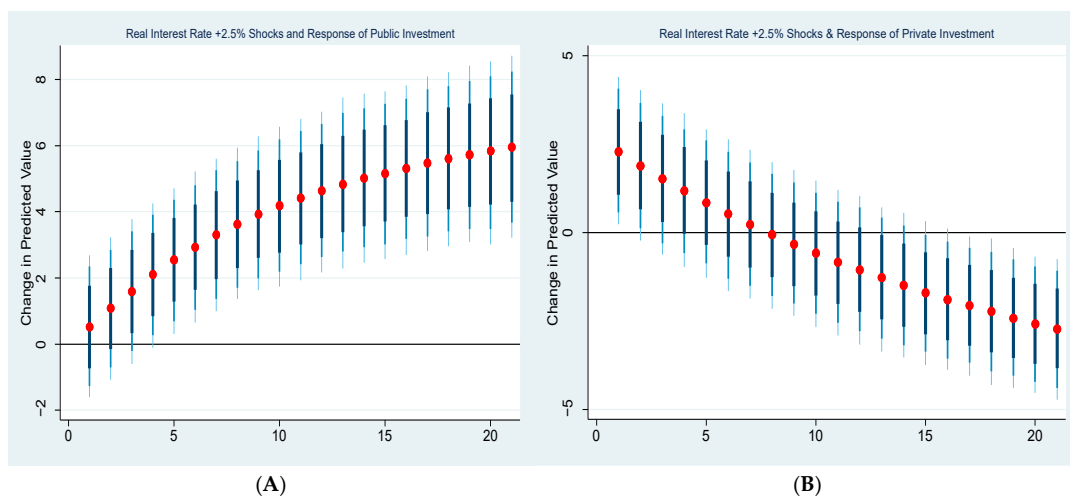


Figure 3. Source: Author's Calculation.

As shown in Figure 4A,B, the graph of exchange rate shows that public investment is not sensitive to exchange rate, while private investment is sensitive to exchange rate.

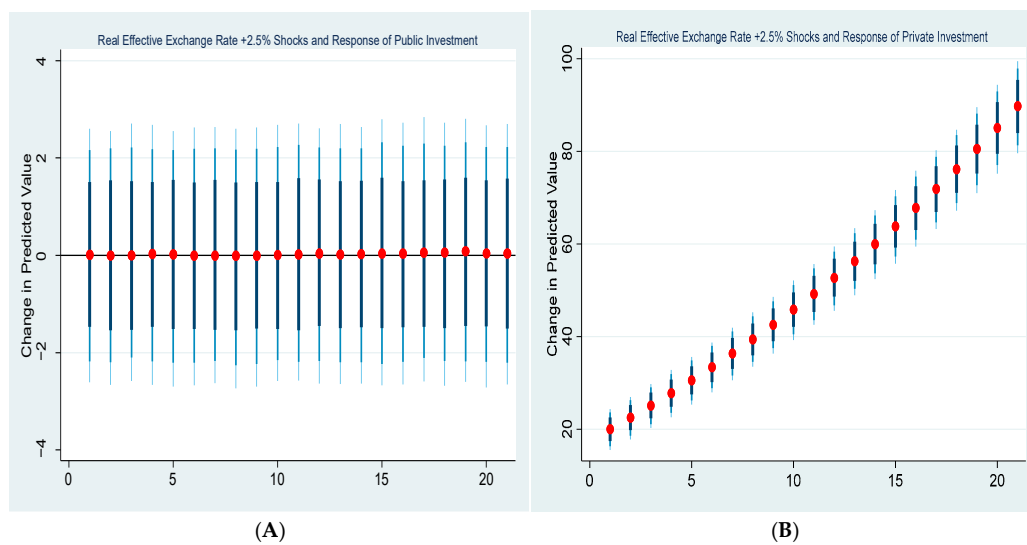


Figure 4. Source: Author's Calculation.

As shown in Figure 5A,B, we notice that the interactive ($\text{OFDI} \times \text{REER}$) nexus between OFDI and exchange rate is escalating public and private investment. The curve of private investment is more linear, while that of public investment is hyperbolic. This shows that private investment is following a rapid increase trend gradually with an interactive rise in OFDI and REER, while public investment increases quickly with an interactive increase in OFDI and REER, but after a certain time, its growth retards.

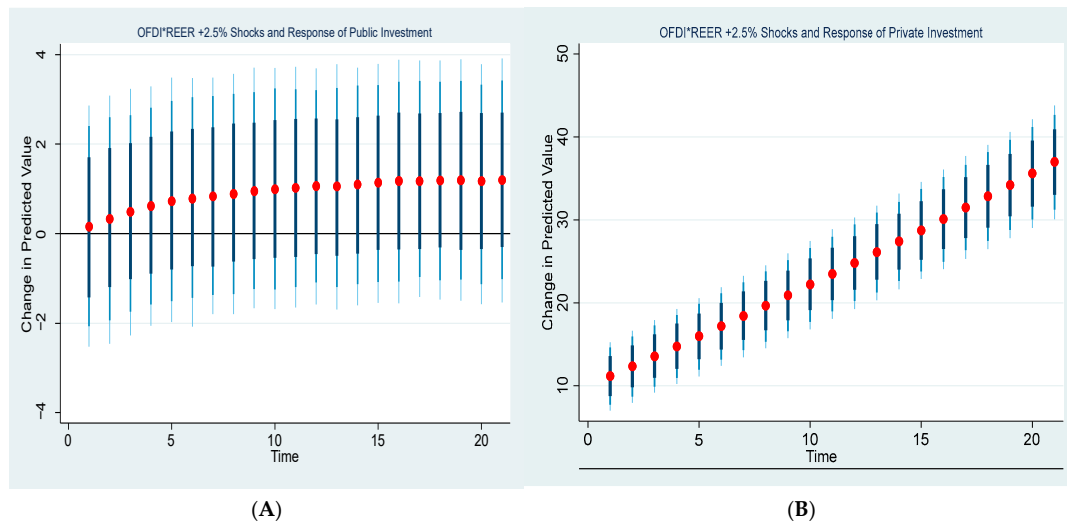


Figure 5. Source: Author's Calculation.

