

Original Article

The Impact of FDI on Innovation in Developing Countries: The Mediating Role of Governance

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Citations: Shamsub, H. (2023). The Impact of FDI on Innovation in Developing Countries: The Mediating Role of Governance. *International Journal of Finance, Economics and Business*, 2 (3), 178-194.

Received: 8 June 2023

Revised: 22 August 2023

Accepted: 7 Sept 2023

Published: 30 Sept 2023

Abstract: While most studies in the existing literature focused on the direct relationship between FDI and innovation, this paper further analyzes whether governance in developing economies mediates this relationship. A 25-year cross-sectional time-series data from 1995 to 2019 were collected from the World Bank Development Indicators and the Worldwide Governance Indicators (2019) databases. This panel dataset was estimated using a system GMM. A novel finding emerged from the investigation: the positive impact of FDI on domestic innovation is mediated by two governance variables: voice and accountability and regulatory quality. This suggests that the impact of FDI on domestic innovation is strengthened when combined with the effects of mediating variables. The results imply that, in the absence of high governance quality, the traditional policy prescription—such as increasing government spending on R&D and education—may not be adequate to promote FDI's innovation spillovers. The findings suggest that governments in developing nations should work to improve the voice & accountability and regulatory quality indicators by ensuring that citizens take part in the decision-making to promote the flow of knowledge and information that fosters innovation. This will help to strengthen the influence of FDI on domestic innovations. In addition, the governments should foster an environment that is welcoming to foreign investment and implement the appropriate regulatory reforms, such as those that strengthen competition protection, property rights protection, and transparency in the operations of the organizations implementing policies.

Keywords: governance; foreign direct investment; innovation; spillover effect; generalized method of moments.



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1. Introduction

The policy of attracting foreign direct investment (FDI) has been employed by several nations to spur economic development (Lall & Narula, 2004). This policy uses both tax and non-tax incentives to lure foreign capital to invest in local economies. The competition for foreign direct investment is getting more intense even if global capital flows have grown dramatically over time. A significant increase in FDI flows globally has a range of effects for recipient countries, including technical spillovers, the development of human capital, access to international markets, and greater competitiveness (Bayar & Alakbarov, 2016). Numerous academics have studied FDI spillovers and the impacts of FDI inflows on local economies.

According to the literature on FDI and productivity, inbound FDI raises productivity in the host nation. Some academics suggest that in addition to researching how FDI affects productivity, scholars also investigate how FDI affects innovation. According to [Garcia et al. \(2013\)](#), innovation is a more appropriate proxy of the positive effects of FDI on business and economic outcomes. Growth in productivity does not always imply innovation. On the other side, improved innovation will lead to higher productivity. Technological advancement is necessary for economic progress.

Understanding how FDI affects innovation may therefore help in understanding FDI's role as a development driver. Most studies on the effect of FDI on innovation found that foreign direct investment stimulates creativity in host nations ([Cheung & Lin, 2004](#); [Lin & Lin, 2010](#)). Numerous conventional economic factors, including R&D spending, employment in R&D, levels of human capital, market structures, and sector characteristics, impact domestic innovation. But since the late 2000s, numerous studies have shown that, in addition to other aspects, governance plays a significant role in fostering innovation activities ([Belloc, 2012](#); [Kaasa et al., 2007](#); [Shapiro et al., 2015](#)). Governance is crucial in the FDI-assisted development policy. In addition to bringing in foreign direct investment to local economies, good governance also guarantees that policies are carried out successfully to produce the desired policy outcomes ([Fazio & Talamo, 2008](#); [Mengistu & Adhikary, 2011](#); [Muhammad, 2014](#); [Vedantham & Kamruddin, 2015](#); [Zeneli, 2014](#)). This strategy involves several entities, each of which performs certain functions at various levels and in varying degrees. So, in order to facilitate efficient coordination among various government departments that carry out interdependent functions, policy-making institutions need good governance ([Newig & Koontz, 2014](#)).

Multinational corporations (MNCs) bring direct benefits to the host nation by increasing domestic investment and employment. MNCs also increase productivity and technological spillovers. To maximize spillover advantages, several local institutions, including universities, boards of investment, national innovation organizations, and other governmental bodies, must work together to develop absorptive capacity. As a result, successful policy implementation depends on excellent governance. Because of its crucial role in ensuring successful policy implementation, some academics see governance as a variable that mediates the relationship between FDI and economic growth. Some researchers employ governance as a mediator in the relationship between FDI and domestic investment and social welfare ([Farooque & Yarram, 2010](#); [Pérez-Segura, 2014](#)). This demonstrates a lack of coverage in the current literature. Previous studies have largely concentrated on how good governance mediates between various factors that affect economic growth. However, studies examining how governance influences domestic innovation as a moderating factor are lacking.

Therefore, this study addresses a need in existing literature. This article's aim is to investigate the mediating effects of country-level governance on the impact of FDI on domestic innovation. The great majority of research done thus far confirms that FDI helps drive innovation at home. This research contributes to the literature by suggesting that good governance mediates and reinforces the positive relationship that exists between foreign direct investment and homegrown innovation. The study's hypotheses are as follows: (1) FDI has a positive impact on innovation; (2) governance influences innovation; and (3) governance mediates and strengthens the positive relationship between inward FDI and innovation. The rest of the paper was structured as follows. A review of the literature on FDI, governance, and innovation is presented in the next section. Following are the sections on the research methodology, analysis, discussion, and conclusion.

2. Literature Review

The study of mediating effect focuses on a mechanism of independent variable affecting a dependent variable. It provides information about an impact's causal pathway and explains how or why an effect occurs. While the mediating variable is impacted by the independent variable, the independent variable is influenced by the mediating variable. Figure 1 explains the impact pathway of the mediating variable. Figure (1) displays the model without mediation. The dependent variable Y is influenced by independent variable X. [Baron & Kenny \(1986\)](#) refers to Path C' in Diagram 2 as the direct impact. M stands for the mediator. For the mediating effect to take place, the intervening variable M must be impacted by X. Then, M must lead to Y. There is a full mediation when variable X no longer affects variable Y when M is present. When X still results in Y but the overall influence is diminished, this is known as partial mediation. In our analysis, FDI is the independent variable, and innovation is the dependent variable. The mediating component is evidence of good governance at the national level.

Existing research treats both FDI and governance as independent variables influencing domestic innovation. They study the direct effects of FDI and governance on innovation. Our research examines the

direct impact of FDI on innovation, with governance acting as a mediator to strengthen this effect. This differentiates our study from those in the existing literature. The mediating function of governance may potentially be related to [Weber \(1968\)](#) idea of high-quality government, which is characterized by a contemporary legal rational governance system constrained by impersonal laws and dependent on hierarchy and meritocracy. In this arrangement, public employees are not permitted to demand rent from private individuals. Public servants are required to diligently carry out their responsibilities as part of high-quality public governance, including promoting economic growth. Governmental officials' implementation of governance may be a mediating influence.

