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The effect of institutional quality on innovativeness of firm in emerging economies

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Alawi, S. M., Abbassi, W., Saqib, R., & Sharif, M. (2022). Impact of Financial Innovation and Institutional Quality on Financial Development in Emerging Markets. *Journal of Risk and Financial Management*, *15*(3), 115.

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Hussen, M. S., & Çokgezen, M. (2021). The impact of regional institutional quality on firm innovation: evidence from Africa. *Innovation and Development*, *11*(1), 69-90.

Kafouros, M., Chandrashekar, S. P., Aliyev, M., & Au, A. K. M. (2022). How do formal and informal institutions influence firm profitability in emerging countries? *Journal of International Management*, *28*(1), 100890.

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ANOTATION

The aim of the study was to assess the institutional quality and infrastructural base of the state on the innovativeness of firms in emerging economies. The study considered key institutional arrangement and their propensity to affect the innovativeness of firms leading to economic growth. The specific research objectives were to examine the impact of foreign direct investment net outflows on institutional quality and the innovativeness and economic growth of Emerging economies, to evaluate effect of government effectiveness on the institutional quality and the innovativeness and economic growth of Emerging economies, and to assess the influence of rule of law on the institutional quality and innovativeness of economic growth of Emerging economies. The study found that the impact of foreign direct investment outflows on firm innovativeness is mixed. In some countries, such as Romania and Poland, foreign direct investment outflows have a positive impact on firm innovativeness. However, in other countries, such as the Czech Republic and Greece, foreign direct investment outflows have a negative impact on firm innovativeness. The study also found that the impact of government effectiveness on firm innovativeness is mixed. In Hungary and the Czech Republic, there is a statistically significant negative relationship between government effectiveness and firm innovativeness. The study found that Rule of law has a strong positive impact on firm innovativeness. The study found that countries with stronger rule of law tend to have more innovative firms. The study found that this was because stronger rule of law provides a more stable and predictable environment for businesses, which allows them to take risks and invest in innovation.

KEY WORDS: Innovativeness, Firms, Emerging, Economies, Hungary, Czech Republic, Rule of law

NÁZEV

Vliv institucionální kvality na inovativnost firmy v rozvíjejících se ekonomikách

ANOTACE

Cílem studie bylo posoudit institucionální kvalitu a infrastrukturní základnu státu na inovativnosti firem v rozvíjejících se ekonomikách. Studie zvažovala klíčové institucionální uspořádání a jejich sklon ovlivňovat inovativnost firem vedoucí k ekonomickému růstu. Specifickými výzkumnými cíli bylo prozkoumat dopad čistých odlivů přímých zahraničních investic na institucionální kvalitu a inovativnost a ekonomický růst rozvíjejících se ekonomik, vyhodnotit vliv efektivity vlády na institucionální kvalitu a inovativnost a ekonomický růst rozvíjejících se ekonomik a posoudit vliv právního státu na institucionální kvalitu a inovativnost

ekonomického růstu rozvíjejících se ekonomik. Studie zjistila, že dopad odlivu přímých zahraničních investic na inovativnost firem je smíšený. V některých zemích, jako je Rumunsko a Polsko, má odliv přímých zahraničních investic pozitivní dopad na inovativnost firem. V jiných zemích, jako je Česká republika a Řecko, má však odliv přímých zahraničních investic negativní dopad na inovativnost firem. Studie také zjistila, že dopad vládní efektivity na inovativnost firem je smíšený. V Maďarsku a České republice existuje statisticky významný negativní vztah mezi efektivitou vlády a inovativností firem. Studie zjistila, že právní stát má silný pozitivní dopad na inovativnost firem. Studie zjistila, že země se silnějším právním státem mají tendenci mít více inovativních firem. Studie zjistila, že to bylo proto, že silnější právní stát poskytuje podnikům stabilnější a předvídatelnější prostředí, které jim umožňuje riskovat a investovat do inovací.

KLÍČOVÁ SLOVA: Inovace, Firmy, Rozvíjející se ekonomiky, Maďarsko, Česká republika, Právní stát

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INTRODUCTION

In the dynamic landscape of global economics, emerging economies have emerged as significant players, driving innovation and economic growth on a profound scale. The innovativeness of firms within these emerging economies holds the key to their competitiveness and sustainability in the global market. However, one critical factor that plays a pivotal role in shaping firm innovation in these economies is the quality of institutions. The aim of the study is to assess the institutional quality and infrastructural base of the state on the innovativeness of firms in emerging economies. The study will consider key institutional arrangement and their propensity to affect the innovativeness of firms leading to economic growth.

The study will be structured into five different chapters. The first chapter will addresses the institutional quality and factors that contributes to institutional quality such as political stability, rule of law, coruption prevention, goverenment effectiveness ans regulatory quality. The first chapter will also examines the impact of infrastrucuture on firm innovativeness and relations between foreign direct investments on firm innovativeness. The chapter two will focuses on the economic resilience of emerging economics. The chapter two will also examine the theories of institutinal quality such as Institutional theory and Growth Theory. The chapter two will review determinants of firm innovatiness such as the economic factors, technological factors and social factors.

The chapter three will present the research methodology to address the methods and variables to be used. This section will explain the critical factors to be used to select the countries Czech Republic, Romania, Greece, Hungary, and Poland used as the case study. The researcher will adopt linear multpile regression to compare the impact of the indenpendent variables on the dependent variable firm innovativeness. The study will adopt Firm innovativeness is the dependent variable, and Rule of Law, Regulatory quality, Government effectiveness, Political stability and absence of violence/terrorism, Ease of starting a business, Foreign direct investment net outflows, Electricity consumption, Government's online service, and Information and Communication Technology (ICT), Age of Firm (AF) and Firm Size (FS) as the independent variables, which are factors that are hypothesized to influence firm innovativeness.

The chapter four will be the results and discussions of the study. The researcher expects the independent variables to be statistically significant and have a strong positive relation with the dependent variable Firm Innovativeness. The chpater four will also presents discussions. However, the chapter five will presents the conclusions and implications of policy on the findings.

THEORETICAL BACKGROUND

1. Institutional Quality

In line with Barasa et al. (2017), institutions can be understood as the constructed boundaries that society's members impose on political, economic, and social interactions. These institutions essentially represent the formal and informal rules of engagement in which different participants and economic agents operate to maximize their gains and achievements (Carney, Dieleman & Taussig, 2016). The concept of institutional quality is comprehensive and encompasses factors such as legislation, individual rights, and effective government regulations and services. While we agree that economic growth and improved institutions are a positive feedback loop, we contend that the former is the driving factor behind the latter (Doh et. al., 2017). Importantly, institutional development unleashes growth potential and does not fundamentally suffer from decreasing returns. Since the beginning of the millennium, data suggest that countries with higher institutional quality have been more effective at adopting cutting-edge technologies and increasing productivity. According to Barasa, et al. (2017), institutions are only as good as their rule of law, the quality of their regulations, and how well they keep corruption in check.

Thus, matured institutions can decrease transaction costs and provide predictability, encouraging productive behaviour (Fischer & Tello-Gamarra, 2017). On the other hand, weak institutions might have the opposite impact (Wu et al., 2016). Differences in institutional structure have varying effects on political, economic, and social interactions (Carney et al., 2016). Studying developing economies from an institutional perspective demonstrates the impact institutions have on enterprises. The institutional approach gains more prominence in research focused on emerging markets compared to developed markets, primarily because institutions may appear more inherent or taken for granted in the background of enterprises operating in developed markets (Wu et al., 2016).

Several routes, including lower transaction, manufacturing, and production costs, are cited by Henseler (2015) as ways in which excellent institutions affect economic activity. Profitability is enhanced when costs are lowered while maintaining or improving institutional quality. The surveillance of markets with weak institutions, however, requires more manpower and materials. Insufficient protection of property rights and challenges in enforcing contracts result in a significant increase in the risk premium, leading to sluggish economic activity (Liu et al., 2017).

This may appear due to the wealthy countries established and efficient system of government. But the institutional architecture is fragile and poorly functioning in developing countries (Meyer & Peng, 2016). Therefore, it is important to investigate the institutional structure of developing economies, as it has a disproportionate impact on enterprises (Meyer & Peng, 2016). Institutional gaps might push businesses to adapt their methods to the neighbourhood (Luo & Zhang, 2016). Firms in developing economies have less robust legal protection and a less robust capital market due to the less developed institutional structure in these markets (Barasa et al., 2017). Firms in emerging economies should adapt their organization to overcome these institutional weaknesses (Meyer & Peng, 2016). The success of a company in an emerging market may even allow it to gain a competitive edge (Fischer & Tello-Gamarra, 2017). Since the environment in developing markets is more volatile and dynamic than in established countries, businesses need to be more adaptable and resilient (Meyer & Peng, 2016). Because of this, emerging market businesses may even gain an edge over their more established counterparts in industrialized economies (Meyer & Peng, 2016).

1.1 Political Stability

When it comes to industrialization, political stability, and economic progress for a state, stability is crucial, and it is especially crucial for developing markets that have not yet reached this stage. Countries that lack political stability and economic progress suffer as a result (Story et al., 2015). In the event of political stability, countries may be able to advance economically in a shorter amount of time. As a result, institutions that promote growth share commonalities in areas examples like accountability, adherence to the rule of law, and political stability, bureaucratic competency, protection of property rights and enforcement of contracts, and prevention of corruption. This general theoretical reasoning leads to the idea that societies that fail to properly build such formal institutions would be unable to restrict the "grabbing hand of the state," and hence will not encourage private ventures, market exchanges, investments, or economic growth. However, the explanation presented above does not rule out the possibility of backward causation. There is another point of view that is backed up by facts to suggest that more advanced levels of development will need and result in better institutions (Luo et al., 2016).

For economic growth to remain consistent, a strong and stable political system is essential. A strong, secure setting and a competent governmental authority will likewise do away with future uncertainties. Despite this, a robust political climate coupled with a thriving economy will guarantee unwavering expansion (Custodio et al., 2017). The quality of institutions and the state

of the economy are negatively impacted by political instability more than any other single issue. The uncertainty of politics is one of the main problems that manufacturers and companies complain about (Luo & Zhang, 2016). That is because any investor worth his salt wants to know how things will pan out in the future so he can plan accordingly (Sabir et al., 2019).

i. The indicators of Political Stability

Different from the political stability seen in democracies, indicators of political instability can be broadly classified. Generally, there are three types of mechanisms used to ensure accountability:

- **Political accountability:** What extent election-time promises, and enthusiasm are kept by political parties and their representatives (Story et al., 2015). Political accountability refers to the duty of representatives to answer for their actions before several constituencies, including voters, the courts, the election commission, and the people they are sworn to serve (Liu et al., 2017). Reforms in areas like elections, - access to official information, freedom of information, de-centralization, and economic growth are all indicators of political accountability. the involvement of citizens at the grassroots level, the vitality of civil society, and the fortitude of political will over the long term (Cieślik & Tran, 2019).
- **Institutional or Administrative accountability**: When we talk about government agencies being held to account, we're talking about how they're held to account for their activities and the tasks they do both inside and between agencies. When it comes to exercising administrative responsibility, doing things like making sure information is openly available and working closely with the appropriate accountability mechanisms within the community of authority holders are essential (Xie & Li, 2018). Therefore, it is crucial to highlight the practices and the reasons why the government makes these decisions to guarantee that the public is informed about the policies and practices of the government. The degree to which the public is informed about government initiatives and services is an indicator of the effectiveness of such accountability (Wadho & Chaudhry, 2018). In a properly functioning state, people and internal public institutions hold the government to account. Internal and external auditing are two methods that can do this. Additionally, both processes are referred to as vertical accountability and horizontal accountability. Accountability from the top down, whether directly through democratic procedures or indirectly through NGOs and the press. Agencies set up by the government to curb waste, fraud, and abuse inside the state are examples of what is

known as "horizontal accountability." Electoral boards, human rights commissioners, ombudsmen, and public complaints commissions are all examples of horizontal accounting (Sun et al., 2019).

- **Legal accountability**: All governmental bodies, including the court, are transparent to the public. Governments are held to account by the law for their adherence to the rules and regulations that govern their operations (Pérez et al., 2019). All branches of government, including the judiciary, must be answerable to the law for their acts and decisions, or else citizens have a right to challenge them in court. How successfully law enforcers carry out their duties is another metric by which they might be evaluated (Jude & Levieuge, 2017). Furthermore, the function of an administrative body can be better understood and guided by the law if that law is clear and unambiguous. The power to hold governments accountable through laws will weaken as their terms age (Krammer, 2019).

1.2 Rule of Law

Rule of law is a wide notion. The idea itself is so novel that it may never be implemented. But there are some ideals, like international human rights, that everyone, no matter their background, believes in. One manifestation of these principles is the rule of law (Asongu & Nwachukwu, 2016). Various human rights are guaranteed to citizens and non-citizens equally by international human rights agreements and country constitutions and their related legislation. Who has access to certain rights is very contextual (Waldron, 2017). While it is essential to establish rights initially, their impact remains limited unless a system of legal and informal institutions is established to support and reinforce them. In simpler terms, a comprehensive network of formal and informal auxiliary institutions is necessary to uphold these rights, providing incentives and capabilities for those responsible for fulfilling them and enforcing the law (McCorquodale, 2016). Through this discussion on institutions, it becomes apparent that these institutions are created to achieve various shared ideals, such as human rights. Consequently, if the rule of law is grounded in these values or represents a common manifestation of these principles, then institutions play a critical role in promoting the rule of law.