As shown in Figure 6A,B, we notice that the interactive relationship of OFDI and real interest rate ($\text{OFDI} \times \text{RIR}$) is enhancing private investment but its impact on public investment is quite negative (i.e., +2.5% positive shocks of interactive value of OFDI and interest rate retard public investment sharply in downward trend). Positive interaction of OFDI and interest rate is promoting investment in private sector of Chinese economy and this interactive relationship of OFDI and interest rate retarding public sector investment (i.e., positive interactive shocks of OFDI and interest rates are discouraging investment in the public sector).

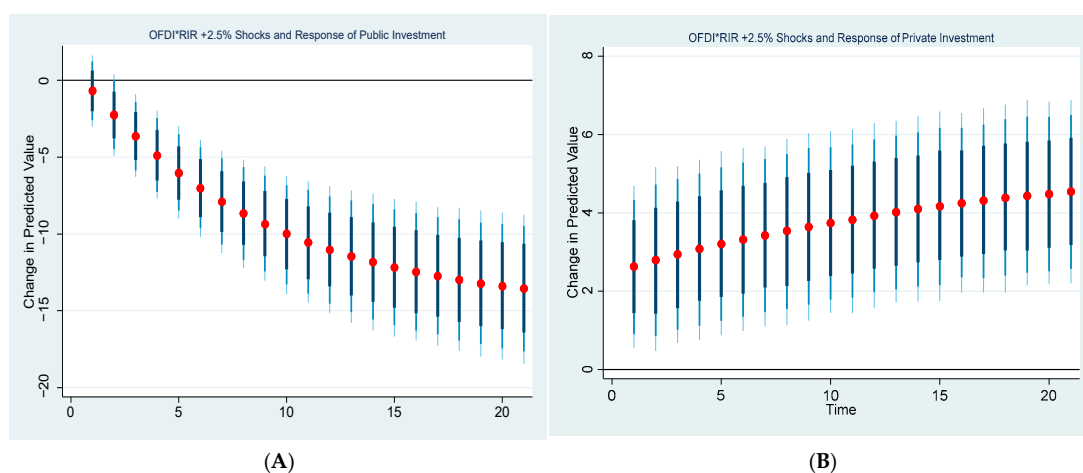


Figure 6. Source: Author's Calculation.

In Figure 7A,B, we notice that the positive shocks of inflation rate are enhancing private investment, but its impact on public investment is quite negative. Inflation creates uncertainty and erodes the investment power of the public sector. We notice that the rise in the inflation rate is pushing the downward trend of public investment in the Chinese

economy, but the rise in inflation is pushing up private investment in the economy. The rise in inflation is promoting private investment because a normal rise in inflation is good and healthy for private investment. Normally, a good and healthy level of inflation promotes private sector development in the economy. Thus, a healthy increase in inflation promotes private business and thus, in turn, results in rapid economic development and normally stabilizes the economy.

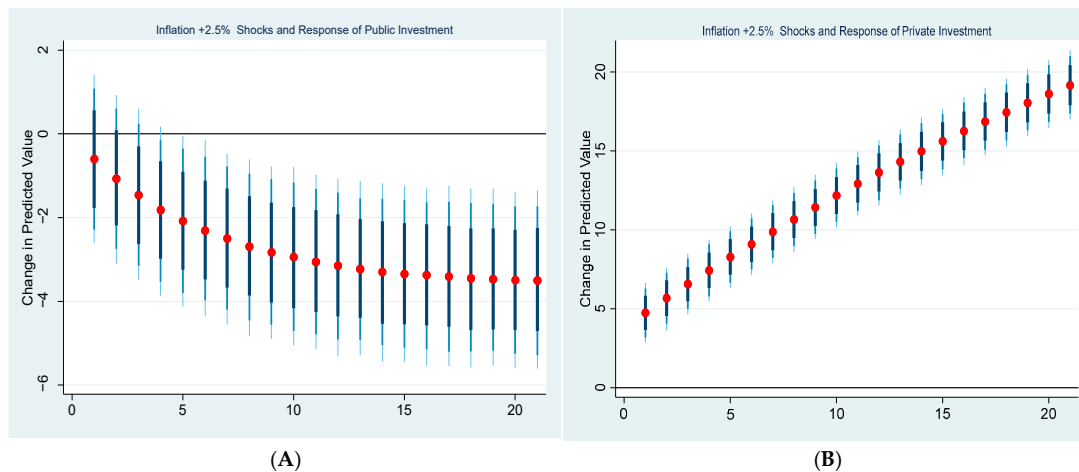


Figure 7. Source: Author's Calculation.