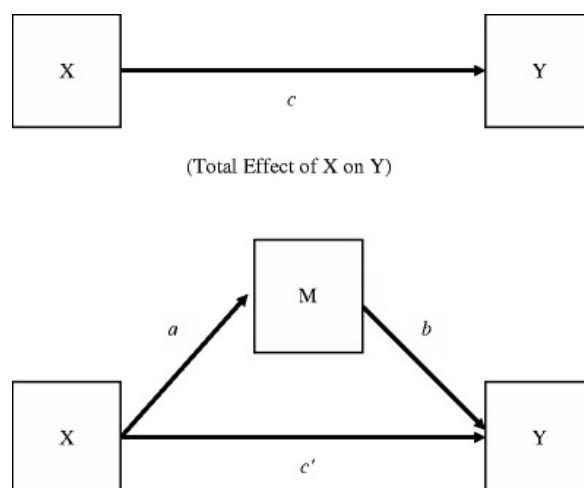


Figure 1. The impact pathway of a mediating variable.

A study by [Kettl \(2022\)](#) ties Weberian bureaucracy to contemporary government and the role of business in society. Even though businesses seek to maximize their profits, bureaucracy is essential for reducing uncertainty. The stability on which the markets rely is provided by bureaucracy. As government institutions around the world become more complicated, government policies and services are increasingly being delivered through complex partnerships of public, private, and nonprofit organizations. Although these plans must be implemented by public authorities according to the law, their actual implementation depends on a complicated web of connected organizations, many of which have their own internal hierarchies. To ensure authority responsibility and the effectiveness of policy effects obtained from policy implementation through multiple layers of interrelated institutions, public governance is necessary. [Jia et al. \(2019\)](#) claim that effective public governance increases the effectiveness of corporate governance procedures and reduces agency risk in innovation. This is a reference to how public governance affects innovation by acting as a mediator. To be consistent with the conceptual framework of mediating the role of governance in the relationship between FDI and innovation, the literature review section comprises three research strands: the direct impact of FDI on innovation, the relationship between FDI and governance, and the impact of governance on innovation. These three literary threads are represented in Figure 1 as links C', a, and b, respectively.

2.1. The Direct Effect of FDI on Innovation

FDI affects domestic innovation by providing positive spillover effects. Spillovers are unintended outcomes that happen when the capability, productivity, or efficiency of local firms is increased by the presence of international affiliates. Intra-industry spillovers are those that have an impact on businesses or rivals in the same sector. Inter-industry spillovers are monetary and technological repercussions caused by vertical or retrograde connections between businesses in various industries ([Eden, 2009](#)). There are several ways that inward FDI might affect local firm innovation and the local economy. Examples of these mechanisms include demonstration effects, competitive pressure and disciplining effects, human mobility, and backward linkage. The demonstration effect occurs when multinational corporations enter host nations with superior operating efficiency, operational methods, and technologies. MNCs become a role model for local enterprises to follow their footsteps because they show how new technologies and production methods can be introduced to regional markets ([Cheung & Lin, 2004](#); [Liu & Zou, 2008](#)). Local companies observe and gather information from their overseas competitors. This demonstration effect may lead local companies

to reverse engineer MNC products and methods or it may inspire them to create via learning (Saggi, 2002). This might motivate small firms in the area to work harder at innovating. Cheung & Lin (2004) found that FDI influenced innovation patents, utility patents, and design patent applications in 26 Chinese provinces. A rise in foreign direct investment is beneficial, especially for design patents. This is a result of how simple it is to copy design patents.

When multinational corporations (MNCs) join a local market, they increase competition, compelling local businesses to innovate and release new technologies or products in order to maintain or protect their market share (Liu & Zou, 2008). Competition intensity has a bigger impact on product innovation than it does on process innovation (Damanpour, 2010). Additionally, strong competition has a restraining effect on regional businesses. They compete with multinational corporations that are technologically advanced and successful in their home countries, driving local enterprises to innovate in order to remain competitive (Lin & Lin, 2010). The existence of MNCs may therefore lead to more innovation throughout the economy.

However, the marginal spillover effects decrease as more MNCs enter the market (Eden, 2009). Businesses in the host country stand to gain the most from the initial foreign entry. The benefits of the spillover then become less as more international enterprises join. As the number of businesses grows in a domestic industry that is more crowded, the competition intensifies. Using data from 1990 to 2001, an empirical study was conducted in Romania to support the marginal spillover theory (Eden, 2009).

The entry of FDI changes how native enterprises operate. Local firms avoid direct competition with global corporations to prevent this from happening. Local enterprises spatially expand when faced with large international competitors to avoid direct competition. This situation develops when domestic businesses see foreign entry as a threat to their market share. Instead of strengthening their ability to compete directly through product innovation, incumbents choose an indirect strategic response by broadening their product and geographic coverage. An analysis of 407 American and 95 German corporations from 1987 to 2003 corroborated this idea (Eden, 2009).

Increasing the mobility of human capital is another method for fostering domestic innovation. Technology might reach nearby enterprises as a result of labor market turnovers. Former managers and experienced workers from multinational corporations have relocated to local businesses or established their own ventures. These workers' prior employers' use of technology may spur more effective innovation by their current employers (Cheung & Lin, 2004; Liu & Zou, 2008). However, because it allows MNCs to steal the finest employees from local rivals, labor mobility may have a detrimental effect on the creativity of local businesses (Javorcik, 2008).

Backward linkage pathways encourage local innovation. The term "backward linkages" is used in the fields of economics and governance to describe the ties that form between MNCs and their domestic suppliers and subcontractors. Among the many benefits of backward linkage development is the strengthening of local institutions, which in turn improves the quality of governance in the host country (United Nations Conference on Trade and Development, 2013). Because they aid in the expansion of value chains and the integration of different sectors within an economy, backward linkages are crucial for fostering growth and other development issues like local innovation. By strengthening their backward linkages, countries can boost their local production capacities, reduce their dependency on imported inputs, and increase their global competitiveness (Krugman & Obstfeld, 2009).

When MNCs compete with local businesses in the same industry, they prevent their rivals from getting confidential information. However, upstream industries thrive when they want intermediaries, leading to backward connections. To deliver goods and services that match their quality standards, MNCs strive to strengthen the capacities of their local suppliers. MNCs help local suppliers with technical support and information on product innovation and improvement in response to the need for high-quality goods and services (Bučar et al., 2012). Local firms may become more innovative as a result of these ties between international corporations and their local suppliers. However, the backward linking may not increase innovation activities for local businesses if MNCs use fewer intermediary items from local suppliers (Javorcik, 2008).

2.2. The Impact of FDI on Governance

The association of FDI and governance is the second group of literature relating to our research. As previously noted, the efficiency of FDI policy implementation is dependent on governance as a mediating factor that allows multiple organizations to accomplish multi-level activities. FDI enhances governance quality in various channels. First, changes in management and corporate governance were brought about by international corporations' entry into the market through the acquisition of local companies (Beqiraj, 2015).