The rule of law is considered to be present when specific visible characteristics of the legal system are evident. Alternatively, another perspective focuses on substantive outcomes, such as justice or fairness, rather than merely formal aspects, including the existence of an

independent and impartial judiciary, the presence of public laws, equal and universal application of laws without discrimination, non-retroactive application of laws, and the provision of judicial review (Carter & Burke, 2017). In contrast to the first method, which tries to stay out of the business of assigning values, this one isn't worried about the specifics of the rules themselves except to the extent that they help achieve some larger substantive aim. Institutions are essential to the development of rule of law regardless of whatever perspective we favour. From a more formal perspective, each component represents a separate institution whose application and enforcement are the purview of government agencies and the courts. The independent application of laws is also essential to the substantive approach (Park & Mercado, 2015). For the third strategy to succeed, the judicial system and other parts of the state machinery must cooperate to accomplish the aims of the law and the legal system (Platteau, 2015).

1.3 Corruption Prevention

The institutions of a society are the norms and regulations that govern the way people interact with one another (Baldi & Vannoni, 2017). By providing a consistent framework for social interactions, institutions help people feel more secure in their lives. They lay the groundwork for dealings and collaboration in circumstances that would otherwise be exceedingly challenging, if not impossible. It is possible to have formal and informal institutions (Adam, 2020). The purpose of formal rules is to encourage the types of interaction that benefit society while discouraging those that do not (e.g., laws, and contracts). Codes of conduct, standards of behaviour, and conventions frequently augment these explicit rules because of how deeply they are rooted in a society's culture, these informal institutions seldom undergo significant transformation. Formal and informal institutions are necessary for a society to function, with the former being more important due to the limitations of formal laws in solving complex issues (Peres et al., 2018). Moreover, the institutional framework is a complicated set of formal and informal limitations in which only gradual modifications will modify the institutional framework over time.

Corruption has a long-term negative effect on government institutions and the functioning of state institutions because it encourages politicians and public officials to impose new restrictions on individuals and businesses to extort money from them (Olayungbo & Adediran, 2017). As the practice of delaying action until facilitation payments have been received expands throughout the public sector, rent-seeking behaviour and inefficiency are expected to increase as a result. This is so in the corporate world. According to a recent study, a country's level of

corruption is directly correlated with the quality of its corporate regulation (Peres et al., 2018). Businesses and their customers benefit from reduced transaction costs and less red tape in well-regulated business settings. When corrupt authorities can use the rules to their advantage, regulation loses its efficacy and legitimacy. Corrupt politicians and bureaucrats have the potential to undermine the regulatory environment, utilizing it for their personal gain and implementing ineffective restrictions that encourage individuals and businesses to resort to bribery (Khan et al., 2022). When special interest groups exert control and influence over governmental institutions responsible for creating and enforcing regulations, this is referred to as regulatory capture. From a policy perspective, addressing corruption directly can lead to significant improvements in the regulation of the business environment (Asongu et al., 2018). Moreover, there is a widespread consensus that people's exposure to and awareness of corruption has a detrimental impact on the rule of law and democratic processes, eroding public trust in government and politics (Baldi & Vannoni, 2017).

1.4 Government Effectiveness

Government effectiveness refers to the ability of a government to efficiently and effectively implement policies and programs, and to provide services to its citizens (Chisadza et al., 2021). It is often used as a measure of the overall quality of governance in a country. Factors that can affect government effectiveness include the level of transparency and accountability, the quality of public institutions, and the level of public trust in government (Tanjung, 2020). Government effectiveness and institutional quality are closely related, as the strength and effectiveness of a country's institutions can greatly impact the ability of the government to govern effectively.

Institutional quality includes factors such as the independence and impartiality of the judiciary, the rule of law, and the protection of property rights (Tennant & Gilmore, 2020). Strong institutions help to ensure that government policies are implemented fairly and impartially, and that citizens have access to justice when their rights are violated. On the other hand, weak institutions can lead to corruption, political interference in the justice system, and a lack of protection for property rights. This can undermine government effectiveness by making it difficult for the government to implement policies and programs, and by reducing public trust in government (Albreiki et al., 2019).

Government effectiveness can positively affect institutional quality by creating a stable and predictable environment that allows institutions to function effectively, and also institutional quality can positively affect Government effectiveness by providing support and checks and balances that help to prevent corruption and abuse of power (Tanjung, 2020).

Several empirical studies have explored the connection between government effectiveness and institutional quality. Adekoya et al. (2022) discovered a positive correlation between government effectiveness and institutional quality. Their analysis, based on a sample of countries, revealed that nations with higher levels of government effectiveness also exhibited more robust institutions. Similarly, Arora & Chong (2018) identified a positive relationship between government effectiveness and institutional quality in developing countries. They found that countries with more effective governments tended to have stronger institutions and experienced better economic performance.

Adam (2020) found that government effectiveness positively affects institutional quality by reducing the costs of governance and improving the predictability of policy making, which in turn encourages private investment and economic growth. Overall, these studies provide evidence that government effectiveness and institutional quality are closely related, and that improvements in government effectiveness can lead to improvements in institutional quality. It's worth noting that the relationship between government effectiveness and institutional quality is complex and multifaceted. Additionally, the results may vary depending on the context and specific country or region being studied.

1.5 Regulatory Quality

Regulatory quality refers to the effectiveness, transparency, and predictability of government regulations (Adedoyin et al., 2020). It is often used as a measure of the overall quality of a country's regulatory environment and can have a significant impact on the ease of doing business, economic growth, and the protection of citizens' rights (Samadi, 2021:Sun et al., 2019). High regulatory quality means that regulations are clear, stable, and enforced in a consistent and non-arbitrary manner, while low regulatory quality can lead to confusion, uncertainty, and potential corruption (Bass & Maloy, 2020).

Regulatory quality and institutional quality are closely related and can have a significant impact on each other. Institutional quality pertains to the robustness and efficacy of a nation's political, legal, and economic systems, and can be assessed through indicators like the rule of law, political stability, and the extent of corruption (Shan et al., 2018). A high level of regulatory quality can contribute to stronger institutional quality by promoting the rule of law and reducing opportunities for corruption. Clear, stable, and consistently enforced regulations can help to create a level playing field for businesses and individuals, which can in turn lead to greater economic growth and stability. Additionally, effective regulations can protect citizens' rights and promote social welfare (Behnke & Janssen, 2020).

On the other hand, low regulatory quality can weaken institutional quality by creating opportunities for corruption and undermining the rule of law. Inconsistent or opaque regulations can lead to confusion and uncertainty and may favour certain individuals or groups over others. This can lead to a loss of trust in government institutions and a decrease in economic growth and stability (Samadi, 2021). Regulatory quality is an important aspect of institutional quality, and both are critical for promoting economic growth and stability, protecting citizens' rights, and fostering a healthy and well-functioning society (Allaire & Lall, 2018).

Multiple research investigations have looked at how regulations affect institutions, and the results have been mixed. Xavier et al. (2002) looked at the connection between effective regulation and thriving economies. Institutional quality, as evaluated by the rule of law and the suppression of corruption, was shown to improve with economic growth, as predicted by the study's hypotheses. Saqib & Wang (2014) analyzed the quality of regulations and institutions. The study concluded that the rule of law and the prevalence of misconduct are both positively correlated with regulatory quality. Raza et al. (2020) looked at the connection between effective regulation and FDI. This research shows that FDI flows into countries with higher regulatory quality, with this correlation being stronger in developing nations. Kinyanjui (2017) analyzes the relationship between quality of regulations and economic growth in Sub-Saharan Africa. This research shows that improved regulatory effectiveness contributes to greater economic growth and stronger institutions in Sub-Saharan Africa.

1.6 Voice and Accountability

When people talk about "voice" and "accountability," they're referring to things like the right to vote in government elections, the freedom to form and join organizations, and access to unrestricted news sources (Porcheron et al., 2018). It is a measure of a country's commitment to democracy and good governance. It's also one of the six WGIs the World Bank created to evaluate the quality of government in more than two hundred countries (Smith & Benavot, 2019). Corruption Prevention, Government Efficiency, Political Calm, Crime Rate Control, Quality of Regulation, and the Presence of the Rule of Law are the remaining five indicators.

Some of the most telling characteristics of a well-functioning institution are the extent to which its members are able to have their voices heard and hold its leaders accountable for the decisions they make. Voice and accountability can improve institutional quality in several ways:

Representation: When citizens have a voice in the political process, they can express their views and have them taken into account by leaders. This helps ensure that the institutions are responsive to the needs and desires of citizens (Chambers & Munemo, 2019).

Transparency: When citizens have the ability to hold their leaders accountable, they can demand transparency in government decision-making. This helps prevent corruption and ensures that institutions are working in the public interest (Porcheron et al., 2018).

Responsiveness: When citizens have a voice in the political process, leaders are more likely to respond to their concerns and take action to address them. This helps make government services relevant to the demands of the public (Uddin et al., 2020).

Rule of Law: Voice and accountability can help ensure that institutions are following the rule of law and not acting arbitrarily. This helps protect citizens' rights and ensures that institutions are fair and just (Nguyen et al., 2018).

Efficiency: Voice and accountability can help ensure that institutions are efficient and effective in carrying out their functions. When citizens are able to hold leaders accountable, they can demand that institutions be run in a cost-effective and efficient manner (Kaya & Kaya, 2020). In general, voice and accountability play a key role in ensuring that institutions are responsive, transparent, and accountable to citizens, which helps improve institutional quality.

1.7 Infrastructure Base as a backbone for Innovativeness

Infrastructure can be divided into two main categories: hard infrastructure and soft infrastructure. Hard infrastructure includes physical structures and systems such as roads, bridges, buildings, airports, ports, water supply systems, and power plants (Sun et al., 2022). Soft infrastructure includes non-physical systems and services such as education, healthcare, public transportation, and telecommunications (Asongu & Nwachukwu, 2016).

1.7.1 Hard Infrastructure

Hard infrastructure refers to the physical structures and systems that are necessary for the functioning of a society or economy (Sarkodie & Adams, 2018). Hard infrastructure includes the following types of infrastructure:

1.7.1.1 Communication Network Infrastructure

Communication infrastructure is the collection of devices, methods, and guiding ideas that allow for efficient information sharing. Groupware, e-mail, project management software, fax, phone, teleconferencing systems, document management systems, and word processors are all examples of useful tools. Lower communication costs have been demonstrated to serve as a centralizing effect, leading individuals to rely more on the assistance of others and to specialize in a smaller range of jobs.

Lower communication costs inside businesses function as a centralizing tendency, as Garicano and Rossi-Hansberg (2006) demonstrate. When workers can readily interact with one another, they are more likely to rely on the assistance of others and specialize in a smaller range of jobs. Organizational hierarchies are easier to manage thanks to improvements in the communication infrastructure. Businesses in developing economies are embracing project-based frameworks and decentralizing operational and strategic decision-making, according to academic research (Carnevale & Smith, 2013).

In addition, it is suggested that when implementing alterations to the HRM system, special attention be paid to the adaptability of the organizational structure through measures such as lessening the degree of formalization, delegating decision-making authority, flattening the organizational structure, and encouraging employee participation in knowledge-management processes (Lendzion, 2015). It's important to remember that the way a business is structured might affect how it utilizes its IT and telecommunications systems (Kuzior & Postrzednik-Lotko, 2020). Decentralized businesses with a liberal management style are more likely to invest in communication infrastructure (Zielinski and Jonek-Kowalska, 2021). According to G. H. Huber, when an organization's management structure is flattened, fewer people between the sender and the receiver of information are required. Middle managers, he argues, are no longer necessary in their capacity as information supervisors (Udanov et al., 2009).

Endless kilometres of telephone lines and fibre optic cable are the bare bones of the Internet's infrastructure. Millions of people and companies are linked together by these connections, with the transmission rates of the data they carry dependent on the kind of cable utilized. Connection techniques, such as telephone modems, high-speed connection methods including cable modems, ISDN, DSL, and T1 lines, and business networks, can all impact a user's download speed and quality. By 2005, Strategies Group anticipated that there will be 36 million broadband customers in the United States, making high-speed home Internet service the dominant mode of access in the country.

It is generally agreed that the internet infrastructure is a major factor in the growth and development of businesses since it affects factors such as trade efficiency, company location decisions, and the costs and benefits of conducting business transactions (Paunov & Rollo, 2016). There are several ways in which the internet has helped businesses, such as lowering the price of searching and communicating with one another, increasing the efficiency with which they produce and sell goods, and hastening the pace at which they innovate and cluster (Dinerstein et al., 2018; Wang et al., 2019).

The expansion of corporate innovation networks and open innovation resources is aided by the widespread availability of the internet. Firm innovation is facilitated by Internet technology not only in established economies but also in those that are yet developing or emerging (Fernandes et al., 2019). To examine the effect of internet technologies on company innovation and the factors impacting e-business, Soto-Acosta et al. (2015) look at data from Spanish manufacturing SMEs. They conclude that the use of e-business positively affects innovation within companies and that this innovation in turn mediates the connection between e-business and company success. Paunov and Rollo (2016) analyze the effects of the internet on the innovative performance of 50,013 enterprises in 117 developing and emerging countries between 2006 and 2011. Based on these estimates, it appears that internet use has an impact on the innovative performance and productivity of businesses through the spread of information. Using survey data from over 2,000 Swedish businesses, Allgurin (2017) delves into the varying effects of the internet on innovation in both rural and urban settings. He discovers that enterprises in urban areas are more likely to innovate than those in rural areas and that broadband connectivity is a key factor in this difference. Cheng (2013) examines the impact of the web on the company value network's path to innovation. In the context of the internet economy, she develops a model of company-level innovation behaviour based on a trifecta of positive feedback mechanisms: firm innovation and industrial status; network value and node innovation; and hardware/software innovations. She argues that the Internet modifies three crucial elements of a firm's value-creation network, which in turn modifies the firm's innovation network.