2. OFDI and Institutional Factors response to Public and Private Investment

The following graphs investigate the impact of OFDI and institutional quality on public and private investment. In other words, these graphical results analyze the nexus between OFDI and institutional variables concerning public and private investment. In Figure 8A,B, we notice that improvement in institutional quality (IQ) significantly increases public investment, but on the other hand, private investment behaves differently to the aggregate IQ index. The curve of private investment has a linear slope downwards in response to an improvement in the institutional quality index, while the trend of public investment is an increase in hyperbolic form. This shows that public investment increases gradually with improvement in IQ, while private investment is declining quickly in a downward trend. Thus, we infer from the results that public sector investment is more responsive to changes in institutional quality. The role of institutional quality is more important in attracting public investment in the Chinese economy, while IQ does not play an important role in attracting private investment in the Chinese economy.

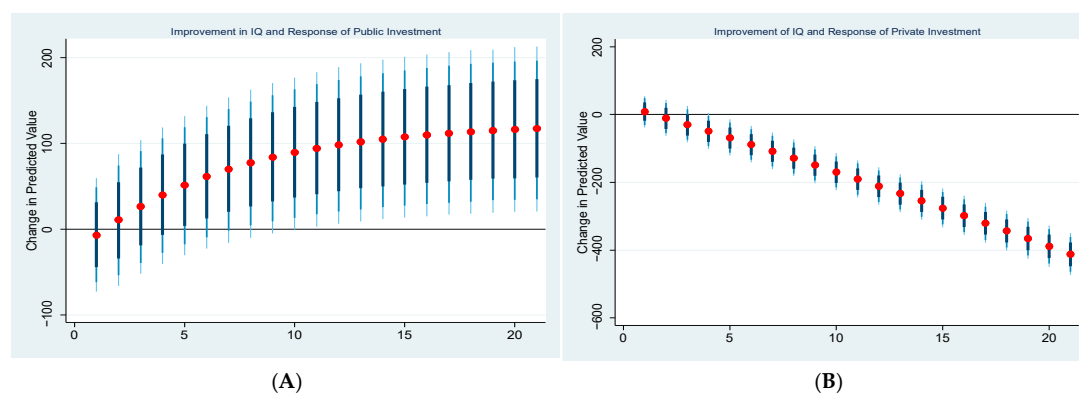


Figure 8. Source: Author's Calculation.

As shown in Figure 9A,B, we notice that the interactive relationship of OFDI and institutional quality ($OFDI \times IQ$) is significantly promoting public and private sector investment in the Chinese economy. The curve of private investment is a more linear, sloping upward trend, while that of public investment is a U-shaped hyperbolic in trend. This shows that private investment is following a rapid increasing trend gradually with a strong interaction of OFDI and IQ, while public investment is increasing in a U-shaped hyperbolic shape with an increased strong interaction effect of OFDI and IQ, but after a certain time, its growth retards.

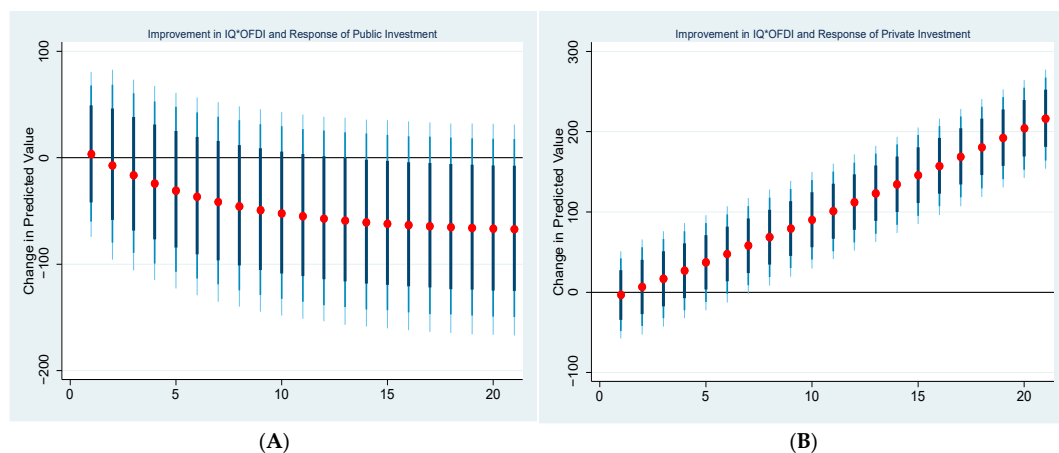


Figure 9. Source: Author's Calculation.

As shown in Figure 10A,B, we notice that improvement in control of corruption (CoC) significantly attracts public investment, but on the other hand, private investment behaves differently to the control of corruption (CoC) index. The curve of private investment has a linear slope downwards in response to improvement in the control of corruption (CoC) index, while the trend of public investment increases rapidly upward. This shows that public investment increases rapidly with improvement in CoC, while private investment is declining quickly in a downward trend with a change in CoC.