MNCs frequently enforce their internal reporting systems, business standards, and information disclosure policies. Because corporate governance and public governance are interrelated, this effect improves both business efficiency and public institution accountability. Public institutions adjust to the influx of FDI by tightening public governance in order to maintain and attract foreign capital as more FDI enters and causes changes in corporate governance. For businesses to function successfully, those public institutions, such as courts, bailiffs, and securities commissioners, must be prepared to enforce property rights and implement necessary rules. According to the findings of [Mathur & Chatterjee \(2003\)](#), countries with more FDI flows score highly in institutional governance since FDI tends to have an impact on transparency and governance. These findings are confirmed by an empirical study of [Lee & Lio \(2016\)](#) that foreign capitals and investors improve governance performance and corruption of provincial governments in China.

The presence of foreign investors has helped promote good governance practices in both private and public sectors. The second way that FDI affects governance in developing nations is by exerting pressure on the host nations to improve their governance structures ([Zou, 2019](#)). The issues that frequently have a negative impact on governance include a weak legal framework, obsolete and ineffective laws, bad sectoral and overall investment policies, a lack of comprehensive policies, and weak law and policy enforcement. Countries that have a clear, predictable, and enforceable rule of law, an effective judicial system, little corruption, and less ownership concentration tend to draw more investment than those that do not. The initiatives that host country governments should take to encourage sound governance are to strengthen the rule of law, improve the regulatory and policy environment, and lower corruption.

To attract high-value FDI, the Chinese government adheres to the OECD guidelines when creating a framework for FDI policy that enhances the quality of governance. These include developing judicial independence and skill, strengthening the rule of law, promoting openness, strengthening the investment project approval process, combating corruption, safeguarding intellectual property rights, and creating an accountable and transparent legislative process ([Zou, 2019](#)). The third way that FDI can alter governance in the host country is that, in recent years, decision-makers have become more aware of the negative effects that bad governance practices have on FDI's appeal. They started raising the standard of governance. Developing nations have discovered, for instance, that businesses are often more ready to invest in a nation with a transparent regime and no investment incentives than they are in a nation with incentives but a non-transparent regime ([Zou, 2019](#)). Many countries are improving their governance structures. For instance, in an effort to attract more FDI, the Lao PRD updated its investment legislation to ensure that multinational corporations receive fair and equal treatment, are protected from expropriation, can convert their profits into other forms of currency, and have access to Investor-State Dispute Settlement (ISDS) mechanisms ([Lethbridge, 2005](#)). Vietnam delegated management of its FDI to lower-level bureaucracies ([Tri & Anh, 2016](#)).

Next, government attempts to attract FDI using E-government lead to improvements in governance quality. Several countries implement E-government programs to attract FDI, which eventually enhances the quality of governance ([Al-Sadiq, 2021](#)). The adoption of e-government services, in other words, improves the operational efficiency of government services by linking various government agencies into a single online resource. This increases transparency, lowers transaction costs, and enhances government performance. As a result, governments become more transparent, accountable, and inclusive. Offering services online improves processing time while reducing transaction costs when compared to traditional offline operations. Digital governance enhances the public's access to information and governmental services.

2.3. The Effect of Governance on Innovation

The third body of research focuses on the role of foreign direct investment in fostering innovation in recipient nations. The study of innovation began with the key work of [Joseph Schumpeter \(2017\)](#), which contends that large enterprises and concentrated market systems foster innovation. [Arrow \(1962\)](#) demonstrated, however, that a monopoly protected from competition has less motivation to innovate than enterprises in a truly competitive market. There are numerous aspects that governance influences innovation. Most of the research on the determinants of innovation looks at traditional factors such R&D spending, human capital levels in a country, research funding availability, R&D sector employment, market structure, and industry characteristics ([Kaasa et al., 2007](#)).

During the 1970s, the influence of FDI on innovation was initially examined in international trade theory, a time when institutional considerations and property rights protection were not fully apprehended. Since the 1980s, the focus on institutional quality and governance has grown out of the work of [Olson \(2022\)](#) and [North \(1990\)](#). Since the 2000s, the literature on the effects of FDI on innovation has exploded. (Cheung

& Lin, 2004) discovered that FDI had an impact on the number of invention, utility, and design patent applications filed in China. Lin & Lin (2010) discovered that severe competition with MNCs can have a favorable impact on local enterprises' innovative activities. Local government corruption stifles corporate innovation in the United States (Huang & Yuan, 2021).

Shapiro et al., (2015) discovered that corporate governance has an impact on Chinese SMEs' innovation activities as evaluated by patenting activities. By focusing on macro-level governance, Kaasa et al. (2007) discovered that good governance increases the innovation performance of Switzerland, Ireland, and Luxembourg. The national governance structure, according to Belloc (2012), has an impact on company innovation trends. In terms of innovation, different market models produce varied results. Radical innovation is aided by market-based coordination, such as that found in the United States, the United Kingdom, and other Anglo-Saxon economies with liquid capital markets and flexible labor markets. Non-market forms of coordination, such as those seen in Germany and numerous European countries, on the other hand, promote incremental innovation.

Another study that backs up the idea that countries with good governance are more likely to innovate is the World Bank's Effect of Governance on Innovation study (Belloc, 2012). The research analyzed how various forms of governance and business innovation interact with one another worldwide. The study discovered that when comparing countries with different governance structures, those with stronger governance (including transparent and efficient institutions) are likely to have higher levels of innovation and technical progress.

3. Materials and Methods

We used data from the World Bank (2019) and Kelley & Simmons (2019) to generate a cross-sectional time-series dataset. The panel data covers a 25-year time series of 55 developing nations from 1995 to 2019. This panel data collection only includes 55 developing nations because many countries' crucial data is unavailable. The most recent year for which data was available in the database at the time of writing was 2019. This study examines the number of patents registered each year as a proxy for innovation, based on previous research articles on economy-wide innovation (Cheung & Lin, 2004; Nadolny, 2010; Phene & Almeida, 2008). To derive efficient estimators, we follow various literature, e.g., Das & Parry (2011), Law & Azman-Saini (2012) and Zeneli (2014), to estimate this panel data set by the Generalized Method of Moments (GMM). We used a system GMM, which relies on both the level and difference equations. We used lagged differences of regressors as instruments for the level equation. Because this paper tests the relationship between inward FDI and innovation and tests the mediating effect of governance on the relationship between FDI and innovation, the discussion and interpretation of coefficients will focus primarily on FDI, patents (INNOVATION), and the interaction terms. Traditional FDI-innovation parameters affecting the quantity of economy-wide innovations were used to develop estimation models. Then, our variables of interest enter the equation as explanatory variables. The relationship between indigenous innovation and inward FDI is depicted in Equation (1).

$$INNOVATION_{ij} = \beta_0 + \beta_1 INNOVATION_{ij(t-1)} + \beta_2 FDI_{ij} + \beta_3 GOVERNANCE_{ij} + \beta_4 RDGDP_{ij} + \beta_5 GDP_{ij} + \beta_6 EDUGDP_{ij} + \beta_7 OPENNESS_{ij} + \varepsilon_{ij} \quad (1)$$

Where INNOVATION is the total number of patents filed by citizens, FDI is the total amount of foreign direct investment as a percentage of GDP, RDGDP is the total amount spent on research and development, and GDP is the log of GDP. The level of openness, measured by the sum of exports and imports divided by GDP, is denoted by OPENNESS, while EDUGDP indicates the proportion of GDP allocated to education. The six variables that make up GOVERNANCE are the rule of law (ROL), regulatory quality (RQ), government effectiveness (GOEF), corruption control (CC), political stability (STABLE), and voice and accountability (VAC). Each measurement enters the equation separately.