1.7.1.2 Power and Energy

The generation, transmission, transformation, and distribution of electrical power around the world relies on a complex network of physical and human resources, known as infrastructure and systems (Zheng et al., 2022). As soon as it is generated, energy is sent via high-voltage transmission lines designed specifically for long-distance power transmission (Sun et al., 2022). 13% of the world's population does not have access to electricity as of 2016. This is mostly a problem in Sub-Saharan Africa and emerging economics. Access to energy for all is seen as crucial to firms' innovation and institutional development in the emerging economies (Sarkodie & Adams, 2018).

Having access to energy is crucial because it allows institutions to provide essential services, such as heating homes and water for usage during the colder months (Sarkodie & Adams, 2018). To operate, it is crucial that mining, manufacturing, material processing, building,

transportation, communication, computer, comfort, and lighting institutions have access to sufficient energy (Sun et al., 2022). It is crucial as well since the money spent on supplying energy for institutions are considerable chunk of the overall cost of living. To be creative and develop new goods and distribution channels, institutions need access to abundant, low-cost energy (Salman et al., 2019). When it comes to energy, technological advancements are any changes that either lower the monetary cost of providing a service, raise the quality of that service for the same cost, or lower the environmental or political impact of providing that service at a price that is acceptable in light of the benefit gained to the institutions (Zheng et al., 2022). Emerging market businesses rely on R&D to innovate by creating new products and services, but this requires a significant amount of energy to be supply to institutions. Christoforidis and Katrakilidis (2021) found that the beneficial effect of institutional quality on energy efficiency is so large that it cancels out the negligible effect of the indirect impacts of non-beneficial effects, indicating a net positive and substantial effect. Thus, Christoforidis and Katrakilidis (2021) found that the quality of institutions is important in boosting energy efficiency, and that proximity to nations with a strong institutional framework has a beneficial influence on domestic energy efficiency.

1.7.1.3 Transportation Network Infrastructure

Generally, the societal implications of transportation infrastructure impact on institutional quality can be attributed to various aspect of the institution (Rietveld & Bruinsma, 2012). Construction institutional quality and competence are improved when they are awarded constructs. The employees become more experienced with more project they undertake and more clients they deal with. This builds the competence and skills of the employees in the institution (Crescenzi et al., 2016).

New transportation infrastructure also creates more jobs for the institutions with new skill set. This improves the staff strength of the institution. Improving transportation infrastructure can have a positive influence on institutional quality by lowering the price of transportation for workers and the general public. For instance, improved transportation networks make it possible for more people to find employment by lowering the overall cost of commuting (Bankole et al., 2015). Moreover, transportation infrastructure causes shifts in business behaviour that motivate additional production.

Transportation infrastructure stimulate employment through the promotion of temporary construction activities for transportation infrastructure projects (Sahni et al., 2021). Although employment for the temporary construction activity is likely to come from other purposes, the

government typically leverages this impact to produce short-term economic effects on the local economy (Sahni et al., 2021). Though improving communities and companies is the government's overarching goal when investing in transportation infrastructure, short-term gains in economic activity and job opportunities typically end up shaping policy (Kumari & Sharma, 2017). The government's focus on transportation infrastructure development is on the long-term benefits it will provide. Investments in transportation infrastructure are costly and have long-term repercussions on the industries and occupations that rely on them (Crescenzi et al., 2016).

1.7.2 Soft infrastructure

Soft infrastructure refers to non-physical systems and services that are necessary for the functioning of a society or economy. Soft infrastructure includes the following types of infrastructure

1.7.2.1 Public Administration Infrastructure

Large-scale governmental building projects that foster economic growth are known as "public infrastructure." The literature agrees that public participation is substantial in infrastructure investment, even though infrastructure appears to have a fundamental cross-sector aspect (i.e., providing structures by government or management to achieve a goal or a desired outcome; production; distribution; communications; health; education). There is a school of thought that evaluates public works projects from the viewpoint of the private sector. It is long-lasting construction with a lengthy payoff time, as described by Beecroft et al. (2020) and Bilan et al. (2019). There is a significant degree of government participation; it has a fixed location; it serves both private businesses and individual consumers; and its origins may be traced back to the failure of the market. There are several pathways via which infrastructure might influence economic expansion. Investment in public infrastructure has been shown to boost economic growth through increasing productivity in the private sector (Khan et al., 2022; Olayungbo and Adediran, 2017). Public capital's ability to increase the marginal productivity of factors is the key argument in favour of this view. The lower overall cost of manufacturing encourages more output in the private sector, which in turn sustains economic development. As Beecroft et al. (2020) explains, infrastructure may be thought of as merely another input in the manufacturing process. As a result, a rise in the stock of infrastructure is a direct contributor to economic expansion since it boosts GDP. Besides the military, Sun et al. (2022) divided public capital into core infrastructure and non-core infrastructure. It is reasonable to assume that differences in productivity may be partially explained by the presence or absence of "core infrastructure," which includes things like airports, motorways, electricity, sewage, and water systems. Office

buildings, police stations, and fire stations are examples of non-core infrastructure that the government invests in addition to the military. Complementarity and crowding-out effects, identified by Agenor and Moreno (2006), explain how infrastructure investment influences economic expansion. The increase of private capital results in a complementarity effect. However, the crowding-out channel suggests that short-term infrastructure expenditure may discourage private sector investment, which might lead to slower growth rates in the long run.

1.7.2.2 Social Infrastructure

In a broad sense, "social infrastructure" refers to the building and upkeep of structures that house and facilitate social programs (Abrutyn, 2014). The healthcare system, the educational system, the public facilities (such as public housing and prisons), and the transportation system are all examples of social infrastructure. However, educational and healthcare facilities are not considered capital investments because their input enhances the quality of labour available to private companies (Abrutyn, 2014). Although the thesis does acknowledge that public and private infrastructure have intertwined socioeconomic consequences, it does so with the caveat that the thesis's primary focus is on economic infrastructure and, as a result, statistics on social infrastructure are not studied (Abrutyn, 2014).

1.7.2.3 Legal infrastructure

Legal infrastructure refers to the institutions, laws, and regulations that provide a framework for the administration of justice and the protection of citizens' rights. Legal infrastructure plays a key role in improving institutional quality by providing a framework for the fair and efficient administration of justice and protection of citizens' rights (Sun et al., 2022). Here are a few ways in which legal infrastructure can improve institutional quality:

Establishing a fair and impartial court system: A well-functioning court system that is independent of political influence and has a clear system of appeals can help ensure that legal disputes are resolved fairly and justly (Guidotti et al., 2019).

Protecting citizens' rights: A strong legal infrastructure can help protect citizens' rights by establishing laws and regulations that safeguard civil liberties and prohibit discrimination (Kumari & Sharma, 2017).

Enhancing legal certainty: A well-functioning legal system can provide legal certainty by providing clear laws and regulations that are consistently enforced, which can help to attract investment and promote economic growth (Kumari & Sharma, 2017).

Supporting the rule of law: Legal infrastructure can help ensure that the rule of law is upheld by providing a framework for the fair and impartial administration of justice and protection of citizens' rights.

Providing legal aid: Legal aid services can help ensure that individuals and groups who cannot afford legal representation have access to justice, which can help to reduce economic and social inequalities.

Improving legal education and training: Legal education and training can help ensure that legal professionals are qualified and able to provide high-quality legal representation and advice, which can help to improve the overall quality of the legal system. All these factors can improve the institutional quality by making the legal system more transparent, fair, predictable, and effective for citizens, businesses and the government (Sun et al., 2022).

1.8 Relation between Institutional quality and FDI

When domestic savings fall short of what is needed for investment, FDI can assist bridge the gap (Sabir & Khan, 2018). Foreign direct investment (FDI) has gained prominence as a result of globalization, and endogenous growth theories stress the relevance of FDI as a fundamental predictor of economic growth due to its role as a channel for the transfer of technology from industrialized to developing nations (Chenaf-Nicet & Rougier, 2016). Foreign direct investment (FDI) has been shown to boost productivity by raising the level of education and training of local workers, hence improving their productivity and performance (Khan, 2017). According to Dunning's (1988) eclectic paradigm theory, factors including business size, administrative and management systems, labour and transportation expenses, government policies, institutional strength, and political stability all play a role in a foreign investor's decision to invest in a host nation. When venturing into international markets, foreign investors may be warier in both the level of risk and potential reward (Chenaf-Nicet & Rougier, 2016).

A country's ability to attract foreign direct investment (FDI) is hampered by weak institutions, which can have a similar effect to a tax (Sabir & Khan 2018). Due to the high cost of conducting business, investors avoid nations where institutions foster corruption, nepotism, and excessive bureaucracy (Peres et al., 2018). According to research by Sabir & Khan (2018), FDI is more common in democracies and less common in autocracies, which is to say, in countries where policies are more likely to be reversed. Some research on foreign direct investment (FDI) flows in Asia, Latin America, the South Asian Association for Regional Cooperation (SAARC), and the Association of Southeast Asian Nations (ASEAN) has found a positive and statistically significant relationship between institutional quality and FDI (Ullah & Khan, 2017). To

quantify the influence of institutional and cultural variables on FDI in developing nations, Lucke and Eichler (2016) discover a positive connection between institutions and FDI in developing countries and that foreign investors favour investing in politically unstable and less varied countries.

While corruption and the rule of law are useful indicators of institutional quality, Peres et al. (2018) conclude that institutions have a significant effect on foreign direct investment (FDI) in emerging markets. Moreover, in developed nations, FDI is positively and significantly impacted by institutional quality. The effect of institutions on incoming foreign direct investment is the subject of another research. As a result, high-quality institutions in the host country are essential for luring foreign direct investment (Alawi, Abbassi, Saqib, & Sharif, 2022). This research looks at the connection between institutional quality indicators (such as political stability, corruption control, rule of law, voice and accountability, regulatory quality, and government performance) and foreign direct investment (FDI) in both emerging and developed nations. Political stability, administrative excellence, and democratic accountability are the three hallmarks of a well-functioning organization. Peres et al. (2018) analyzed how each metric influences FDI flows between nations of varying socioeconomic levels and found that these indicators play significant roles in attracting FDI.

1.9 Relation between Institutional quality variables and firm performance

Researchers and policymakers have focused on the link between institutions and economic performance for decades (Bhatt and Bhatt, 2017). According to North and Thomas (1973), disparities in economic growth and development are the result of more than just differences in capital accumulation, per capita income, and innovation. Systematic inequalities in institutional quality also play a role (Buallay et al., 2017). While the economies of North and South Korea are identical in many respects, the disparities in their institutions lead to vastly different economic results (such as South Korea's greater per capita GDP compared to North Korea's) (Agyemang & Ansong, 2017).

1.10 Theories of Institutional Quality and Innovativeness of Firms

1.10.1 Institutional Theory

According to proponents of Institutional Theory, a company's institutional setting can have a far greater impact on the evolution of its formal structures than can externally market forces (Peters 2022). The study of how plans, regulations, norms, and customs are formalized to govern social behaviour is the focus of Institutional Theory. At some point, the legitimacy of

these inventions will rise to the point where resistance to adopting them will be considered "irrational and careless" (or they become legal mandates) (Zhao et al., 2017). At this stage, the structural form will be adopted by both new and existing organizations regardless of whether or not it increases efficiency. Academic decision-making for the creation of novel activities can be influenced by factors such as the missions and behavioural models of various institutions (Watson et al., 2018).

The formal institutional factors of developing nations include their governance structure, corporate structure, and innovation policies (Bariş, 2019). The study of the institutional theory relies heavily on non-formal institutional variables including behaviour models, reward systems, university communities, and attitudes toward innovation (Su et al., 2017). New organizational forms that boost technical efficiency among early adopters receive social approval. Academic innovation is broken down into its constituent parts and explained with the help of Institutional Theory. Researchers mold the business-scientific partnership in response to external pressures on the partnership (Drori, 2019).

The institutional theory holds that businesses make decisions that are impacted by more than just cold, hard economics (Hwang et al., 2019). To understand how social forces, drive organizational behaviour, institutional theorists look to institutional theory (Eijdenberg et al., 2018). Institutional theory posits that organizations are shaped by the social forces and cultural norms of the larger society in which they operate. Social forces can include things like laws, regulations, and societal values, which can all shape how organizations behave (Hussein & Çokgezen, 2021). For example, laws and regulations may dictate how an organization must conduct its business, while societal values may influence how an organization treats its employees or customers. Organizational behavior, such as policies, practices, and decision making, is also influenced by the perceptions of what is "appropriate" or "legitimate" within a given institutional environment (Kafouros, Chandrashekar, Aliyev & Au, 2022). The institutional theory suggests that organizations conform to these institutional pressures in order to gain legitimacy, and to be perceived as a "good" or "normal" organization within society.