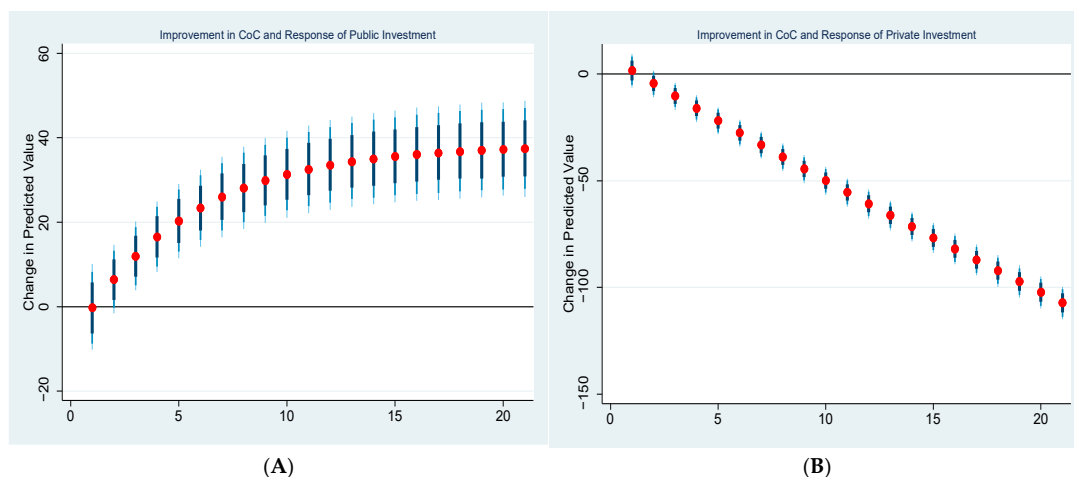


Figure 10. Source: Author's Calculation.

In Figure 10A,B, we notice that strict policies and strong measures to overcome and eradicate corrupt practices by official authorities have significantly promoted public investment in the Chinese economy, while the impact of control of corrupt index does not matter a lot for private sector development. Stronghold on corrupt practices does not significantly contribute to attracting private investment in the Chinese economy.

Overall, we can say that the role of CoC (IQ index) plays a more important role in attracting public investment in the Chinese economy, while strong checks on control of corruption (CoC) discourage private investment in the Chinese economy.

As shown in Figure 11A,B, we notice that improvement in rule of law (RoL) significantly attracts public investment, but on the other hand, private investment behaves differently to the rule of law (RoL) index. The curve of private investment has a linear slope downwards in response to improvement in the rule of law (RoL), while the trend of public investment is sloping upward rapidly. This shows that public investment increases rapidly with improvement in the rule of law (RoL), while private investment is declining quickly in a downward trend with a change in RoL. In Figure 11A,B, we notice that strict rules and regulations as well as political stability enforced by official authorities significantly enhance public investment in the Chinese economy, while the impact of RoL index is not considered to be important for private sector development. Strong enforcement of the rule of law significantly contributes to attracting private investment. Overall, we can say that the role of CoC (IQ index) plays a more important role in attracting public investment in the Chinese economy, while strong enforcement of the rule of law (RoL) discourages private investment in the case of China.

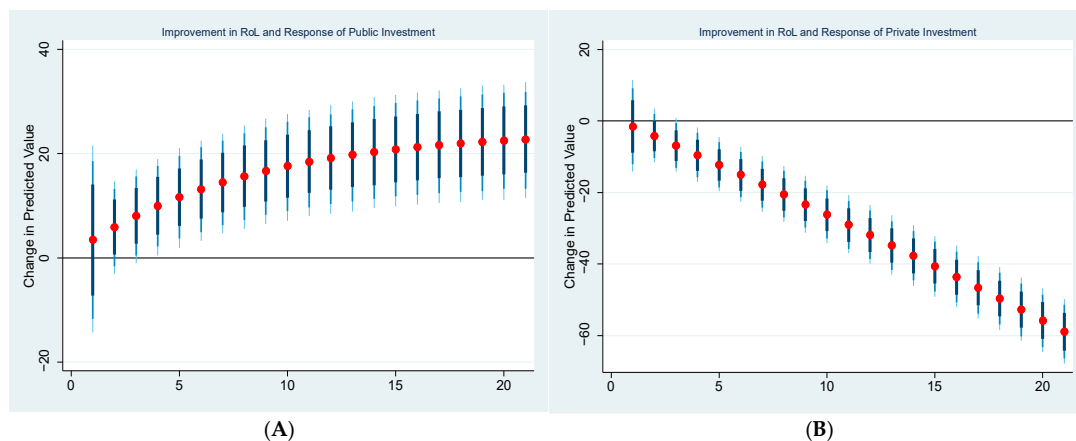


Figure 11. Source: Author's Calculation.

As shown in Figure 12A,B, we notice that improvement of Government Effectiveness (G.E) has a neutral relationship with public investment, i.e., (Change in G.E. does not influence public investment), but on the other hand, private investment behaves differently to the Government Effectiveness (G.E) index. The curve of public investment is linear, straight behavior in response to a change in the Government Effectiveness (G.E) index, while the trend of private investment is decreasing rapidly.

As shown in Figure 12A,B, we notice that public investment stays neutral with improvement in the G.E. index, while private investment is declining quickly in a downward trend. Thus, we infer from the results that public sector investment is no response to changes in the G.E. index, but private investment is quite a response to changes in the G.E. index but response of private investment is quite negative in trend. Thus, we notice that improvement in the G.E. index sharply discourages private investment in the case of the People's Republic of China.

In Figure 13A,B, we notice that regulatory quality (R.Q.) significantly decreases public and private sector investment in the Chinese economy. The curve of private investment is more linear, with a sloping downward trend, while that of public investment is U-shaped and hyperbolic in its downward trend. This shows that private investment is following a rapidly decreasing trend gradually with improvement in the R.Q. index, while public

investment is a decreasing U-shaped hyperbolic trend with changes in R.Q., but after a certain time, its trend slows down.