As control variables, R&D spending, trade openness, GDP, and government spending on education are included in the equation. The independent variable is FDI, while the mediating variables are governance variables. The nation's absorptive capacities are represented by R&D spending and spending on education. Although numerous variables, such as scientific publications per year and the number of researchers per capita, represent absorptive capacities, we picked just R&D investment and spending on education because those variables have high co-linearity. R&D

spending is also preferable to other types of investment since it symbolizes innovative efforts, whereas the number of patents is the result of those efforts (Griffith et al., 2006).

While inward FDI may affect local innovation through spillover effects, the extent to which spillovers assist local enterprises and the broader economy is dependent on the host countries' ability to absorb spillovers. The openness variable is introduced into the equation to coincide with conventional thinking and existing empirical findings that international commerce causes technological spillovers. We use Baron & Kenny (1986) technique to measure mediating effects of governance indicators on the influence of FDI on innovation. Step 1: The independent variable must influence the dependent variable. This phase decides whether there is an impact to be mediated. (Foreign direct investment promotes innovation)

$$INNOVATION_{ij} = \beta_0 + \beta_1 INNOVATION_{ij(t-1)} + \beta_2 FDI_{ij} + \beta_3 RDGDP_{ij} + \beta_4 GDP_{ij} + \beta_5 EDUGDP_{ij} + \beta_6 OPENNESS_{ij} + \varepsilon_{ij} \quad (2)$$

Step 2: The mediator is influenced by the independent variable. The mediator is treated as an outcome variable in this stage. (FDI affects governance.)

$$GOVERNANCE_{ij} = \beta_0 + \beta_1 GOVERNANCE_{ij(t-1)} + \beta_2 FDI_{ij} + \beta_3 RDGDP_{ij} + \beta_4 GDP_{ij} + \beta_5 EDUGDP_{ij} + \beta_6 OPENNESS_{ij} + \varepsilon_{ij} \quad (3)$$

Step 3: The dependent variable is influenced by the mediator. In our case, governance has an impact on innovation.

$$INNOVATION_{ij} = \beta_0 + \beta_1 INNOVATION_{ij(t-1)} + \beta_2 GOVERNANCE_{ij} + \beta_3 RDGDP_{ij} + \beta_4 GDP_{ij} + \beta_5 EDUGDP_{ij} + \beta_6 OPENNESS_{ij} + \varepsilon_{ij} \quad (4)$$

Step 4: The effect of the independent variable (FDI) on the dependent variable (innovation) decreases after controlling for the mediator's influence (Equation 1). If all the preceding requirements are met, and the independent variable's influence on the dependent variable becomes insignificant in the mediator's presence, the mediator "totally" mediates the independent variable's effect. However, the independent variable's effect is "partially" mediated if the independent variable's influence remains significant in the presence of the mediator.

4. Results

4.1. Descriptive Statistics

The descriptive statistics of dependent variables and selected independent variables are presented first in the analysis section. There are six governance variables and six interaction terms, as well as the number of registered patents (INNOVATION), and FDI as a percentage of GDP (FDI). In addition, we present a governance indicator correlation matrix.

Table 1. Descriptive Statistics of FDI and Innovation

Variable(s)	N	Mean	SE Mean	Minimum	Maximum
FDI*	1350	4.528	0.219	-40.414	173.45
PATENT**	1,350	2,905.48	10,855.74	1.00	123,426.00
INNOVATION***	1350	2.1698	0.0267	0.00	6.1478

Note: * FDI as a percentage of GDP. **number of registered patents by residents per year. ***log of the number of patents registered.

In our dataset, developing countries receive 4.528 percent of FDI inflows as a proportion of GDP, as seen in Table 1. The average number of patents per year is 2,908 patents, with a standard deviation of

10,855.74. We can see that the annual number of patents registered has a high dispersion. This may cause heteroskedasticity problem in the regression analysis, violating a classical assumption. Therefore, we will use the variable INNOVATION (log of innovation) instead to avoid the heteroskedasticity problem in regression analysis.

Table 2. Mean Values of Individual Governance Indicators from 1995 to 2019

Variable(s)	Mean	SE Mean	Minimum	Maximum
ROL	-0.2132	0.0174	-1.6924	1.5965
RQ	0.0151	0.0188	-1.8515	1.6749
STABLE	-0.2656	0.0219	-2.8121	1.6981
VAC	-0.1321	0.0207	-1.8296	1.5911
CC	-0.2821	0.0155	-1.4153	1.5636
GOEF	-0.0714	0.0161	-1.495	1.669

Note: N= 1,350

Table 2 shows the mean values of individual governance indicators. We can see that the 25-year mean values of individual governance measures are negative, except for regulatory quality (RQ).

Table 3. Mean Values of Individual Governance Indicators by Year

Year	ROL		RQ		STABLE	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
1995	-0.24	0.09	0.06	0.10	-0.25	0.12
1996	-0.28	0.09	0.02	0.10	-0.30	0.11
1997	-0.27	0.09	0.02	0.09	-0.28	0.11
1998	-0.25	0.09	0.04	0.09	-0.24	0.11
1999	-0.27	0.09	0.02	0.09	-0.27	0.10
2000	-0.27	0.09	0.01	0.09	-0.28	0.11
2001	-0.24	0.08	-0.01	0.09	-0.22	0.11
2002	-0.24	0.09	-0.05	0.10	-0.21	0.12
2003	-0.22	0.09	-0.04	0.09	-0.24	0.13
2004	-0.20	0.08	-0.01	0.09	-0.32	0.11
2005	-0.22	0.09	-0.04	0.09	-0.26	0.11
2006	-0.24	0.09	-0.01	0.09	-0.29	0.12
2007	-0.23	0.09	0.02	0.09	-0.24	0.11
2008	-0.22	0.09	0.04	0.10	-0.28	0.12
2009	-0.22	0.09	0.03	0.10	-0.30	0.12
2010	-0.21	0.09	0.05	0.10	-0.31	0.12
2011	-0.21	0.09	0.05	0.10	-0.30	0.11
2012	-0.22	0.09	0.03	0.10	-0.29	0.11
2013	-0.22	0.09	0.01	0.10	-0.30	0.11
2014	-0.15	0.09	0.03	0.10	-0.23	0.11
2015	-0.15	0.09	0.00	0.10	-0.26	0.11
2016	-0.13	0.09	0.01	0.09	-0.27	0.11
2017	-0.15	0.08	0.02	0.09	-0.24	0.11
2018	-0.14	0.09	0.03	0.10	-0.22	0.11
2019	-0.15	0.09	0.03	0.09	-0.22	0.10