Many efforts are made by organizations in the quest for social approval or legitimacy. Therefore, it guarantees access to crucial, rare resources (Alvesson and Spicer 2019). Legitimacy can only be safeguarded and expanded by conduct that is consistent with society's expectations and standards (Eijdenberg et al. 2018). When it comes to making strategic and behavioural decisions, businesses are guided by the imperative to comply with regulatory requirements (Su et al., 2017). Organizational decision-making is influenced by normative,

mimetic, and coercive kinds of institutional pressure, all of which are emphasized in the context of uncertainty (Drori, 2019). Organizational behaviour is affected by regulatory regulations enacted by government bodies (Watson et al., 2018)

1.10.2 Growth Theory

According to the growth theory, human capital, innovation, and knowledge investment all play important roles in economic expansion (Pokrovskii & Vladimir, 2021). Economic growth is predicted to result from the knowledge-based economy and its positive externalities and spill over effects, which are also highlighted in the theory. Mainly, the endogenous growth hypothesis posits that a nation's long-term growth rate is affected by government action. To illustrate, in certain endogenous growth models, the rate of growth is increased by boosting the incentive for innovation, which is achieved through programs like subsidies for R&D or education (Pokrovskii & Vladimir, 2021).

The effective governance index has a positive and statistical effect on the economy, but the theory of growth implies that economic growth is positively responsive to institutional quality (Tedeschi et al., 2018). Kyurkchiev et al. (2019) found that both domestic investment and foreign direct investment have substantial positive effects on economic growth. Even more so, the theory requires 34% more time to reach equilibrium in the long run. The results back up the need for quality institutions to guarantee the effective operation of private and public enterprises in emerging markets, which is crucial for the country's long-term economic growth and development (Omura, 2021).

The new growth theory is a notion in economics that states that people's insatiable appetites for more and more things are a driving force behind sustained economic expansion. It posits that the pursuit of profits by individuals guarantees a rising real GDP per capita (Stefanescu et al., 2017). The new growth theory provided an innovative explanation for economic success from the perspective of engineers. It challenges the idea of exogenous growth in neoclassical economics, which holds that economic advancement is dictated by external, uncontrollable causes, by placing a premium on entrepreneurialism, knowledge, innovation, and technology (Capello & Nijkamp, 2019). If businesses want to be profitable in the face of intense competition, they need to innovate and improve their processes regularly. This idea is fundamental to the new theory of economic development. The hypothesis proposes that technological advancements and other forms of innovation do not emerge by chance alone. Rather, it is contingent upon the number of individuals actively seeking breakthroughs or technologies and the intensity with which they are searching for them (Doustkhah et al., 2020).

10.10.3 Theories of Innovation

There are many theories of innovation, however to achieve the objectives of this study, the researcher adopted three theories to explain the innovation in context of the study.

10.10.4 Diffusion of Innovations

The Diffusion of Innovations theory, proposed by Everett Rogers in 1962, is a widely recognized and influential theory that seeks to explain how, why, and at what rate new ideas, technologies, products, or practices spread through social systems over time (Rogers, Singhal & Quinlan, 2014). The theory has been applied to various fields, including sociology, marketing, public health, and technology adoption.

Rogers identified five key elements that influence the rate of adoption and diffusion of innovations (Orr, 2003):

Innovation: This refers to the new idea, technology, product, or practice that is being introduced. Innovations can range from tangible products like smartphones to intangible concepts like behavioural change campaigns (Orr, 2003).

Communication Channels: These are the means through which information about the innovation is spread among members of a social system. Channels can be interpersonal (face-to-face communication), mass media (television, radio, newspapers), or digital (internet, social media) (Orr, 2003).

Social System: This refers to the group of individuals or organizations that are interconnected and share a common set of norms, values, and beliefs. The social system can be a community, an organization, or even a whole society (Valente, 2005).

Time: Diffusion occurs over a period, and the rate of adoption can vary at different stages of the diffusion process. Innovations are typically adopted in a sequence of stages: innovators, early adopters, early majority, late majority, and laggards (Valente, 2005).

The Adopters: These are the individuals within the social system who decide to adopt or reject the innovation. Rogers categorized adopters into five groups based on their willingness to adopt new innovations: innovators (adventurous and risk-takers), early adopters (opinion leaders and influencers), early majority (pragmatists), late majority (sceptics), and laggards (traditionalists) (Valente, 2005).

The Diffusion of Innovations theory also introduced four main elements that affect the adoption decision-making process of individuals (Nakicenovic & Grübler, 2013):

a. **Relative Advantage**: The degree to which the innovation is perceived as better than the existing alternatives. If the innovation offers significant advantages, it is more likely to be adopted.

b. **Compatibility**: The extent to which the innovation fits into the adopters' existing values, beliefs, and experiences. Innovations that align with the adopters' current way of doing things are more likely to be adopted (Nakicenovic & Grübler, 2013).

c. **Complexity**: The level of difficulty involved in understanding and using the innovation. The simpler an innovation is to adopt, the more likely it will be adopted.

d. **Observability**: The degree to which the results or benefits of the innovation are visible and easily communicated to others. When the positive outcomes of an innovation are apparent, adoption is more likely to occur (Nakicenovic & Grübler, 2013).

The diffusion process is not always smooth and can be influenced by various external factors like the socio-economic environment, cultural norms, and government policies. Understanding the diffusion of innovations can help policymakers, marketers, and researchers predict and promote the adoption of new ideas and technologies more effectively (Nakicenovic & Grübler, 2013).

The extent to which newcomers believe that their creation is preferable to current options is known as its "relative advantage." The likelihood of widespread implementation increases if the invention provides substantial benefits (Nakicenovic & Grübler, 2013).

Compatibility: How well the new idea meshes with the adopters' preexisting worldview. Adopters are more inclined to embrace innovations that fit in with their established practices.

Complexity: How hard it is to learn and implement the new method. The easier a new idea is to implement, the more people will use it (Valente, 2005).

Observability: How clear and straightforward it is to share the results or advantages of the invention with others. When an innovation's benefits are clear, people are more inclined to use it (Nakicenovic & Grübler, 2013).

10.10.5 Innovation Ladder Theory

The Innovation Ladder is a theory of innovation developed by Clayton Christensen. It describes how innovations can disrupt existing markets (Dinopoulos & Syropoulos, 2007). The theory identifies five levels of innovation:

Sustaining innovations: These are innovations that improve existing products or services. They typically offer incremental improvements, such as faster speeds, longer battery life, or more features.

Efficiency innovations: These are innovations that improve the efficiency of existing processes. They typically reduce costs or improve productivity (Gancia & Zilibotti, 2005).

Productivity innovations: These are innovations that create new products or services that are more productive than existing options. They typically offer significant improvements in performance or cost-effectiveness (Dinopoulos & Syropoulos, 2007).

Architectural innovations: These are innovations that change the underlying architecture of a product or service. They typically create new opportunities for innovation by opening up new markets or enabling new features (Thoenig & Verdier, 2003).

Disruptive innovations: These are innovations that create new markets or displace existing ones. They typically offer lower performance or functionality than existing options, but they are often more affordable or accessible (Huang et al., 2022).

The Innovation Ladder is a useful tool for understanding how innovations can disrupt existing markets. It can help companies to identify potential disruptive innovations and to develop strategies to defend against them. Some examples of innovations at each level of the Innovation Ladder:

Sustaining innovations: Examples of sustaining innovations include the introduction of faster processors in computers, longer battery life in smartphones, and more features in software applications (Gancia & Zilibotti, 2005).

Efficiency innovations: Examples of efficiency innovations include the introduction of just-in-time inventory management systems, the use of robotics in manufacturing, and the use of cloud computing to store and process data (Huang et al., 2022).

Productivity innovations: Examples of productivity innovations include the introduction of the personal computer, the development of the internet, and the introduction of online shopping (Huang et al., 2022).

Architectural innovations: Examples of architectural innovations include the introduction of the modular smartphone, the development of the cloud computing platform, and the introduction of the open source software movement (Huang et al., 2022).

Disruptive innovations: Examples of disruptive innovations include the introduction of the low-cost airline, the development of the MP3 player, and the introduction of the digital camera (Huang et al., 2022).

The Innovation Ladder is a valuable tool for understanding how innovations can disrupt existing markets. It can help companies to identify potential disruptive innovations and to develop strategies to defend against them (Huang et al., 2022).

i. Innovation Ladder theory in relation to the Study

The Innovation Ladder theory, as proposed by Clayton Christensen, can provide valuable insights into understanding the effect of institutional quality on the innovativeness of firms in emerging economies (Huang et al., 2022). The different rungs of the Innovation Ladder theory in relation to the institutional environment and its impact on firm innovativeness in such economies:

Sustaining Innovation: In emerging economies with relatively stable and strong institutions, firms may be more inclined to engage in sustaining innovation. This type of innovation involves incremental improvements to existing products or processes and is often seen as less risky compared to higher rungs on the ladder. When institutions provide a supportive and predictable business environment, firms are encouraged to invest in research and development (R&D) to enhance their products and services (Dinopoulos & Syropoulos, 2007).

Efficiency Innovation: Efficiency innovation can be particularly relevant in emerging economies with challenges in resource allocation and productivity. Institutions that promote efficiency, such as transparent regulations and effective infrastructure development, can drive firms to seek innovative ways to optimize their operations, reduce costs, and increase productivity. When efficiency is rewarded and recognized, firms are motivated to innovate within their current business models (Dinopoulos & Syropoulos, 2007).

Market-Creating Innovation: The quality of institutions in emerging economies can significantly impact the potential for market-creating innovation. When institutions are strong, market entry barriers are lowered, and property rights are well protected, firms are more likely to explore and create new markets (Dinopoulos & Syropoulos, 2007). Market-creating innovations often involve offering affordable and accessible solutions to underserved segments, and supportive institutional environments can incentivize firms to take such risks (Dinopoulos & Syropoulos, 2007).

Disruptive Innovation: Disruptive innovation is the most transformative and challenging type of innovation, and its pursuit is influenced by the overall institutional quality in emerging economies. When institutions are weak or unstable, firms may face barriers to entry, lack access to funding, or encounter challenges in protecting their disruptive ideas (Thoenig & Verdier, 2003). As a result, they may be hesitant to pursue truly disruptive innovations. Conversely, in economies with robust institutions, disruptive innovators may find more support and resources to challenge established markets (Thoenig & Verdier, 2003).

Institutional quality can directly impact each rung of the Innovation Ladder:

- Strong institutions foster an environment of stability, predictability, and transparency, encouraging firms to invest in R&D and efficiency improvements.

- Effective intellectual property protection bolsters firms' confidence to engage in market-creating and disruptive innovations, knowing their ideas and technologies will be safeguarded.
- Efficient bureaucracy and a supportive regulatory environment can facilitate the process of bringing new innovations to market, enhancing the chances of success.

The relationship between institutional quality and firm innovativeness in emerging economies is complex and multi-dimensional (Thoenig & Verdier, 2003). High-quality institutions can provide the necessary foundation and incentives for firms to climb the Innovation Ladder and engage in different types of innovations. In contrast, weak or unstable institutions may pose barriers and discourage firms from pursuing risky, transformative innovations (Thoenig & Verdier, 2003). Policymakers in emerging economies should prioritize strengthening institutional quality to create an innovation-friendly environment and promote long-term economic growth and development (Thoenig & Verdier, 2003).

2. Economic Resilience of Emerging Economies

Economic resilience refers to the ability of an economy to withstand and recover from economic shocks and crises such as recessions, natural disasters, or global economic downturns (Rao-Nicholson, et al., 2017). Emerging economies, which are often characterized by high levels of volatility and uncertainty, need to develop economic resilience to cope with these challenges and achieve sustainable development (Doran et al., 2018).

2.1 Key Factors that Contribute to the Economic Resilience of Emerging Economies

Diversification: Emerging economies need to diversify their economies by developing multiple industries and sectors. This can reduce their dependence on a single sector, which can make them vulnerable to external shocks (Alegre & Pasamar, 2018).

Innovation: As discussed earlier, innovation can help emerging economies to address economic and social challenges, diversify their economies, and increase competitiveness (Shah & Khan, 2021).

Strong institutions: Strong and effective institutions, such as independent central banks and regulatory bodies, can help emerging economies to maintain stability and withstand external shocks.

Fiscal and monetary policy: Sound fiscal and monetary policies can help emerging economies to manage inflation, maintain currency stability, and mitigate the effects of external shocks (Shah & Khan, 2021).

Human capital development: Developing human capital through education and training can help emerging economies to build a skilled workforce, increase productivity, and achieve sustainable development (Calabrò et al., 2021).

Regional integration: Regional integration can help emerging economies to create larger markets and reduce their dependence on external markets. This can help to increase resilience to external shocks and promote economic growth (Nguyen et al., 2020).

Developing economic resilience is critical for emerging economies to achieve sustainable development and reduce vulnerability to external shocks. It requires a comprehensive approach that addresses multiple factors and involves collaboration between government, private sector, and civil society.

2.1.1 Importance of Innovation to the Economic Resilience of Emerging Economies

Innovation is crucial to the economic resilience of emerging economies for several reasons:

i. **Driving economic growth**:

Innovation can stimulate economic growth by creating new products and services, increasing productivity, and opening up new markets (Doran et al., 2018). Emerging economies need to maintain high levels of economic growth to lift their populations out of poverty and achieve sustainable development. Innovation can create new industries and markets, which can lead to the creation of new jobs and economic growth (Rao-Nicholson et al., 2017). For example, the development of the mobile phone industry in emerging countries has created millions of new jobs and stimulated economic growth. Innovation can improve productivity by introducing new technologies and business models, which can lead to higher output and efficiency. This can enable emerging countries to compete with developed countries and increase their share of the global market (Nguyen et al., 2020).