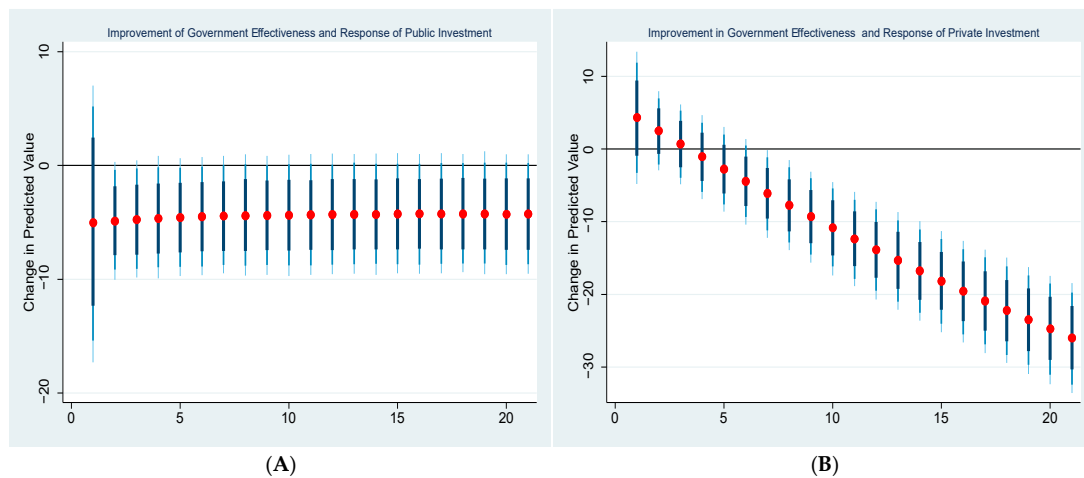


Figure 12. Source: Author's Calculation.

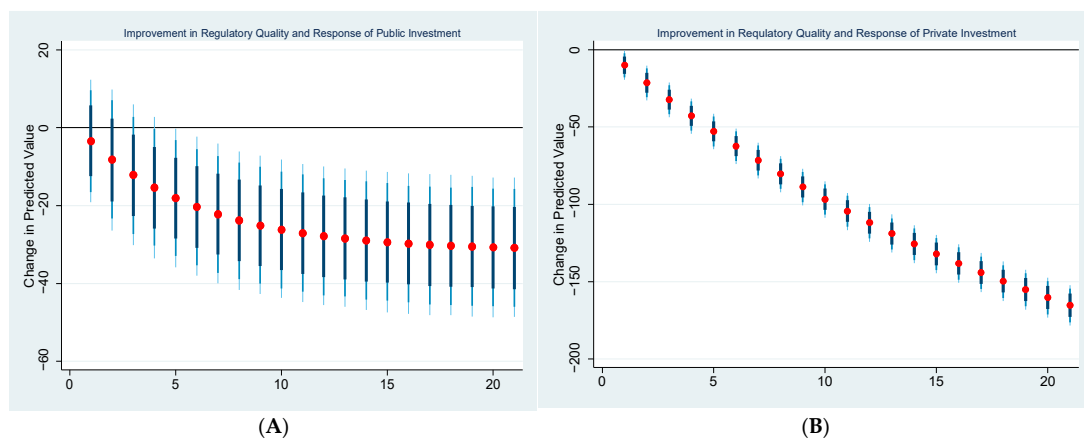


Figure 13. Source: Author's Calculation.

As shown in Figure 14A,B, we notice that improvement in political stability (P.S) significantly attracts public investment, but on the other hand, private investment behaves differently to the political stability (P.S) index. The curve of private investment has a linear slope downwards in response to improvement in the political stability (P.S) index, while the trend of public investment is increasing rapidly upward.

As shown in Figure 14A,B, we notice that public investment increases rapidly with improvement in political stability (P.S) index while private investment is declining quickly in a downward trend with change in P. S. Thus, we notice that political stability attracts public investment in the Chinese economy while improvement in the P.S. index retards private sector development. Overall, we can say that P.S. (IQ index) plays a more important role in attracting public investment, while strong political stability (P.S.) discourages private investment in the case of China.

As shown in Figure 15A,B, we notice that improvement in the voice and accountability (V.A) index significantly attracts public investment, while on the other hand, private investment behaves differently to the voice and accountability (V.A) index. Private investment has a linear slope downwards in response to improvement in the voice and accountability (V.A) index, while the trend of public investment is increasing rapidly upward. This shows that public investment increases rapidly with improvement in the voice and accountability (V.A) index while private investment is declining quickly in a downward trend with

changes in P. S. Hence, we notice that political stability attracts public investment in the Chinese economy while improvement in the P.S. index retards private sector development. Overall, the voice and accountability (V.A). index attracts public investment while the V.A. index retards private investment in the Chinese economy.