Table 3. Mean Values of Individual Governance Indicators by Year (Cont'd)

Year	VAC		CC		GOEF		VAC	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
1995	-0.12	0.10	-0.32	0.08	-0.12	0.08	-0.12	0.10

1996	-0.16	0.09	-0.32	0.08	-0.16	0.08	-0.16	0.09
1997	-0.15	0.09	-0.32	0.07	-0.16	0.08	-0.15	0.09
1998	-0.13	0.10	-0.30	0.08	-0.13	0.08	-0.13	0.10
1999	-0.13	0.10	-0.31	0.07	-0.14	0.07	-0.13	0.10
2000	-0.13	0.10	-0.31	0.08	-0.13	0.08	-0.13	0.10
2001	-0.13	0.10	-0.30	0.07	-0.11	0.08	-0.13	0.10
2002	-0.14	0.11	-0.33	0.08	-0.11	0.08	-0.14	0.11
2003	-0.13	0.11	-0.24	0.07	-0.07	0.08	-0.13	0.11
2004	-0.11	0.11	-0.26	0.08	-0.08	0.08	-0.11	0.11
2005	-0.12	0.10	-0.26	0.08	-0.10	0.08	-0.12	0.10
2006	-0.14	0.11	-0.25	0.08	-0.07	0.08	-0.14	0.11
2007	-0.14	0.11	-0.26	0.07	-0.05	0.08	-0.14	0.11
2008	-0.16	0.11	-0.28	0.07	-0.06	0.08	-0.16	0.11
2009	-0.17	0.11	-0.31	0.08	-0.08	0.08	-0.17	0.11
2010	-0.18	0.11	-0.31	0.08	-0.05	0.08	-0.18	0.11
2011	-0.16	0.11	-0.29	0.08	-0.05	0.08	-0.16	0.11
2012	-0.14	0.10	-0.28	0.08	-0.06	0.08	-0.14	0.10
2013	-0.15	0.10	-0.26	0.08	-0.06	0.09	-0.15	0.10
2014	-0.12	0.11	-0.26	0.08	0.00	0.08	-0.12	0.11
2015	-0.08	0.11	-0.25	0.08	-0.01	0.08	-0.08	0.11
2016	-0.10	0.11	-0.25	0.08	-0.01	0.08	-0.10	0.11
2017	-0.12	0.11	-0.26	0.08	-0.02	0.08	-0.12	0.11
2018	-0.10	0.11	-0.26	0.08	0.01	0.08	-0.10	0.11
2019	-0.10	0.11	-0.26	0.08	0.02	0.08	-0.10	0.11

Note: N= 55 for all years.

The yearly mean values shown in Table 3 follow the same pattern as the 25-year average. The mean values for corruption control, political stability, the rule of law, and voice and accountability are all negative. Except for 2014, all years had negative mean values for government effectiveness. Despite having a positive 25-year mean score, regulatory quality has fallen into negative territory for several years.

Table 4. Mean Values of Six Interaction Terms

Variable(s)	Mean	SE Mean	Minimum	Maximum
CC*FDIGDP	-0.506	0.201	-30.589	181.112
GOEF*FDIGDP	0.359	0.245	-26.191	223.206
ROL*FDIGDP	0.004	0.291	-35.16	276.918
RQ*FDIGDP	1.147	0.257	-23.24	208.583
STABLE*FDIGDP	0.246	0.248	-30.491	220.485
VAC*FDIGDP	0.421	0.246	-16.161	214.69

Note: N= 1,350

Table 4 shows mean values of the six interaction terms. We can observe that all interaction terms are positive, except for that of CC*FDIGDP. Following that, we present a six-variable governance correlation matrix.

Table 5. Correlation Matrix of Governance Variables

Variable(s)	CC	GOEF	STABLE	RQ	ROL	VAC
CC	1.000	0.851**	0.612**	0.761**	0.882**	0.681**
GOEF	0.851**	1.000	0.578**	0.846**	0.881**	0.684**
STABILITY	0.612**	0.578**	1.000	0.551**	0.641**	0.598**
RQ	0.761**	0.846**	0.551**	1.000	0.814**	0.774**
ROL	0.882**	0.881**	0.641**	0.814**	1.000	0.709**
VAC	0.681**	0.684**	0.598**	0.774**	0.709**	1.000

VAC(-1)	0.780881** *					
	-0.001391					
ROL(-1)		0.670644** *				
		-0.002487				
STABLE(-1)			0.733413** *			
			-0.011448			
RQ(-1)				0.621768** *		
				-0.00356		
CC(-1)					0.77553*** -0.005126	
GOEF(-1)						0.624017** * -0.001476
FDI	- 0.001455** *	0.003166** *	- 0.000908** *	0.010053** *	0.004994** *	-0.000505
	-0.000289	-0.000881	-0.000377	-0.001245	-0.000536	-0.000338
RDGDP	-0.018999	0.000641	0.128898** *	0.031018** *	0.022996*	0.044907** *
	-0.010487	-0.011375	-0.030952	-0.012933	-0.012928	-0.00566
GDP	0.003518** *	0.045005** *	0.052595** *	0.050888** *	0.017195** *	0.023125** *
	-0.000755	-0.001934	-0.006685	-0.001506	-0.001491	-0.002051
EDUGDP	- 0.002243** *	-0.00497***	0.000716	-0.001979	-0.00478***	0.002365** *
	-0.000476	-0.000855	-0.009355	-0.002249	-0.000948	-0.000941
OPENNES S	-0.11947***	0.027566** *	0.119472** *	-0.01486***	0.021233** *	-0.03964***
	-0.006741	-0.001508	-0.006741	-0.00209	-0.004024	-0.001179
J-statistic	35.03563	41.56373	58.17494	53.09009	51.94227	53.15038
Prob(J-statistic)	0.956958	0.796351	0.199718	0.355968	0.398093	0.317424

Notes ***Significant at less than 1%, **Significant at less than 5%, *Significant at less than 10%.

Table 7 shows that the coefficients of FDI are statistically significant in all models except Model 6 with GOEF as the dependent variable. Five of the six individual governance factors are affected by FDI: VAC, ROL, STABILITY, RQ, and CC. Because just five governance variables stratify the condition in Step 2, we leave GOEF out of the estimation in Step 3.

Table 8. Results of GMM Analysis in Step 3.