Innovation can also help to expand existing industries by introducing new products, services, or processes (Bahrini & Qaffas, 2019). This can increase demand and revenue for firms in emerging countries and stimulate economic growth. Innovation can attract foreign investment to emerging countries, as investors are often attracted to innovative and high-growth industries. This can provide a source of funding for firms and stimulate economic growth (Kihombo et al., 2021). Innovation can also help to address social and environmental challenges such as poverty, inequality, and climate change. This can create new markets and industries, and increase the economic resilience of emerging countries (Nguyen et al., 2020). Innovation is critical for economic growth in emerging countries. It can create new industries and jobs, increase productivity, expand existing industries, attract foreign investment, and address social and environmental challenges. Therefore, governments, businesses, and other stakeholders in emerging countries need to prioritize and invest in innovation to achieve sustainable economic growth (Bahrini & Qaffas, 2019).

ii. Enhancing Competitiveness

Innovation can help firms in emerging economies compete with firms in developed economies by enabling them to develop and adopt new technologies and business models (Akpan et al., 2020). This can help to level the playing field and reduce the gap between emerging and developed economies. Innovation is a key driver of competitiveness in emerging economies. Innovation can help firms in emerging economies develop new and innovative products and services that differentiate them from their competitors (Ho et al., 2018). This can help them to gain a competitive advantage in the market and increase their market share. Innovation can help firms in emerging economies reduce costs through the introduction of new technologies and processes. This can enable them to offer their products and services at lower prices, which can make them more competitive in the market (Pérez et al., 2019).

Innovation can also improve the quality of products and services offered by firms in emerging economies, which can make them more attractive to customers (Liu & Atuahene-Gima, 2018). This can help them to increase their market share and compete more effectively with firms from developed economies. Innovation can increase the efficiency of firms in emerging economies by streamlining processes, reducing waste, and increasing productivity (Caballero-Morales, 2021). This can enable them to produce more with the same amount of resources, which can make them more competitive in the market. Innovation can help firms in emerging economies access new markets by creating new products and services that appeal to customers in other

regions or countries (Distanont & Khongmalai, 2020). This can help them to diversify their customer base and reduce their dependence on domestic markets.

Innovation can also improve the brand image of firms in emerging economies, which can make them more attractive to customers and investors. This can help them to build a strong reputation and increase their competitiveness in the market (Akpan et al., 2019). Innovation is critical for enhancing competitiveness in emerging economies. By developing new and innovative products and services, reducing costs, improving quality and efficiency, accessing new markets, and building a strong brand image, firms in emerging economies can compete more effectively with firms from developed economies and achieve sustainable growth (Pérez et al., 2019).

iii. Diversifying the economy

Emerging economies often rely on a narrow range of industries or products for their economic growth, which makes them vulnerable to external shocks such as changes in global demand or natural disasters (Grillitsch & Asheim, 2018). Innovation can help to diversify the economy by creating new industries and products, which can reduce the economy's dependence on a single sector. Innovation can have a significant impact on diversifying the economy in emerging economies (Iqbal et al., 2021). New industries and sectors: Innovation can help to create new industries and sectors in emerging economies. By developing new products and services, firms can create new markets and industries that can diversify the economy. Innovation can also help emerging economies to diversify their exports by developing new products and services that appeal to international markets. This can reduce their dependence on a single export commodity and increase their resilience to external shocks (Brockova et al., 2021).

Innovation can improve the productivity of existing industries in emerging economies, making them more competitive and profitable (Wang et al., 2020). This can enable these industries to diversify their products and services and expand into new markets. Innovation requires a skilled workforce, which can stimulate the development of human capital in emerging economies. This can help to create a more diversified economy by developing a skilled labour force that can support a wide range of industries and sectors. Innovation can also foster entrepreneurship in emerging economies by creating a culture of innovation and risk-taking (Asheim, 2019). This can encourage individuals to start their own businesses and contribute to the diversification of the economy (Xiao et al., 2018). Innovation can have a significant impact on diversifying the economy in emerging economies by creating new industries and sectors, diversifying exports, improving productivity, developing human capital, and fostering entrepreneurship (Uyarra et al., 2020). This can reduce their dependence on a single industry or commodity and increase

their resilience to external shocks, which is critical for achieving sustainable economic growth (Wang et al., 2020).

iv. Addressing Social and Environmental Challenges

Innovation can also help emerging economies to address social and environmental challenges such as poverty, inequality, and climate change (Dionisio & De Vargas, 2020). For example, innovation in renewable energy can help to reduce the dependence on fossil fuels and mitigate the effects of climate change. Innovation is critical to the long-term economic resilience of emerging economies. It can help these economies to overcome challenges, seize opportunities, and achieve sustainable development (Wieczorek, 2018). Innovation can play a vital role in addressing social and environmental challenges in emerging economies. Innovation can drive the development of sustainable technologies that can help address environmental challenges such as climate change, pollution, and resource depletion (Akpan et al., 2022). For example, developing renewable energy sources, improving waste management systems, and reducing carbon emissions.

Innovation can also drive the development of new products and services that address social challenges such as poverty, access to healthcare, education, and gender inequality (Lee & Tang, 2018). For example, developing affordable healthcare solutions, improving access to education, and providing financial services to the unbanked population. Innovation can enable the development of collaborative models that involve partnerships between governments, businesses, and civil society organizations to address social and environmental challenges (Chen et al., 2018). Porter & Kramer (2018) found that public-private partnerships to develop clean energy solutions, or collaboration between NGOs and businesses to provide access to clean water in rural areas.

Innovation can also enable the development of circular economy models that reduce waste and promote sustainable consumption and production (Jamali et al., 2017). Diercks et al. (2019) found that developing innovative recycling technologies, reducing packaging waste, and promoting the reuse of materials. Katmon et al. (2019) explained that innovation can also drive the development of green finance mechanisms that support the transition to a more sustainable economy. Ferronato & Torretta (2019) study found that developing green bonds that finance renewable energy projects or impact investment funds that invest in social and environmental projects. Innovation can play a crucial role in addressing social and environmental challenges in emerging economies by driving the development of sustainable technologies, social innovation, collaborative models, circular economy, and green finance (Chen et al., 2018). This

can help emerging economies to achieve sustainable development and promote inclusive growth.

2.2 Innovativeness of Firms for Economic Development

2.2.1 Firm Innovativeness

Firm innovativeness refers to the ability of a company to generate and implement new ideas and technologies that lead to new products, services, or processes (Alegre & Pasamar, 2018). It is the capacity of a firm to innovate and introduce something new, whether it is a product, service, or a process that is more efficient or effective (Makkonen et al., 2018). Chen and Huang (2015) examined the relationship between firm innovativeness and performance in the context of environmental dynamism, or the degree of change and instability in a firm's external environment. The study found that firm innovativeness has a positive impact on performance, but this effect is stronger when the external environment is more dynamic. The study highlights the importance of adaptability and agility in firms' innovation strategies, particularly in fast-changing and unpredictable environments.

Innovativeness is crucial for firms to remain competitive and relevant in today's fast-changing business environment (Davila et al., 2019). By constantly innovating, companies can create new revenue streams, improve efficiency, and enhance customer satisfaction. Innovativeness can also lead to the development of new markets and the expansion of existing ones. Singh, Khandelwal & Dwivedi (2018) examined the relationship between organizational size, complexity, and innovativeness in the context of internationalization. The study found that larger and more complex organizations tend to have higher levels of innovativeness, particularly in the context of internationalization. However, the study also suggests that smaller firms can still be innovative if they adopt lean and flexible organizational structures.

The level of innovativeness in a firm can be influenced by a number of factors, including the firm's culture, the availability of resources, the quality of the firm's leadership, and the firm's ability to collaborate with external partners such as suppliers, customers, and research institutions (Yousaf et al., 2020). Firms that are more innovative tend to be more adaptable and better able to respond to changes in the market, making them more likely to survive and thrive over the long term. Zhang & Li (2020) examined the impact of collaboration on firm innovativeness in the context of Chinese firms. The study found that collaboration with external partners, such as universities and research institutes, has a positive impact on firm innovativeness. They also found that collaboration with suppliers and customers had a negative

impact on innovativeness. The study highlights the importance of choosing the right partners for collaboration and developing effective collaboration strategies to support innovation.

Innovation is crucial for firms to remain competitive and thrive in today's global economy. However, the context of emerging economies poses unique challenges and opportunities for firms to be innovative. Emerging economies often have less developed infrastructure, education, and regulatory frameworks than developed economies. These conditions can create barriers to innovation such as limited access to funding, talent, and technology. However, emerging economies also offer unique opportunities for innovation, such as unmet needs in the marketplace, lower competition, and untapped resources. Bughin & Dewhurst (2013) accessed the role of management consulting firms in supporting innovation in emerging economies. The study found that consulting firms can play a critical role in helping firms in emerging economies overcome the unique challenges they face in developing and implementing innovative solutions. Specifically, consulting firms can help firms navigate complex regulatory frameworks, access new sources of funding, and develop effective innovation strategies that are tailored to the local market. The study concluded that consulting firms can serve as valuable partners in driving innovation and economic growth in emerging economies.

To foster innovativeness in emerging economies, firms need to develop a culture that values innovation and invests in the necessary resources to support it (Shah & Khan, 2021). This can involve building partnerships with universities and research institutions to access talent and cutting-edge research, developing internal innovation teams, and investing in R&D. Furthermore, firms need to be agile and adaptable to the unique challenges of emerging economies. This may involve tailoring their innovation strategies to the local market, collaborating with local partners, and developing solutions that are affordable and accessible to the local population (Mohamad et al., 2020).

Banerjee, Dutta, & Lanvin (2017) examined the determinants of innovation in Indian IT firms, which are a key driver of economic growth in India. The study found that firm size, R&D spending, and internationalization were all significant predictors of innovation in Indian IT firms. However, they also found that factors such as organizational culture and management practices were important determinants of innovation. The study suggests that firms in emerging economies need to focus on a range of factors, including investment in R&D, talent development, and innovation-friendly organizational culture, to foster innovation and remain competitive in the global market.

Innovativeness in the context of emerging economies requires a combination of a supportive culture, investment in resources, and adaptability to the unique challenges and opportunities of the local market (Calabrò et al., 2021). By doing so, firms can stay ahead of the curve and drive sustainable growth in these dynamic and evolving economies.

2.3 Determinants of Firm Innovation.

Determinants of firm innovation refer to the factors or variables that influence a firm's ability and willingness to innovate. Innovation is critical for a firm's long-term growth and competitiveness, and it involves the development and implementation of new products, processes, technologies, or business models.

2.3.1 Economic Factors

Trade can play a significant role in driving firm innovation by providing firms with access to new markets, resources, and ideas. When firms are able to trade with foreign partners, they are exposed to different ways of doing business, different consumer preferences, and different regulatory environments (Liu et al., 2017). This exposure can motivate firms to innovate in order to adapt to new market conditions and to stay competitive.

Shao et al. (2020) study found that one of the main ways in which trade can drive innovation is by increasing competition. When firms are faced with competition from foreign rivals, they are forced to improve their products and processes in order to remain competitive. This can lead to increased investment in research and development (R&D) and the adoption of new technologies, which can spur innovation (Impullitti & Licandro, 2018). When Japanese automakers entered the U.S. market in the 1970s and 1980s, they forced U.S. automakers to improve their production methods and to develop new models in order to compete (Shu & Steinwender, 2019). Trade can also drive innovation by providing firms with access to new markets and customers. When firms are able to export their products to new markets, they can gain access to new sources of demand and revenue (Ghasemaghaei & Calic, 2020). This can provide firms with the resources they need to invest in R&D and to develop new products and technologies. For example, when Apple began exporting its products to China in the early 2000s, it gained access to a large and growing market, which helped to fuel its innovation and growth (Ghasemaghaei & Calic, 2020).

Trade can drive innovation by providing firms with access to new sources of knowledge and ideas. When firms trade with foreign partners, they are exposed to new technologies, management practices, and ways of doing business (Liu et al., 2017). This can provide firms

with new ideas and perspectives that can stimulate innovation. For example, when Chinese firms began investing in Silicon Valley start-ups' in the 2010s, they brought with them new ideas about how to develop and market innovative technologies (Shao et al., 2020). Trade can play an important role in driving firm innovation by increasing competition, providing access to new markets and customers, and exposing firms to new sources of knowledge and ideas (Ghasemaghaei & Calic, 2020).

i. The Roles of Market Liberalization in Firm Innovation

Market liberalization can play an important role in driving firm innovation by creating a more competitive and efficient business environment. When markets are liberalized, barriers to entry are reduced, regulation is simplified, and competition is encouraged (Melitz & Redding, 2021). This can create opportunities for firms to innovate in order to differentiate themselves and gain market share. One of the main ways in which market liberalization can drive innovation is by increasing competition (Shu & Steinwender, 2019).

When markets are opened up to new entrants, established firms are forced to compete more vigorously in order to maintain their market position (Howell, 2020). This can lead to increased investment in research and development (R&D) and the adoption of new technologies, which can spur innovation. The liberalization of the telecommunications sector in many countries in the 1990s led to increased competition and innovation, as new entrants challenged incumbent operators with new services and technologies (Khan et al., 2018).

Market liberalization can also drive innovation by promoting efficiency. When markets are liberalized, inefficiencies such as bureaucracy, corruption, and rent-seeking are reduced. This can create opportunities for innovation in areas such as logistics, supply chain management, and distribution (Saka-Helmhout et al., 2020). For example, the liberalization of the retail sector in India in the 2000s led to the development of new distribution channels and supply chain models, as firms sought to optimize their operations in response to increased competition (Krishnan & Prashantham, 2019).