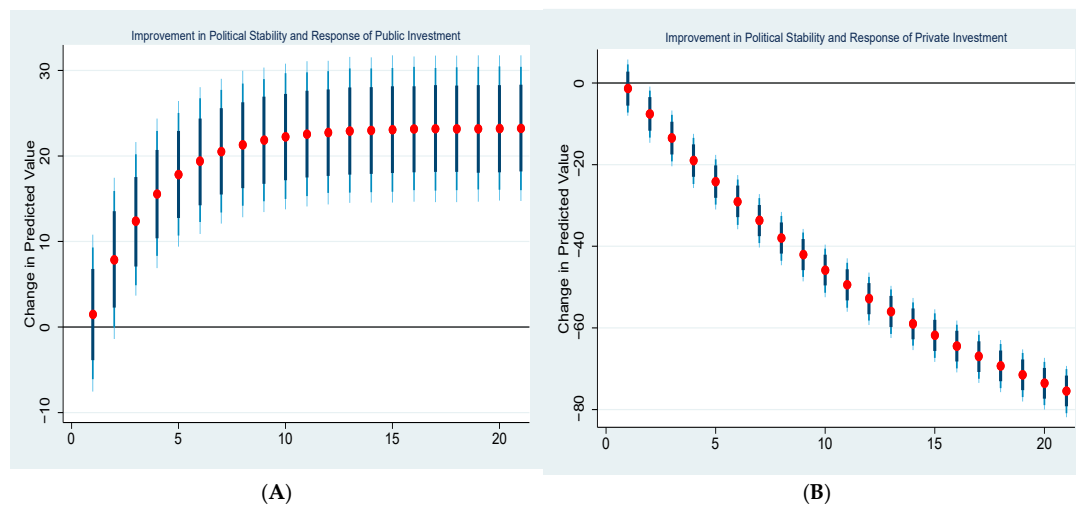


Figure 14. Source: Author's Calculation.

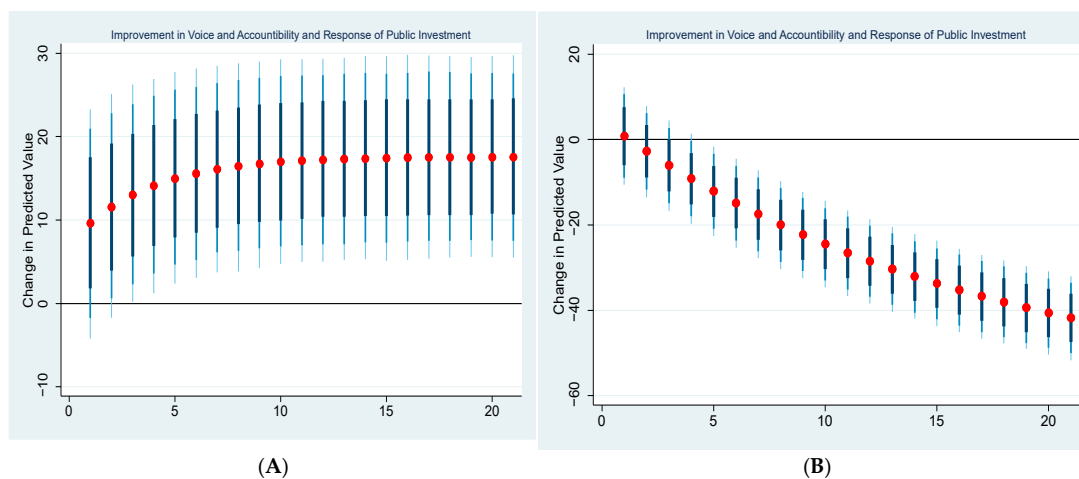


Figure 15. Source: Author's Calculation.

5. Discussion

The empirical findings of this research study underscore the considerable role of Outward Foreign Direct Investment (OFDI) and institutional quality (IQ) in shaping public and personal regional investments in China. The evaluation exhibits a tremendous and robust interaction between OFDI and IQ, which appreciably promotes investment in sports inside the country. Graphical proof shows that non-public investment is well known to show a constant upward trend, suggesting that better institutional frameworks and accelerated OFDI facilitate conducive surroundings for personal area growth. Conversely, public funding demonstrates a U-shaped hyperbolic fashion, implying that whilst preliminary improvements in institutional fine and OFDI engagement stimulate public quarter investments, they have an impact on diminishing beyond a certain threshold, probably because of saturation effects or policy shifts (You & Solomon, 2015). This nuanced courting highlights the complicated dynamics governing funding responses to institutional and outward investment regulations.

In addition, the use of the study of the dynamic ARDL approach effectively addresses potentially economic issues such as endogeneity, autocorrelation, and heteroskedasticity, thus achieving more reliable and stronger results. The inclusion of macroeconomic variables, including inflation, interest rates, exchange rates, and political risk factors, enhances analysis, provides an extensive understanding of how the comprehensive economic environment affects investment patterns (Hong & Sun, 2006). Conclusions support the hypothesis that outbound investment by Chinese firms encourages domestic investment long term, aligning with the pre-literature that suggests that external FDI may complement domestic investment instead of replacing domestic investment (Ameer et al., 2017; Feldstein, 1995).

The results also monitor differential effects of additives of institutional quality, together with regulatory quality and civil liberties, on funding traits. For instance, improvements in regulatory best practices significantly bolster non-public investment, even as public investment stays pretty unaffected by modifications in governance indices (Hsu et al., 2015). This indicates that personal region actors are extra sensitive to institutional reforms that lessen transaction costs and enhance self-assurance within the investment climate. Conversely, public investment seems to be less responsive, probably due to bureaucratic inertia or policy pressure.

Empirical results underline an important insight: institutional quality is not just a background factor, but actively shapes the efficacy of foreign investment policies. The term significant OFDI $\times$ IQ interaction means that the investment of institutional development acts as an amplifier for spillover effects. Its economic development has theoretical implications to suit the institutional-based approach, suggesting that investment climate is not only market determined but policy related and implications include the need to establish a medium-term institutional improvement agenda for China, possibly spread over a decade, to ensure stable benefits in domestic investment from OFDI. In addition, international cooperation, especially in global rule and anti-corruption, can play a role in maximizing the developmental returns of OFDI.

From a policy point of view, increasing regulatory quality and reducing corruption can unlock domestic benefits more than the outbound investment flow. In addition, the difference between public and private investment for institutional changes highlights a potential disparity in the accountability policy effectiveness, where public investment is more directly associated with the quality of governance, and private investment is more sensitive to joint reforms and external incentives, dependence on macroeconomic data, which can obscure regional disparity. Future studies may benefit from disagreeing with firm- or industry-level analysis and detecting short-term policy dynamics using existing high-frequency data or VAR models.