	1 INNOVATION Coefficient (S.E)	2 INNOVATION Coefficient (S.E)	3 INNOVATION Coefficient (S.E)	4 INNOVATION Coefficient (S.E)	5 INNOVATION Coefficient (S.E)
INNOVATION (-1)	0.574576***	0.576737***	0.58127***	0.560644***	0.578752***

	0.0126	0.00722	0.010135	0.015685	0.011841
RDGDP	0.303307***	0.292026***	0.281823***	0.279027***	0.285762***
	0.0515	0.025903	0.037358	0.042313	0.036432
LOGGDP	0.050019***	0.046598***	0.046809***	0.05942***	0.044363***
	0.0126	0.008639	0.008839	0.011661	0.010553
EDUGDP	-0.0027	-0.011179**	-0.011412*	-0.007844	-0.005032
	0.0081	0.004703		0.005293	0.006827
OPENNESS	-0.095795***	-0.100438***	-0.093642***	-0.110153***	-0.098214***
	(0.033941)	(0.02785)	(0.028368)	(0.041106)	(0.028856)
VAC	-0.0555**				
	0.0223				
ROL		-0.079258***			
		0.01692			
STABLE			-0.039481***		
			0.00913		
RQ				-0.179256***	
				0.02723	
CC					-0.012354
					0.016599
J-statistic	49.71105	53.22802	51.60438	49.29986	50.06843
Prob(J-statistic)	0.4448	0.314785	0.372334	0.461124	0.43076

Notes: ***Significant at less than 1%, **Significant at less than 5%, *Significant at less than 10%. All models share the same dependent variable, INNOVATION. Model 1 tests the impact of VAC, in the absence of FDI, on INNOVATION. Models 2 to 4 test the effects of ROL, STABLE, and RQ on INNOVATION, respectively, in the absence of FDI.

Step 3 examines the impact of the remaining five governance variables on innovation in the absence of foreign direct investment. Only the coefficient of CC is not statistically significant, according to Table 8. The remaining four governance variables have significant coefficients. As a result, we will not estimate the model containing CC as a dependent variable in Step 4 or Equation 5.

Table 9. Results of GMM Analysis in Step 4.

	1	2	3	4
	Innovation	Innovation	Innovation	Innovation
	Coefficient	Coefficient	Coefficient	Coefficient
	(S.E.)	(S.E.)	(S.E.)	(S.E.)
LOGPATENTD				
(-1)	0.599276***	0.608647***	0.600976***	0.607418***
	(0.019418)	(0.015342)	(0.016082)	(0.017372)
FDIGDP	0.003129***	0.00289***	0.002536**	0.002875***
	(0.000878)	(0.001048)	(0.001006)	(0.000685)
RDGDP	0.389701***	0.424418***	0.405943***	0.4161***
	(0.073344)	(0.052006)	(0.059866)	(0.062746)
GDP_CAP	0.000701	0.000141	0.00000589	0.000499
	(0.0004)	(0.00661)	(0.000004)	(0.000329)
EDUGDP	0.003844	-0.002025	-0.000521	-0.003571
	(0.009327)	(0.010971)	(0.005847)	(0.007984)
OPENNESS	-0.030132	-0.047817	-0.076029	-0.047499
	(0.0413528)	(0.079295)	(0.048577)	(0.038998)
VAC	-0.062337**			
	(0.024705)			
ROL		-0.044198		
		(0.040195)		

	1	2	3	4
	Innovation	Innovation	Innovation	Innovation
	Coefficient	Coefficient	Coefficient	Coefficient
	(S.E.)	(S.E.)	(S.E.)	(S.E.)
RQ			-0.124649*** (0.044918)	
STABLE				-0.03493 (0.024058)
J-statistic	47.1295004	47.76186	48.12084	45.94164
Prob(J-statistic)	0.467259968	0.441606	0.427244	0.557568

Notes: ***Significant at less than 1%, **Significant at less than 5%, *Significant at less than 10%. All models share the same dependent variable, INNOVATION. Model 1 measures the impact of VAC, in the presence of FDI and FDI-governance interaction terms, on INNOVATION. Models 2 to 4 measure the effects of ROL, STABLE, and RQ on INNOVATION, respectively, in the presence of FDI and FDI-governance interaction terms.

Table 9 shows that the prominent control variables influencing economy-wide innovation are FDI and RDGDP. Their coefficients are statistically significant, which is consistent with most of the previous literature. Regarding the mediating impact of governance variables in the relationship between FDI and innovation, only two governance factors pass (Baron & Kenny, 1986) fourth-step test. In the presence of FDI, the coefficients of VAC and RQ are statistically significant. This demonstrates that the relationship between FDI and innovation is mediated by voice & accountability and regulatory quality. Next, we check whether VAC and RQ exert total or partial mediating effects by comparing the coefficients of FDI without mediating variables in Equation 2 with those in the presence of mediating variables VAC and RQ in Equation 1. Those coefficients are repeated in Table 10 below.

Table 10. Comparing the Coefficients of FDI in the Presence of Mediating Variables

Coefficients	Original Equation (Table 6, Equation 2)	Equation with VC (Equation 1, Table 9, Column 2)	Equation with RQ (Equation 1, Table 9, Column 9)
FDI	0.003511	0.003129	0.002536
VC		0.062337	
RQ			0.124649
Combined effect		0.06546	0.127226

Note: Figures in this table were derived from those in Tables 6 and 9.

The inclusion of the VC and RQ as mediating variables in Equation 1 (Table 9) causes the FDI coefficient to diminish from 0.003511 to 0.003129 and to 0.002536, respectively. This demonstrates that the direct relationship between FDI and innovation is partially mediated by voice & accountability and regulatory quality. The combined effects of FDI and the two mediating variables are 0.06546 and 0.127226, respectively. A novel finding emerged from the investigation: the direct relationship between FDI and innovation is mediated by two governance variables: voice and accountability and regulatory quality. This suggests that the impact of FDI on domestic innovation is strengthened when combined with the effects of mediating variables.

5. Discussion

The findings of our study's mediation analysis using Baron & Kenny (1986) method demonstrate that FDI directly influences domestic innovation in developing nations. Therefore, an increase in FDI inflows will lead to more innovations across the entire economy. This results from FDI's positive economic spillovers to host nations. The analysis of mediating effects of governance shows FDI's indirect impact on innovation. FDI affects governance's mediating role through its impact on voice & accountability and regulatory quality. After that, the two mediating factors impact domestic innovation. The combined effects of FDI and governance as mediating factors have a more significant impact on domestic innovation than

FDI alone does. There are several arguments in favor of the conclusion that regulatory quality and voice and accountability play a mediating role in encouraging innovation. In the first place, citizens' freedom of speech and ability to hold government officials accountable enhances their ability to get their points through. This leads to increased political participation, press freedom, and civil freedoms. As a result, there will be more room for social experimentation. Therefore, multi-national corporations (MNCs) tend to generate higher innovation spillovers as they invest more. With more room to speak their minds, local companies can take advantage of innovation spillovers and create their own unique goods and services. Hence, with freedom of expression, mediating effects of FDI on home-grown innovation occurs.