Market liberalization can drive innovation by promoting entrepreneurship. When barriers to entry are reduced, new firms are more likely to enter the market, bringing with them new ideas and innovations (Xie & Li, 2018). This can create a more dynamic and innovative business environment, as firms seek to differentiate themselves and compete with established players. Melitz & Redding (2021) found that the liberalization of the financial sector in many countries in the 1980s and 1990s led to the emergence of new financial products and services, as new entrants challenged established banks with new business models. Market liberalization can play

an important role in driving firm innovation by increasing competition, promoting efficiency, and encouraging entrepreneurship (Moshirian et al., 2021). By creating a more dynamic and innovative business environment, market liberalization can create opportunities for firms to innovate in order to gain a competitive edge (Moshirian et al., 2021).

ii. The Roles of Foreign Direct Investment (FDI) in Firm Innovation

Foreign Direct Investment (FDI) can play a significant role in promoting innovation within firms. FDI enables technology transfer, when a foreign company invests in a firm, it can bring new technologies, processes, and skills to the firm (Jin et al., 2019). This can enable the firm to innovate and develop new products, processes, and services that are more efficient and effective. FDI can provide a firm with access to new markets, which can create new opportunities for innovation (Melane-Lavado et al., 2018). When a firm enters a new market, it may be forced to adapt to local customer needs and preferences, leading to new innovations.
FDI can also increase competition within a market, which can drive firms to innovate in order to remain competitive. The presence of foreign firms with advanced technology and processes can push domestic firms to innovate in order to keep up (Dong et al., 2021). Fahad et al. (2022) found that FDI can also facilitate collaboration between firms, which can lead to joint research and development efforts. This can help firms to pool resources and knowledge, leading to more innovative solutions.

Ahmad et al. (2020) found that FDI can create spillover effects, whereby knowledge and skills are transferred from foreign firms to domestic firms. This can help to build the innovation capabilities of domestic firms, leading to a more dynamic and innovative business environment. FDI can be a powerful driver of innovation within firms. By bringing new technologies, processes, and skills, facilitating collaboration and competition, and creating spill over effects, FDI can help firms to innovate and develop new products and services that can drive growth and competitiveness (Melane-Lavado & Álvarez-Herranz, 2018).

2.3.2 Technological Factors

Firms that invest in R&D are more likely to develop new products, processes, and technologies, which can lead to innovation. Research and Development (R&D) is one of the key determinants of firm innovation (Safitri & Anggara, 2019). R&D refers to the activities that firms undertake to create and introduce new products, processes, and technologies. R&D can include basic research, applied research, and experimental development. R&D can help firms generate new ideas and identify emerging trends and opportunities. Abdu & Jibir (2018) found that through R&D, firms can explore new technologies, materials, and processes, and discover ways to apply

them to their products or services. R&D can help firms develop new products or improve existing ones. Moon et al. (2019) study also found that by investing in R&D, firms can create new products that meet the needs of their customers or develop new features or functionalities that differentiate their products from those of their competitors.

R&D can also help firms improve their internal processes and operations. By developing new processes or optimizing existing ones, firms can increase efficiency, reduce costs, and improve quality (Jin et al., 2022). R&D can also lead to the development of new technologies or the improvement of existing ones. This can enable firms to create new products or services that were not previously possible, or to improve their existing products or services (Jin et al., 2022). Ode & Ayavoo (2020) found that R&D is critical for firms that want to innovate and remain competitive in today's rapidly changing business environment. By investing in R&D, firms can stay ahead of the curve and develop new products and technologies that meet the evolving needs of their customers.

2.3.3 Social Factors

The skills, knowledge, and expertise of a firm's employees can contribute to innovation, as they are the ones who develop and implement new ideas. Human capital refers to the skills, knowledge, and expertise of a firm's employees (Liu et al., 2017). Human capital is another important determinant of firm innovation. Employees with diverse backgrounds and expertise can bring fresh perspectives and ideas to the table (Sima et al., 2020). Nieves & Quintana (2018) found that a firm with a talented and creative workforce is more likely to generate new ideas and innovative solutions to problems. Human capital can facilitate the transfer of skills and knowledge within a firm. Employees can share their expertise with colleagues and transfer knowledge from one project to another. This can help to accelerate the pace of innovation within a firm.

Innovation often requires collaboration and teamwork. A firm with a culture that fosters collaboration and teamwork is more likely to develop new ideas and bring them to market. Employees with a mindset of risk-taking and experimentation are more likely to be willing to try out new ideas and approaches (Nieves & Quintana, 2018). A firm with a culture that encourages risk-taking, and experimentation is more likely to innovate. Human capital development can help employees to develop new skills and knowledge that can be applied to innovative projects. Singh et al. (2020) found that a firm that invests in the learning and development of its employees is more likely to be able to innovate. Human capital is a critical

determinant of firm innovation. A firm with a talented and skilled workforce that values innovation is more likely to generate new ideas and bring them to market (Khan et al., 2020).

2.4 Linkages Between Institutional Quality and Innovativeness of Firms in Emerging Economies

The institutional quality of a country can has a significant impact on the innovativeness of firms, particularly in emerging economies (Pérez et al., 2019). Here are some of the ways in which institutional quality and innovativeness of firms are linked:

i. **Intellectual Property Rights (IPR) Protection**: Strong IPR protection is critical to encouraging firms to invest in research and development (R&D) and innovative activities. In countries where IPR protection is weak, firms may be less likely to invest in R&D due to concerns about intellectual property theft. Therefore, stronger institutional quality in terms of IPR protection can encourage firms to engage in innovative activities (Sabir et al., 2019).

ii. **Rule of Law**: A strong rule of law and regulatory environment can also encourage firms to engage in innovative activities. This is because a stable and predictable regulatory environment can reduce the uncertainty and risks associated with R&D and innovation (Ho et al., 2018).

iii. **Access to Finance**: Access to finance is critical for firms to invest in R&D and innovation. In countries with weak financial systems and limited access to capital, firms may be unable to invest in R&D and innovative activities. Stronger institutional quality in terms of financial regulation and access to finance can encourage firms to invest in R&D and innovation (Piperopoulos et al., 2018).

iv. **Human Capital**: Institutional quality can also impact the human capital available to firms. In countries with weaker education systems, firms may struggle to find qualified workers with the necessary skills to engage in innovative activities. Stronger institutional quality in terms of education and training can help firms to access the human capital needed for innovative activities (Sun et al., 2019).

v. **Entrepreneurship and Innovation Ecosystem**: Institutional quality can also impact the overall entrepreneurship and innovation ecosystem in a country. Stronger institutions can foster a more supportive environment for entrepreneurship and innovation, including greater access to networks, mentors, and resources (Anning-Dorson, 2018).

Institutional quality can have a significant impact on the innovativeness of firms in emerging economies. Stronger institutions in areas such as IPR protection, rule of law, access to finance, human capital, and the entrepreneurship and innovation ecosystem can encourage firms to invest in R&D and innovative activities, driving economic growth and development (Sabir et al., 2019).

In summary, this chapter has shown that institutional quality, which encompasses legislation, individual rights, government regulation, and services, is a significant determinant of FDI inflow. The presence of strong institutions, such as transparent and stable governance, robust legal systems, and political stability, encourages foreign investors to invest in a host nation. On the other hand, weak or inadequate institutions may deter foreign investors due to higher perceived risks. the link between institutional quality and firm performance is evident in various emerging economies. Institutions shape the norms of economic interactions and can either facilitate or hinder the growth and innovation of firms. Countries with strong institutional frameworks, including protection of intellectual property rights, tend to foster a more conducive environment for businesses to thrive, promoting innovation and economic resilience.

The relationship between institutional quality and foreign direct investment (FDI) as well as firm performance is crucial in understanding the dynamics of economic growth and innovation in emerging economies. FDI plays a pivotal role in bridging the gap between domestic savings and investment needs, promoting economic growth and development. The transfer of technology and expertise from industrialized to developing nations through FDI helps enhance productivity and performance in local industries, thereby contributing to economic progress.

In conclusion, fostering institutional development in emerging economies is essential for attracting FDI and promoting firm innovativeness. A positive feedback loop exists between economic growth and improved institutions, emphasizing the significance of institutional quality as a driving factor behind economic progress. Policymakers and researchers should continue to focus on strengthening institutional frameworks to unleash the potential of these economies and achieve sustainable growth and development.

3. RESEARCH METHODOLOGY

This chapter presents the methodology used for the study. This section comprises of the research problem, aim of the study, the research problem, research objectives, hypothesis of the study, research strategy, method of data collection and data analysis.

3.1 Research Problem

The impact of institutional quality on economic activity and the behaviour of firms in emerging economies emphasizes the importance of institutions as artificial limits that shape political, economic, and social interactions within society. Institutions act as the framework within which economic actors maximize their profits and returns. Institutional quality encompasses legislation, individual rights, government regulation, and the provision of high-quality services. Doh et. al. (2017) found that economic growth is the driving factor behind improved institutions, suggesting a positive feedback loop between the two. Barasa, et al. (2017) highlights the role of institutional development in unlocking growth potential and its positive association with the adoption of cutting-edge technologies and increased productivity.

Liu et al. (2017) found that matured institutions can reduce transaction costs and provide predictability, encouraging productive behaviour. Conversely, weak institutions may have the opposite effect, highlighting the importance of studying developing economies from an institutional perspective. The institutional approach is particularly relevant in emerging market research due to the significant impact institutions have on enterprises, which may differ from the background role they play in developed markets (Meyer & Peng, 2016). Innovative institutions are recognized for their ability to lower transaction, manufacturing, and production costs, thereby enhancing profitability. In contrast, weak institutions require additional resources for market surveillance and pose risks to economic activity when property rights are not adequately protected (Custodio et al., 2017).

Emerging economies often have fragile and poorly functioning institutional architectures, emphasizing the disproportionate impact of institutions on enterprises in these markets (Wadho & Chaudhry, 2018). Institutional gaps in these contexts may compel firms to adapt their methods to the local environment, considering the weaker legal protection and less robust capital markets (Xie & Li, 2018). Firms operating in emerging economies are expected to overcome these institutional weaknesses and exhibit adaptability and resilience. Based on this background, this study seeks to investigate the institutional structure of emerging economies and its implications for firm innovativeness and economic activity.

3.2 Aims of the Thesis

The aim of the study is to assess the institutional quality and infrastructural base of the state on the innovativeness of firms in emerging economies. The study will consider key institutional arrangement and their propensity to affect the innovativeness of firms leading to economic growth.

3.3 Research Objectives

This research objectives will serve as guide to achieve the main aim of the study.

1. To examine the impact of foreign direct investment net outflows on institutional quality and the innovativeness and economic growth of Emerging economies

2. To evaluate effect of government effectiveness on the institutional quality and the innovativeness and economic growth of Emerging economies.

3. To assess the influence of rule of law on the institutional quality and innovativeness of economic growth of Emerging economies.

3.4 Hypothesis

H_1 Foreign direct investment net outflows has significant effect on institutional quality and the innovativeness and economic growth of Emerging economies.

H_2 Government effectiveness has significant impact on the on institutional quality and the innovativeness and economic growth of Emerging economies.

H_3 Rule of law has significant effect on the on institutional quality and innovativeness of economic growth of Emerging economies.

3.5 Research Process and Methodology

In this section, the study discusses the methodology required to examine the hypotheses formulated earlier. This involves determining the appropriate method of analysis and evaluating the validity and reliability of the study beforehand. It also involves evaluating the database's quality and providing a brief description of each variable used. Furthermore, the study touch upon research ethics. The independent and dependent variables relations are illustrated below

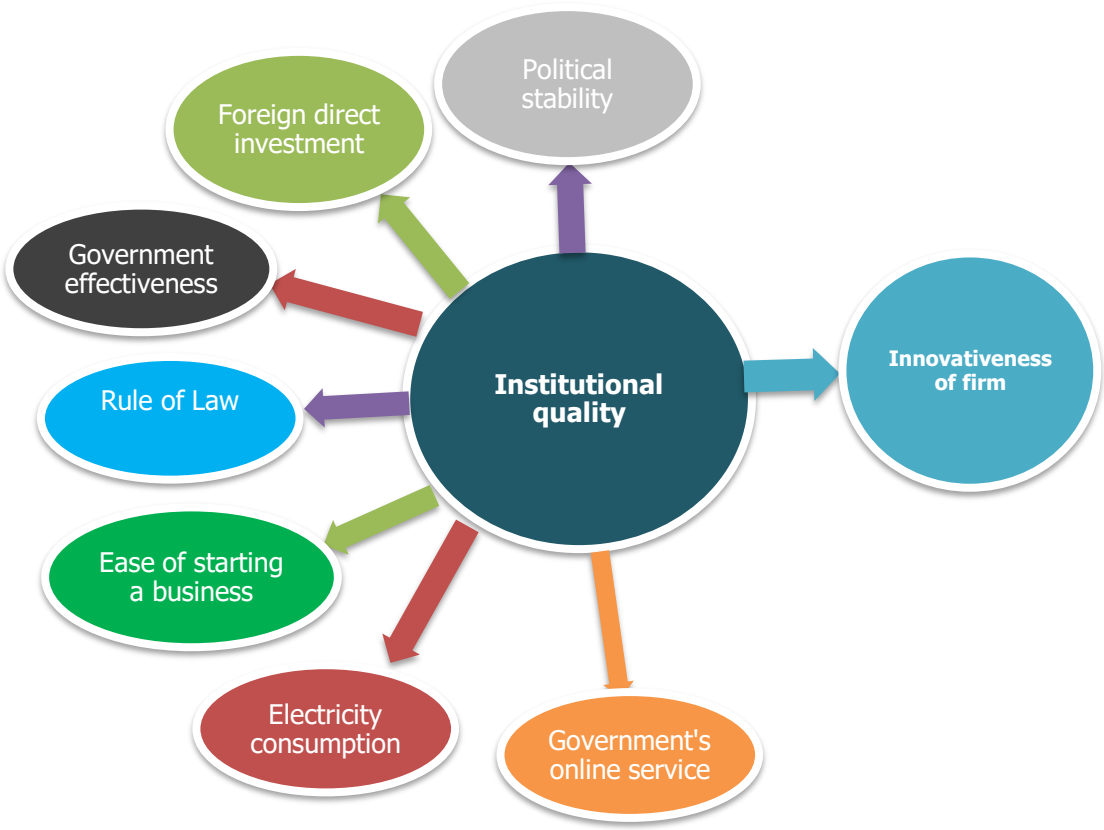

Figure 1: Relation between Dependent Variables to Independent Variables

Source: Researcher's Own Construct

3.6 Method of Data Collection

This study will utilize data obtained from the Global Innovation Index (GII) which is a publicly accessible database at the firm level, representing the private sector of a country. The GII project was initiated by Soumitra Dutta, who served as the Dean of Saïd Business School at Oxford University, during his time at INSEAD in 2007. Several reputable organizations such as WIPO (World Intellectual Property Organization), Cornell University, and Portulans Institute are associated with the collections and publication of the GII which makes it widely acceptable.