Overall, this study contributes to the existing literature by dismissing the effects of OFDI and institutional quality (IQ) on public and private investments, with the effect of consolidation to avoid aggregation bias and provide clear policy. Findings suggest that strengthening institutional structures and promoting outbound investment can serve as an effective strategy to promote sustainable economic development in China. Future research can look for the role of global economic conditions in the field-specific mobility and modifying these relationships, enriching the behavior of investing in the emerging economies (Fan et al., 2016).

6. Conclusions and Policy Implications

We are investigating the nexus between OFDI, institutional quality, and domestic public–private investments with a particular focus on the Chinese economy. We have applied simulated ARDL methods in order to investigate the impact of OFDI and IQ on

public–private investments. For the results, we notice that OFDI promotes public and private investment in the Chinese economy, but strong interactive linkage ($\text{OFDI} \times \text{IQ}$) of OFDI and IQ more significantly attracts private investment relative to that of public investment. Additionally, the role of institutional quality is paramount to promote public investment in China. Public investment increases gradually with improvement in IQ, while private investment is declining quickly in a downward trend (i.e., improvement in IQ promotes public investment in the Chinese economy).

All unbundling institutional indicators (IQ index) such as control of corruption (CoC), rule of law, political stability (P.S.), and voice and accountability (V.A.) play a pivotal role in boosting public sector investment in the Chinese economy. On the contrary, the role of IQ and unbundling institutional indicators is not very significant in promoting private sector investment in the Chinese economy. But the interactive linkage of OFDI and IQ seems to be quite substantial in enhancing private investment in the Chinese economy. Overall, aggregate IQ and its unbundling institutional indicators are quite encouraging in boosting public investment in the Chinese economy, but IQ role is quite neutral to private investment, or we can say that improvement in IQ is sharply declining private investment in the Chinese economy.

As for the empirical results, we notice that substantial improvement in IQ can promote more public sector development in the Chinese economy and role of IQ is quite paramount in the public sector development of China. But conversely, IQ is not enhancing any private investment in the Chinese economy. Thus, the Chinese government should pay serious attention towards institutional development and make a broader ten-year plan for better institutional restructuring in order to reap significant benefits by boosting public sector development at a record level in the Chinese economy but it is only possible through better IQ development.

The current research study comprehensively analyzed the impact of OFDI and institutional quality IQ on public and private investments in China. Research faces multiple limitations and challenges that must be acknowledged. First, despite employing strong dynamic ARDL methods to control for endogenities and other economic issues, the analysis is based on total macroeconomic data, which can mask field-specific dynamics and inequality within industries. Future research can include field-level or firm-level data to better understand the nuanced effects of OFDI and institutional reforms in various economic fields. Additionally, the study is mainly focused on long-term relationships, potentially ignoring short-term fluctuations and policy shocks that can affect investment patterns. This difference can be addressed by including existing data or employing alternative functions such as vector error correction models. In addition, while macroeconomic variables such as interest rates and political risk are included, other relevant factors such as technological innovation, global economic conditions, and business policies are not considered, which can significantly affect investment behavior. Future research can detect these dimensions to provide a more overall understanding. Finally, the conclusions are reference specific to China, and care should be taken when generalizing to other emerging economies along with various institutional and economic environments. Extending the scope to include a comparative analysis in countries can increase the widespread purpose of these insights and inform a more effective policy framework to promote permanent investment growth.

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Abbreviations

The following abbreviations and definitions are used in this manuscript:

Abbreviation	Full Form
OFDI	Outward Foreign Direct Investment
DI	Domestic Investment
DCF	Domestic Capital Formation
PRI	Private Investment
PUBI	Public Investment
IQ	Institutional Quality
CoC	Control of Corruption
RoL	Rule of Law
G.E.	Government Effectiveness
R.Q.	Regulatory Quality
P.S.	Political Stability
V.A.	Voice and Accountability
ARDL	Autoregressive Distributed Lag
DS-ARDL	Dynamic Simulated ARDL
GDP	Gross Domestic Product
GDPPCG	GDP per Capita Growth
EXCH	Exchange Rate
RIR	Real Interest Rate
REER	Real Effective Exchange Rate
CS-ARDL	Cross-Sectional ARDL
MNCs	Multinational Corporations
BRI	Belt and Road Initiative
OECD	Organisation for Economic Co-operation and Development
GCC	Gulf Cooperation Council

References

- Ali, U., & Wang, J. J. (2018). Does outbound foreign direct investment crowd out domestic investment in China? Evidence from time series analysis. *Global Economic Review*, 47(4), 419–433. [\[CrossRef\]](#)
- Al-Sadiq, M. A. J. (2013). *Outward foreign direct investment and domestic investment: The case of developing countries*. International Monetary Fund.
- Ameer, W., Sohag, K., Xu, H., & Halwan, M. M. (2020). The impact of OFDI and institutional quality on domestic capital formation at the disaggregated level: Evidence for developed and emerging countries. *Sustainability*, 12(9), 3661. [\[CrossRef\]](#)
- Ameer, W., Sohag, K., Zhan, Q., Shah, S. H., & Yongjia, Z. (2025). Do financial development and institutional quality impede or stimulate the shadow economy? A comparative analysis of developed and developing countries. *Humanities and Social Sciences Communications*, 12(1), 17. [\[CrossRef\]](#)
- Ameer, W., Xu, H., & Alotaish, M. S. M. (2017). Outward foreign direct investment and domestic investment: Evidence from China. *Economic Research-Ekonomska Istraživanja*, 30(1), 777–788. [\[CrossRef\]](#)
- Andersen, P. S., & Hainaut, P. (1998). *Foreign direct investment and employment in the industrial countries* (Vol. 61). Bank for International Settlements, Monetary and Economic Department.
- Choy, L. H., Ho, W. K., & Mak, S. W. (2011, September 23–25). *On FDI and domestic capital stock: A panel data study of Chinese regions*. 16th International Symposium on Advancement of Construction Management and Real Estate, CRIOCM 2011, Chongqing, China.