Second, institutional environments are similarly affected by voice and accountability. Poor institutional frameworks resulting in cronyism and favoritism can lead to resource misallocation which can hamper innovation, in societies with little voice and accountability. Higher voice and accountability contribute to better institutions and decision-making. It boosts civic engagement, cuts down on corruption, and stops ineffective government interference, which would free up more resources for innovative activities. The study of [Nadeem et al. \(2020\)](#) in Pakistan substantiates this argument. Their findings show that low voice and responsibility had a negative effect on innovation in Pakistan. A third reason why quality regulation is important is that it promotes market dynamics, reduces obstacles to competition, and safeguards the basic welfare of society. An improvement in regulation that lessens corruption, raises openness, and fortifies law enforcement would boost the efficiency with which innovations are implemented. More multinational corporations entering a market leads to more innovative spillovers. Local firms are incentivized to employ innovation spillovers to compete with multinational corporations by providing novel products and services thanks to policies that assure operational openness, fair competition, and good law enforcement.

In his empirical study, [Blind \(2012\)](#) found that regulations affect innovation. For instance, environmental restrictions that are appropriate can encourage the creation of new eco-friendly procedures, goods, and technologies. In addition, the G7 nations' R&D output is influenced by regulations that guarantee that intellectual property rights are properly implemented. Innovation performance in OECD economies is boosted by a general legal and regulatory environment that supports enterprise competitiveness.

The implications of our findings are pertinent to policy. Policymakers should be aware that without improvements in governance quality, the traditional policy prescription, such as increasing government spending on R&D and education, may not be adequate to increase FDI's innovation spillovers. Our research shows that improving governance quality enhances the benefits of conventional economic parameters. Voice & accountability and regulatory quality are individual governance factors that mediate the direct relationship between FDI and local innovation. In terms of voice and accountability, it is crucial for the government to make sure that citizens are included in the decision-making process. To improve the flow of knowledge and information and to foster innovation and new technologies, both public and private engagement should be promoted. Due to the quick pace of technological advancement, governments have been grappling with increased complexity and unpredictability in the regulatory domains. Therefore, it is crucial to create an atmosphere that is conducive to foreign investment and to put necessary regulatory reforms into place, such as those that enhance competition protection, property rights protection, and transparency in multilateral collaboration.

6. Conclusions

While most of the research in the body of literature examined the direct relationship between FDI and innovation, this paper goes further to determine whether governance mediates this relationship in developing economies. The data from The World Bank Development Indicators and the Worldwide Governance Indicators (2019) databases were used to form a 25-year time series-cross-sectional data of 55 developing countries from 1995 to 2019. A system GMM was used to estimate this panel dataset. A novel finding emerged from the investigation: the positive relationship between FDI and domestic innovation is moderated by two governance variables: voice and accountability and regulatory quality. This suggests that the impact of FDI on domestic innovation is strengthened when combined with the effects of mediating variables. The results imply that, in the absence of high governance quality, the traditional policy prescription—such as increasing government spending on R&D and education—may not be adequate to promote FDI's innovation spillovers.

Governments in developing nations should work to enhance the voice & accountability and regulatory quality in order to increase the impact of FDI on local innovations. This is because the FDI-innovation relationship is mediated by those two governance indicators. Regarding voice and accountability, it is critical for the government to ensure that citizens are involved in decision-making and that public and private participation is encouraged because this may result in the flow of knowledge and information that encourage

innovation. Regarding regulatory quality, the government must foster an environment that is welcoming to foreign investment and implement the appropriate regulatory reforms, such as those that strengthen competition protection, property rights protection, and transparency in the operations of the organizations implementing policies.

Author Contributions: Conceptualization, H.S.; methodology, H.S.; software, H.S.; validation, H.S.; formal analysis, H.S.; investigation, H.S.; resources, H.S.; data curation, H.S.; writing—original draft preparation, H.S.; writing—review and editing, H.S.; visualization, H.S.; project administration, H.S.; funding acquisition, H.S. The author has read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The author would like to thank Thailand Institute of Nuclear Technology (Public Organization), Ministry of Higher Education, Science, and Innovation, Thailand, for supporting this research and publication. The author also thank the reviewers for their constructive comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Al-Sadiq, M. A. J. (2021). *The role of e-government in promoting foreign direct investment inflows*. International Monetary Fund.
- Arrow, K. J. (1962). The Economic Implications of Learning by Doing. *The Review of Economic Studies*, 29(3), 155. <https://doi.org/10.2307/2295952>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bayar, Y., & Alakbarov, N. (2016). Corruption and foreign direct investment inflows in emerging market economies. *Ecoforum Journal*, 5(2), 303–308.
- Belloc, F. (2012). Corporate Governance And Innovation: A Survey. *Journal of Economic Surveys*, 26(5), 835–864. <https://doi.org/10.1111/j.1467-6419.2011.00681.x>
- Beqiraj, M. (2015). The Role Corporate Governance in Foreign Direkt Investment in Kosovo. *European Journal of Economics and Business Studies*, 2(1), 247–252. <https://doi.org/10.26417/ejes.v2i1.p247-252>
- Blind, K. (2012). The influence of regulations on innovation: A quantitative assessment for OECD countries. *Research Policy*, 41(2), 391–400. <https://doi.org/10.1016/j.respol.2011.08.008>
- Bučar, M., Rojec, M., & Stare, M. (2012). Backward FDI linkages as a channel for transferring technology and building innovation capability: the case of Slovenia. In *Governance and Knowledge* (Vol. 21, pp. 238–257). Routledge. <https://doi.org/10.4324/9780203118450-26>
- Cheung, K., & Lin, P. (2004). Spillover effects of FDI on innovation in China: Evidence from the provincial data. *China Economic Review*, 15(1), 25–44. [https://doi.org/10.1016/S1043-951X\(03\)00027-0](https://doi.org/10.1016/S1043-951X(03)00027-0)
- Damanpour, F. (2010). An Integration of Research Findings of Effects of Firm Size and Market Competition on Product and Process Innovations. *British Journal of Management*, 21(4), 996–1010. <https://doi.org/10.1111/j.1467-8551.2009.00628.x>
- Das, A., & Parry, M. (2011). greasing or sanding? GMM estimation of the corruption-investment relationship. *Int. J. Eco. Res*, 2(2), 95–108.
- Eden, L. (2009). Letter from the Editor-in-Chief: FDI spillovers and linkages. *Journal of International Business Studies*, 40(7), 1065–1069. <https://doi.org/10.1057/jibs.2009.46>
- Farooque, O. Al, & Yarram, S. R. (2010). Corporate governance and foreign direct investment inflows: cross-sectional international evidence. *American J. of Finance and Accounting*, 2(1), 1. <https://doi.org/10.1504/AJFA.2010.034564>