The GII ranking is determined by two equally important sub-indices, namely the Innovation Input Sub-Index and the Innovation Output Sub-Index. These sub-indices are crucial for providing a comprehensive overview of innovation. Consequently, three indices are computed:

Innovation Input Sub-Index: This sub-index comprises five pillars that capture various aspects of the economy facilitating and supporting innovative activities.

Innovation Output Sub-Index: The Innovation Output Sub-Index focuses on the outcomes of innovative activities within the economy. Although it encompasses only two pillars, it carries the same weight as the Input Sub-Index when calculating the overall GII scores.

The overall GII score is derived by averaging the scores of the Input and Output Sub-Indices. The GII economy rankings are then generated based on this overall score.

The data collection covered emerging markets in Europe. A google search gave more than 10 countries as emerging markets, however this study selected only five (5) countries for the data collection and analysis. The countries selected are Romania, Czech Republic, Greece, Hungry and Poland. The data was collected on the variables Government effectiveness, Political stability, and absence of violence/terrorism. Ease of starting a business, Foreign direct investment net outflows, Electricity consumption, Government's online service, Information and Communication Technology (ICT) access and ICT use. The data also cover a period of 10 years, from 2013 to 2022.

3.7 Variable Description

Table 1: Variable Description

Variable	Abbreviations	Description	Source
Dependent variable			
Firm innovativeness	FI	Firm innovativeness refers to the ability of a company to generate and implement new ideas and technologies that lead to new products, services, or processes	(Alegre & Pasamar, 2018)
Independent Variables			
Rule of Law	RL	Various human rights are guaranteed to citizens and non-citizens equally by international human rights agreements and country constitutions and their related legislation	(Luo et al., 2016)
Regulatory quality	RQ	Regulatory quality refers to the effectiveness, transparency,	(Adedoyin et al., 2020).

		and predictability of government regulations	
Government effectiveness	GE	Government effectiveness refers to the ability of a government to implement policies and programs efficiently and effectively, and to provide services to its citizens	(Chisadza et al., 2021).
Political stability and absence of violence/terrorism	PS	The ability of the government and its institutions to maintain order, uphold the rule of law, and provide a conducive environment for peaceful governance	(Luo et al., 2016).
Ease of starting a business	ESB	The simplicity and efficiency of the procedures, regulations, and requirements involved in establishing a new business entity	(Albreiki et al., 2019)
Foreign direct investment net outflows	FDI	Foreign direct investment net outflows refer to the amount of foreign investment that flows outside a country during a specific period, typically a year.	(Sabir & Khan, 2018)
Electricity consumption	EC	Electricity consumption refers to the amount of electrical energy used by individuals, households, businesses, industries, and other entities within a specific timeframe	(Zheng et al., 2022)
Government's online service	GOS	Government's online services, also known as e-government services, refer to the digital platforms and applications provided by government institutions to deliver various services and interact with citizens, businesses, and other stakeholders online.	(Tanjung, 2020).
Information and Communication Technology (ICT) use	IU	ICT use refers to the utilization of digital technologies and tools for various purposes, including communication, information sharing, data processing, and problem-solving.	Wang et al. (2019)
Control Variables			

Age of Firm	AF	It explores how the age or maturity of a company influences its ability to innovate and introduce new products, services, or processes to the market.	Tanjung, 2020).
Firm Size	FS	It refers to the measurement of a company's magnitude, usually based on various metrics such as revenue, total assets, market capitalization, number of employees, or market share	
Creative goods and services	CGS	Creative goods and services encompass a wide range of artistic and imaginative offerings. These can include physical products, digital content, and various types of creative services	
Audio-visual and related services exports	AVS	Daily newspaper circulation refers to the number of copies of a newspaper that are distributed and sold on a daily basis. It is a measure of the newspaper's reach and readership. Circulation figures can vary significantly depending on the newspaper, its popularity, the region it serves, and other factors	

Source: researcher's own construct

3.8 Method of Analysis

The data analysis will be done with the System Generalized Method of Moments (SGMM) estimators to estimate the coefficients in the regression equation. SGMM is a method that extends the Generalized Method of Moments (GMM) framework to handle systems of equations. The moment conditions are functions that relate the model's parameters to the sample moments of the data. In this study, the moment conditions involves the relationship between the independent variables and the dependent variable. Each moment condition represents an orthogonality condition between the sample moments and the parameters. The weighting matrix determines the relative importance given to different moment conditions. It should be positive definite and efficiently estimate the covariance matrix of the moment conditions. The SGMM estimator calculates the estimates of the coefficients by minimizing the criterion

function using numerical optimization techniques. This process provides the estimated coefficients for the regression equation.

3.8.1 Regression equation Model

FI= a + b1 * RL + b2 * RQ + b3 * GE + b4 * PS + b5 * ESB + b6 * FDI + b7 * EC + b8 * GOS + b9 * IU+ b10 * AF+ b11* FS +e

where:

Firm innovativeness is the dependent variable, which is the level of innovation in a firm.

Rule of Law, Regulatory quality, Government effectiveness, Political stability and absence of violence/terrorism, Ease of starting a business, Foreign direct investment net outflows, Electricity consumption, Government's online service, and Information and Communication Technology (ICT) use, Age of firm, Firm Size are the independent variables, which are factors that are hypothesized to influence firm innovativeness.

a is the intercept, which is the value of firm innovativeness when all the independent variables are equal to 0.

b1, b2, b3, b4, b5, b6, b7, b8, and b9 are the coefficients, which represent the strength of the relationship between each independent variable and firm innovativeness.

e is the error term, which represents the unexplained variation in firm innovativeness.

The control variables, Creative goods and services and Audio-visual and related services exports, are included in the model to account for other factors that may influence firm innovativeness.

3.9 Validity & Reliability

While a comprehensive assessment of the data validity and reliability will be conducted in chapter five, an initial evaluation can be made based on the data set's quality, thereby contributing to the overall validity and reliability of the study. The data and variables utilized in this research are sourced from the widely recognized Global Innovation Index (GII), suggesting that the data collection process was conducted diligently, minimizing potential threats to validity and reliability. The Global Innovation Index (GII) group employed various measures to ensure data quality, including random sampling, engaging private contractors to encourage honest responses, targeting interviewees with similar roles within organizations, and utilizing a standardized set of questions.

3.10 Selection of Countries

The study selected Czech Republic, Romania, Greece, Hungary, and Poland. These emerging economies are chosen because they often face unique challenges related to institutional quality and innovation, making them an interesting context for investigation. These countries are because they represent a diverse range of institutional quality and innovativeness. This diversity helps in drawing more robust conclusions and identifying patterns or differences across various contexts. The specific reasons why each country is selected are discussed below.

i. Czech Republic

The institutional quality in the Czech Republic is generally considered to be good. The country ranks 21st out of 190 countries in the World Bank's 2022 Ease of Doing Business report, and 23rd out of 180 countries in Transparency International's 2022 Corruption Perception Index. Some of the factors that contribute to the high institutional quality in the Czech Republic include a strong rule of law, a well-functioning judiciary, a transparent and accountable government, a well-educated and skilled workforce, a stable political environment. The high institutional quality in the Czech Republic has helped to attract foreign investment and promote economic growth. The country has a relatively low level of corruption, and its legal system is generally considered to be fair and impartial. The government is also transparent and accountable to its citizens. However, there are some areas where the institutional quality in the Czech Republic could be improved. For example, the country's bureaucracy can be slow and inefficient at times. Additionally, there is some public concern about the level of political corruption. Overall, the institutional quality in the Czech Republic is good. The country has a strong foundation for economic growth and prosperity. However, there are some areas where the institutional quality could be improved.

Some specific indicators of institutional quality in the Czech Republic:

Rule of law: The Czech Republic scores 7.9 out of 10 on the World Bank's Rule of Law indicator. This means that the country has a strong rule of law, with effective institutions that protect property rights and enforce contracts.

Regulatory quality: The Czech Republic scores 7.6 out of 10 on the World Bank's Regulatory **Quality indicator**. This means that the country's regulations are generally well-designed and implemented, and they do not create unnecessary barriers to business.

Government effectiveness: The Czech Republic scores 7.3 out of 10 on the World Bank's **Government Effectiveness indicator**. This means that the country's government is generally effective at providing public services and managing its resources.

Political stability and absence of violence/terrorism: The Czech Republic scores 9.1 out of 10 on the World Bank's Political Stability and Absence of Violence/Terrorism indicator. This means that the country has a stable political environment, and there is little risk of violence or terrorism.

Ease of starting a business: The Czech Republic ranks 21st out of 190 countries in the World Bank's Ease of Doing Business report. This means that it is relatively easy to start a business in the Czech Republic. These are just a few of the indicators of institutional quality in the Czech Republic. In general, the country has a good institutional quality, which is a positive factor for economic growth and prosperity.

ii. Romania

Institutional quality in Romania has improved in recent years, but it still lags behind some other European countries. According to the World Bank's 2022 Ease of Doing Business report, Romania ranks 58th out of 190 countries. The country also scores relatively low on Transparency International's Corruption Perception Index, ranking 68th out of 180 countries in 2022. However, there are some positive signs. For example, Romania's score on the World Bank's Rule of Law indicator has improved from 6.2 out of 10 in 2010 to 7.1 out of 10 in 2022. Additionally, the country's score on the World Bank's Regulatory Quality indicator has improved from 5.8 out of 10 in 2010 to 6.6 out of 10 in 2022 (World Bank, 2022). There are a number of factors that contribute to the low institutional quality in Romania. These include a legacy of corruption from the communist era, a weak rule of law, a lack of transparency and accountability in government, a poor bureaucracy. The low institutional quality in Romania has a number of negative consequences (World Bank, 2022). These include a lack of foreign investment, a slow pace of economic growth, a high level of poverty, a high level of crime. There are a number of things that can be done to improve institutional quality in Romania. These include cracking down on corruption, strengthening the rule of law, increasing transparency and accountability in government, reforming the bureaucracy. improving institutional quality is essential for Romania's long-term economic growth and prosperity. however, it will be a long and difficult process (World Bank, 2022).

iii. Greece

Institutional quality in Greece has been a matter of concern for many years. The country has been ranked relatively low on a number of international indexes that measure institutional quality, such as the World Bank's Ease of Doing Business report and Transparency International's Corruption Perception Index. There are a number of factors that contribute to the

low institutional quality in Greece (World Bank, 2022). These include a legacy of corruption from the country's past, a weak rule of law, a lack of transparency and accountability in government a poor bureaucracy, the low institutional quality in greece has a number of negative consequences. these include a lack of foreign investment, a slow pace of economic growth a high level of poverty and a high level of crime. There are a number of things that can be done to improve institutional quality in Greece (World Bank, 2022). These include cracking down on corruption, strengthening the rule of law, increasing transparency and accountability in government, reforming the bureaucracy. Improving institutional quality is essential for Greece's long-term economic growth and prosperity. However, it will be a long and difficult process (World Bank, 2022).

Some specific indicators of institutional quality in Greece:

Rule of law: Greece scores 6.4 out of 10 on the World Bank's Rule of Law indicator. This means that the country has a relatively weak rule of law, with some gaps in the legal system and a lack of enforcement of contracts (World Bank, 2022).

Regulatory quality: Greece scores 6.2 out of 10 on the World Bank's Regulatory Quality indicator. This means that the country's regulations are generally complex and burdensome, and they create unnecessary barriers to business (World Bank, 2022).

Government effectiveness: Greece scores 5.6 out of 10 on the World Bank's Government Effectiveness indicator. This means that the country's government is generally ineffective at providing public services and managing its resources (World Bank, 2022).

Political stability and absence of violence/terrorism: Greece scores 7.7 out of 10 on the World Bank's Political Stability and Absence of Violence/Terrorism indicator. This means that the country has a relatively stable political environment, and there is little risk of violence or terrorism.

Ease of starting a business: Greece ranks 78th out of 190 countries in the World Bank's Ease of Doing Business report. This means that it is relatively difficult to start a business in Greece.