- Desai, M. A., Foley, C. F., & Hines, J. R., Jr. (2005). Foreign direct investment and the domestic capital stock. *American Economic Review*, 95(2), 33–38. [CrossRef]
- Durani, F., Ameer, W., Meo, M. S., & Husin, M. M. (2021). Relationship between outward foreign direct investment and domestic investment: Evidence from GCC countries. *Asian Economic and Financial Review*, 11(4), 278. [CrossRef]
- Fan, Z., Zhang, R., Liu, X., & Pan, L. (2016). China's outward FDI efficiency along the belt and road: An application of stochastic frontier gravity model. *China Agricultural Economic Review*, 8(3), 455–479. [CrossRef]
- Feldstein, M. (1995). *The effects of outbound foreign direct investment on the domestic capital stock* (No. 4668). National Bureau of Economic Research.
- Globerman, S., & Shapiro, D. M. (1999). The impact of government policies on foreign direct investment: The Canadian experience. *Journal of International Business Studies*, 30, 513–532. [CrossRef]
- Goh, S. K., & Wong, K. N. (2014). Could inward FDI offset the substitution effect of outward FDI on domestic investment? Evidence from Malaysia. *Prague Economic Papers*, 23(4), 413–425. [CrossRef]
- Hejazi, W., & Pauly, P. (2003). Motivations for FDI and domestic capital formation. *Journal of International Business Studies*, 34, 282–289. [CrossRef]
- Herzer, D. (2008). The long-run relationship between outward FDI and domestic output: Evidence from panel data. *Economics Letters*, 100(1), 146–149. [CrossRef]
- Herzer, D., & Schrooten, M. (2008). Outward FDI and domestic investment in two industrialized countries. *Economics Letters*, 99(1), 139–143. [CrossRef]
- Hong, E., & Sun, L. (2006). Dynamics of internationalization and outward investment: Chinese corporations' strategies. *The China Quarterly*, 187, 610–634. [CrossRef]
- Hsu, W. C., Wang, C., & Clegg, J. (2015). The effects of outward foreign direct investment on fixed-capital formation at home: The roles of host location and industry characteristics. *Global Economic Review*, 44(3), 353–368. [CrossRef]
- International Country Risk Guide (ICRG). (2018). *Country risk ratings and analysis*. The PRS Group.
- International Monetary Fund (IMF). (2024). *Fisac monitor: Addressing the fiscal challenges of the global economy*. Fiscal Affairs Department.
- International Monetary Fund, Fiscal Affairs Department. (2025). *Fiscal monitor* [Data set]. Available online: <https://www.imf.org/en/Publications/FM> (accessed on 15 November 2024).
- Jordan, S., & Philips, A. Q. (2018). Dynamic Simulation and Testing for Single-Equation Cointegrating and Stationary Autoregressive Distributed Lag Models. *R Journal*, 10(2). [CrossRef]
- Khan, M. S., & Reinhart, C. M. (1990). Private investment and economic growth in developing countries. *World Development*, 18(1), 19–27. [CrossRef]
- Morrissey, O., & Udomkerdmongkol, M. (2012). Governance, private investment and foreign direct investment in developing countries. *World Development*, 40(3), 437–445. [CrossRef]
- Narayan, P. K. (2005). The saving and investment nexus for China: Evidence from cointegration tests. *Applied Economics*, 37(17), 1979–1990. [CrossRef]
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326. [CrossRef]
- Sauramo, P. (2008). *Does outward foreign direct investment reduce domestic investment? Macro-evidence from Finland*. (Working Paper No. 239). Palkansaajien tutkimuslaitos.
- Sauvant, K. P. (2008). Outward FDI from emerging markets: Some policy issues. *Foreign Direct Investment, Location and Competitiveness*, 2, 279.
- Stevens, G. V., & Lipsey, R. E. (1992). Interactions between domestic and foreign investment. *Journal of International Money and Finance*, 11(1), 40–62. [CrossRef]
- Uneze, C. U. (2013). Socio-economic determinants of savings in cooperatives by farmers of selected agricultural group lending schemes in Anambra state, Nigeria. *Greener Journal of Agricultural Sciences*, 3(5), 384–390. [CrossRef]
- United Nations Conference on Trade and Development (UNCTAD). (2017). *World investment report*. United Nations Conference on Trade and Development.
- World Bank. (2024). *World development indicators*. Available online: <http://databank.worldbank.org/data/> (accessed on 15 November 2024).
- World Bank. (2025). *World Development Indicators (WDI)* [Data set]. Available online: <https://databank.worldbank.org/source/world-development-indicators> (accessed on 15 November 2024).
- You, K., & Solomon, O. H. (2015). China's outward foreign direct investment and domestic investment: An industrial level analysis. *China Economic Review*, 34, 249–260. [CrossRef]

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