- Fazio, G., & Talamo, G. M. C. (2008). How “attractive” is good governance for FDI? In *Institutional Approach to Global Corporate Governance: Business Systems and Beyond* (Vol. 9, pp. 33–54). Emerald Group Publishing Limited. [https://doi.org/10.1016/S1569-3767\(08\)09002-X](https://doi.org/10.1016/S1569-3767(08)09002-X)
- García, F., Jin, B., & Salomon, R. (2013). Does inward foreign direct investment improve the innovative performance of local firms? *Research Policy*, 42(1), 231–244. <https://doi.org/10.1016/j.respol.2012.06.005>
- Griffith, R., Huergo, E., Mairesse, J., & Peters, B. (2006). Innovation and Productivity Across Four European Countries. *Oxford Review of Economic Policy*, 22(4), 483–498. <https://doi.org/10.1093/oxrep/grj028>
- Huang, Q., & Yuan, T. (2021). Does Political Corruption Impede Firm Innovation? Evidence from the United States. *Journal of Financial and Quantitative Analysis*, 56(1), 213–248. <https://doi.org/10.1017/S0022109019000966>
- Javorcik, B. S. (2008). Can Survey Evidence Shed Light on Spillovers from Foreign Direct Investment? *The World Bank Research Observer*, 23(2), 139–159. <https://doi.org/10.1093/wbro/lkn006>
- Jia, N., Huang, K. G., & Man Zhang, C. (2019). Public Governance, Corporate Governance, and Firm Innovation: An Examination of State-Owned Enterprises. *Academy of Management Journal*, 62(1), 220–247. <https://doi.org/10.5465/amj.2016.0543>
- Kaasa, A., Kaldaru, H., & Parts, E. (2007). Social Capital and Institutional Quality as Factors of Innovation: Evidence from Europe. *SSRN Electronic Journal*, 55–2007. <https://doi.org/10.2139/ssrn.1017754>
- Kelley, J. G., & Simmons, B. A. (2019). Introduction: The Power of Global Performance Indicators. *International Organization*, 73(03), 491–510. <https://doi.org/10.1017/S0020818319000146>
- Kettl, D. F. (2022). Weberian Bureaucracy and Contemporary Governance. *Perspectives on Public Management and Governance*, 5(2), 111–120. <https://doi.org/10.1093/ppmgov/gvab026>
- Krugman, P. R., & Obstfeld, M. (2009). *International economics: Theory and policy*. Pearson Education.
- Lall, S., & Narula, R. (2004). Foreign Direct Investment and its Role in Economic Development: Do We Need a New Agenda? *The European Journal of Development Research*, 16(3), 447–464. <https://doi.org/10.1080/0957881042000266589>
- Law, S. H., & Azman-Saini, W. N. W. (2012). Institutional quality, governance, and financial development. *Economics of Governance*, 13(3), 217–236. <https://doi.org/10.1007/s10101-012-0112-z>
- Lee, M.-H., & Lio, M.-C. (2016). The impact of foreign direct investment on public governance and corruption in China. *The China Review*, 16(2), 105–135.
- Lethbridge, J. (2005). The Promotion of Investment Alliances by the World Bank. *Global Social Policy*, 5(2), 203–225. <https://doi.org/10.1177/1468018105053679>
- Lin, H., & Lin, E. S. (2010). FDI, Trade, and Product Innovation: Theory and Evidence. *Southern Economic Journal*, 77(2), 434–464. <https://doi.org/10.4284/sej.2010.77.2.434>
- Liu, X., & Zou, H. (2008). The impact of greenfield FDI and mergers and acquisitions on innovation in Chinese high-tech industries. *Journal of World Business*, 43(3), 352–364. <https://doi.org/10.1016/j.jwb.2007.11.004>
- Mathur, R. D., & Chatterjee, S. (2003). *Global Forum on International Investment*. 17(8), 1–8.
- Mengistu, A. A., & Adhikary, B. K. (2011). Does good governance matter for FDI inflows? Evidence from Asian economies. *Asia Pacific Business Review*, 17(3), 281–299. <https://doi.org/10.1080/13602381003755765>
- Muhammad, F. (2014). Leadership, governance and public policy implementation competencies in the broader public sector. *European Journal of Business Management*, 6(36), 66–74.
- Nadeem, M. A., Jiao, Z., Nawaz, K., & Younis, A. (2020). Impacts of Voice and Accountability upon Innovation in Pakistan: Evidence from ARDL and Maki Cointegration Approaches. *Mathematical Problems in Engineering*, 2020, 1–18. <https://doi.org/10.1155/2020/6540837>
- Nadolny, A. J. (2010). Rethinking The "Innovative Firm": Innovation Creation In The Australian Water Technology Industry. *Journal of Knowledge Management Practice*, 11(1), 1–15.
- Newig, J., & Koontz, T. M. (2014). Multi-level governance, policy implementation and participation: the EU's mandated participatory planning approach to implementing environmental policy. *Journal of European Public Policy*, 21(2), 248–267. <https://doi.org/10.1080/13501763.2013.834070>
- North, D. C. (1990). *Institutions, institutional change and economic performance* (Vol. 10). Cambridge: Cambridge university press NY.

- Olson, M. (2022). *The rise and decline of nations: Economic growth, stagflation, and social rigidities*. Yale University Press.
- Pérez-Segura, A. (2014). FDI and Human Development: What is the Role of Governance. In *Unpublished Honors Thesis, University of Maryland, College Park, MD* (pp. 1–49).
- Phene, A., & Almeida, P. (2008). Innovation in multinational subsidiaries: The role of knowledge assimilation and subsidiary capabilities. *Journal of International Business Studies*, 39(5), 901–919. <https://doi.org/10.1057/palgrave.jibs.8400383>
- Saggi, K. (2002). Trade, Foreign Direct Investment, and International Technology Transfer: A Survey. *The World Bank Research Observer*, 17(2), 191–235. <https://doi.org/10.1093/wbro/17.2.191>
- Schumpeter, J. A. (2017). *Essays: On entrepreneurs, innovations, business cycles and the evolution of capitalism*. Routledge.
- Shapiro, D., Tang, Y., Wang, M., & Zhang, W. (2015). The effects of corporate governance and ownership on the innovation performance of Chinese SMEs. *Journal of Chinese Economic and Business Studies*, 13(4), 311–335. <https://doi.org/10.1080/14765284.2015.1090267>
- Tri, V. T., & Anh, N. D. (2016). *Experiences of Vietnam in FDI Promotion: Some Lessons for Myanmar*. 4(1), 131–174.
- United Nations Conference on Trade and Development. (2013). *World investment report 2013: Global value chains: Investment and trade for development*. UN.
- Vedantham, V. M., & Kamruddin, S. (2015). Good governance and public policy in India. *International Journal of Social Sciences*, 1(1), 878–889.
- Weber, M. (1968). *Economy and Society* (New York, Bedminster). In *Weber Economy and Society 1968*.
- World Bank. (2019). *World Development Report 2019: The Changing Nature of Work*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1328-3>
- Zeneli, V. (2014). The role of institutions and good governance for attracting foreign direct investments: evidence from Southeast Europe. *Business and Economics Journal*, 5(2), 1–20.
- Zou, Y. (2019). OECD and Educational Policy in China. In *The OECD's historical rise in education: The formation of a global governing complex* (pp. 155–173). Springer. https://doi.org/10.1007/978-3-030-33799-5_8