These are just a few of the indicators of institutional quality in Greece. Overall, the country has a low institutional quality, which is a negative factor for economic growth and prosperity.

iv. Hungary

Institutional quality in Hungary has been improving in recent years, but it still lags behind some other European countries. According to the World Bank's 2022 Ease of Doing Business report, Hungary ranks 57th out of 190 countries. The country also scores relatively low on Transparency International's Corruption Perception Index, ranking 68th out of 180 countries in

2022. However, there are some positive signs (World Bank, 2022). For example, Hungary's score on the World Bank's Rule of Law indicator has improved from 6.2 out of 10 in 2010 to 7.1 out of 10 in 2022. Additionally, the country's score on the World Bank's Regulatory Quality indicator has improved from 5.8 out of 10 in 2010 to 6.6 out of 10 in 2022 (World Bank, 2022).

There are a number of factors that contribute to the low institutional quality in Hungary. These include , a legacy of corruption from the communist era, a weak rule of law, a lack of transparency and accountability in government, a poor bureaucracy. the low institutional quality in hungary has a number of negative consequences (World Bank, 2022). These include a lack of foreign investment, a slow pace of economic growth, a high level of poverty, a high level of crime. There are a number of things that can be done to improve institutional quality in Hungary. These include cracking down on corruption, strengthening the rule of law, increasing transparency and accountability in government, reforming the bureaucracy. improving institutional quality is essential for hungary's long-term economic growth and prosperity. However, it will be a long and difficult process (World Bank, 2022).

Some specific indicators of institutional quality in Hungary:

Rule of law: Hungary scores 6.7 out of 10 on the World Bank's Rule of Law indicator. This means that the country has a relatively weak rule of law, with some gaps in the legal system and a lack of enforcement of contracts (World Bank, 2022).

Regulatory quality: Hungary scores 6.5 out of 10 on the World Bank's Regulatory Quality indicator. This means that the country's regulations are generally complex and burdensome, and they create unnecessary barriers to business (World Bank, 2022).

Government effectiveness: Hungary scores 6.0 out of 10 on the World Bank's Government **Effectiveness indicator**. This means that the country's government is generally ineffective at providing public services and managing its resources (World Bank, 2022).

Political stability and absence of violence/terrorism: Hungary scores 8.2 out of 10 on the **World Bank's Political Stability and Absence of Violence/Terrorism indicator**. This means that the country has a relatively stable political environment, and there is little risk of violence or terrorism (World Bank, 2022).

Ease of starting a business: Hungary ranks 60th out of 190 countries in the World Bank's Ease of Doing Business report. This means that it is relatively difficult to start a business in Hungary. These are just a few of the indicators of institutional quality in Hungary. Overall, the country has a low institutional quality, which is a negative factor for economic growth and prosperity.

v. Poland

Institutional quality in Poland has improved significantly since the country's transition to democracy in 1989. The country has made progress in a number of areas, including the rule of law, regulatory quality, and government effectiveness. According to the World Bank's 2022 Ease of Doing Business report, Poland ranks 56th out of 190 countries. The country also scores relatively well on Transparency International's Corruption Perception Index, ranking 46th out of 180 countries in 2022. There are a number of factors that have contributed to the improvement in institutional quality in Poland. These include the adoption of a new constitution in 1997, the establishment of independent courts and a strong judiciary, the implementation of a number of reforms to improve the efficiency of the government, the improvement in institutional quality in Poland has had a number of positive consequences. These include increased foreign investment, faster economic growth, a decrease in corruption, However, there are still some areas where institutional quality in Poland could be improved. For example, the country's bureaucracy can be slow and inefficient at times. Additionally, there is some public concern about the level of political corruption. The institutional quality in Poland is good. The country has a strong foundation for economic growth and prosperity. However, there are some areas where institutional quality could be improved.

Some specific indicators of institutional quality in Poland:

Rule of law: Poland scores 7.4 out of 10 on the World Bank's Rule of Law indicator. This means that the country has a strong rule of law, with effective institutions that protect property rights and enforce contracts (World Bank, 2022).

Regulatory quality: Poland scores 6.9 out of 10 on the World Bank's Regulatory Quality indicator. This means that the country's regulations are generally well-designed and implemented, and they do not create unnecessary barriers to business (World Bank, 2022).

Government effectiveness: Poland scores 6.8 out of 10 on the World Bank's Government Effectiveness indicator. This means that the country's government is generally effective at providing public services and managing its resources (World Bank, 2022).

Political stability and absence of violence/terrorism: Poland scores 9.2 out of 10 on the World **Bank's Political Stability and Absence of Violence/Terrorism indicator**. This means that the country has a stable political environment, and there is little risk of violence or terrorism (World Bank, 2022).

Ease of starting a business: Poland ranks 56th out of 190 countries in the World Bank's Ease of Doing Business report. This means that it is relatively easy to start a business in Poland.

These are just a few of the indicators of institutional quality in Poland. The country has a good institutional quality, which is a positive factor for economic growth and prosperity (World Bank, 2022).

4. RESULTS AND DISCUSSIONS

4.1 Results

This section presents the results of summary output of regression statistics which shows the correlation of the dependent variable and the independent variable in the model for the selected countries Czech Republic, Romania, Greece, Hungary, and Poland. This section also presents the coefficients of the independent variables in the regression model. The results indicates how each coefficient estimated effect or contributes to the corresponding independent variable on the dependent variable.

Table 2: Summary Output of Regression Statistics

Regression Statistics	
Multiple R	0.89847
R Square	0.4942
Adjusted R Square	0.7737
Standard Error	0.8841
Observations	140

Source: Results from output of regression statistics

Multiple R is a measure of the strength of the relationship between the dependent variable and the independent variables. A value of 1 indicates a perfect positive relationship, while a value of 0 indicates no relationship. In this case, the Multiple R value is 0.89847, which indicates a strong positive relationship. R Square is a measure of how much of the variation in the dependent variable is explained by the independent variables. A value of 1 indicates that all of the variation in the dependent variable is explained by the independent variables, while a value of 0 indicates that none of the variation in the dependent variable is explained by the independent variables. In this case, the R Square value is 0.4942, which indicates that 49.42% of the variation in the dependent variable is explained by the independent variables.

Adjusted R Square is a modified version of the R Square value that takes into account the number of independent variables in the model. A higher adjusted R Square value indicates that the independent variables are adding more value to the model. In this case, the Adjusted R Square value is 0.7737, which indicates that the independent variables are adding significant value to the model. Standard Error is a measure of the average distance between the observed values and the predicted values. A lower standard error value indicates that the predicted values are closer to the observed values. In this case, the Standard Error value is 0.8841, which indicates that the predicted values are relatively close to the observed values.

Observations is the number of data points that were used to fit the regression model. In this case, there were 140 observations. In summary, the regression statistics in the table indicate that the model is a good fit. The independent variables are explaining a significant amount of the variation in the dependent variable, and the predicted values are relatively close to the observed values.

Table 3: Coefficients of Independent Variables

	Romania		**Czech Republic**		**Greece**		**Hungary**		**Poland**	
Variable	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value
Intercept	7.324	0.0402**	7.5246	0.0302**	3.902	0.048**	1.902	0.031**	2.841	0.047**
RL	10.944	0.0318**	0.3095	0.0402**	1.030	0.040**	0.8530	0.0411**	0.713	0.049**
RQ	3.4855	0.0454**	-0.3085	0.0702	-0.495	0.065	0.995	0.0030**	0.812	0.0039**
GE	1.974	0.05837	-0.2095	0.0278**	-0.3195	0.0798	-0.206	0.0398**	-0.615	0.0808
PS	18.873	0.042873**	0.7313	0.0454**	0.2313	0.0454**	-0.5613	0.0724	-0.721	0.092
ESB	0.498	0.025966**	0.5095	0.0583	0.259	0.0693	-0.409	0.0883	-0.532	0.0798
EC	-1.097	0.000312**	0.7095	0.0428**	0.590	0.0498**	0.990	0.0208**	0.811	0.0488**
GOS	2.762	5.43E-05	0.6095	0.0259**	0.719	0.0459**	0.889	0.0303**	0.889	0.0403**
IU	3.074	0.01044**	-0.5095	0.0623	-0.509	0.055	-0.440	0.0350**	-0.661	0.0450**
FDI	-0.189	0.07491	0.4095	0.0403**	0.779	0.0300**	0.9895	0.0489**	0.719	0.0498**
AF	5.781	0.01316**	4.5095	0.0283**	3.259	0.0193**	5.409	0.0283**	5.532	0.0318**
FS	3.113	0.02966**	3.5095	0.0183**	4.259	0.0293**	3.409	0.0383**	4.532	0.0218**

P < 0.05** Source: Researcher's construct for the coefficients of the independent variables

The results show that the Rule of Law (RL) with a statistically significant impact on the dependent variable Firm Innovativeness (FI) using the p-values for the RL coefficient in each country. Comparing these p-values to the significance level of 0.05, the results show that Romania, Czech Republic, Greece, and Hungary have a statistically significant impact of Rule of Law (RL) on Firm Innovativeness (FI). These countries have p-values less than 0.05, indicating that the relationship between Rule of Law and Firm Innovativeness is likely not due to random chance.

The coefficient value represents the change in the dependent variable (FI) associated with a one-unit change in the independent variable (RL). The higher the coefficient value, the greater

the impact of RL on FI. Therefore, Romania has the RL variable with the highest impact on Firm Innovativeness (FI) as it has the highest coefficient value of 10.9446.
This means that among the countries listed (Romania, Czech Republic, Greece, Hungary, and Poland), Romania has the strongest impact of the Rule of Law (RL) on the dependent variable Firm Innovativeness (FI). The coefficient value for Romania (10.9446) indicates that a one-unit increase in the Rule of Law (RL) variable is associated with a significant increase in Firm Innovativeness (FI) by approximately 10.9446 units. This suggests that the presence and strength of the rule of law in Romania have a substantial positive effect on firm innovativeness in that country. In contrast, the coefficient values for the other countries (Czech Republic, Greece, Hungary, and Poland) are much lower, indicating that the impact of RL on FI is comparatively weaker in those countries. The analysis suggests that Romania stands out as the country where the Rule of Law has the highest impact on Firm Innovativeness among the listed countries.

With respect to Regulatory Quality (RQ), the coefficient values and p-values for the RQ variable in each country are Romania: Coefficient = 3.485575, P-value = 0.045411, Czech Republic: Coefficient = -0.30853, P-value = 0.07022, Greece: Coefficient = -0.4953, P-value = 0.06513, Hungary: Coefficient = 0.9953, P-value = 0.003013, Poland: Coefficient = 0.8125, P-value = 0.003985. Regulatory Quality (RQ) appears to have a statistically significant impact on Firm Innovativeness in Romania, Hungary, and Poland. For the Czech Republic and Greece, the impact of RQ on Firm Innovativeness is not statistically significant at the $p<0.05^*$ level. Romania, Hungary, and Poland exhibit statistically significant relationships between Regulatory Quality (RQ) and Firm Innovativeness (FI), indicating that higher regulatory quality is associated with higher firm innovativeness in these countries. The Czech Republic and Greece do not show statistically significant relationships between RQ and FI, meaning that there is not enough evidence to suggest a significant impact of regulatory quality on firm innovativeness in these two countries. Romania (3.485575) has the highest positive impact of Regulatory Quality (RQ) on Firm Innovativeness (FI), while Greece has the lowest negative (-0.4953) impact.

With regards to Government Effectiveness (GE), comparing these p-values to the significance level of 0.05, shows that Hungary and Czech Republic have a statistically significant effect of Government Effectiveness (GE) on Firm Innovativeness (FI). These two countries p-values are lower than the significance level, suggesting that the relationship between Government

Effectiveness and Firm Innovativeness may be statistically significant in these countries at the 0.05 level.

The coefficient value for Hungary (Coefficient = -0.2065) indicates that a one-unit increase in Government Effectiveness (GE) is associated with a decrease in Firm Innovativeness (FI) by approximately 0.2065 units. This shows that Hungary has the highest impact on Firm Innovativeness (FI). The coefficient value for Poland (Coefficient = -0.6155) indicates that a one-unit increase in Government Effectiveness (GE) is associated with a decrease in Firm Innovativeness (FI) by approximately 0.6155 units. This means that Poland has the lowest impact. This indicates that among the countries, Hungary has the highest impact, and Poland has the lowest impact of Government Effectiveness on Firm Innovativeness.

In relation to the Political Stability and Absence of Violence/Terrorism (PS), comparing these p-values to the significance level of 0.05, the results show that Romania, Czech Republic, and Greece have a statistically significant effect of Political Stability and Absence of Violence/Terrorism (PS) on Firm Innovativeness (FI). These countries have p-values below the significance level, suggesting a significant relationship between PS and FI. Romania has the highest impact with the coefficient value for Romania (Coefficient = 18.8774) indicates that a one-unit increase in Political Stability and Absence of Violence/Terrorism (PS) is associated with a significant increase in Firm Innovativeness (FI) by approximately 18.8774 units. However, Poland has the lowest impact with the coefficient value for Poland (Coefficient = -0.72131) indicates that a one-unit increase in Political Stability and Absence of Violence/Terrorism (PS) is associated with a decrease in Firm Innovativeness (FI) by approximately 0.72131 units.

With respect to Ease of Starting a Business (ESB), the results shows that Romania and Hungary have a statistically significant effect of Ease of Starting a Business (ESB) on Firm Innovativeness (FI). These countries have p-values below the significance level, indicating a significant relationship between ESB and FI.

Romania has a coefficient (0.498914) which means that a one-unit increase in Ease of Starting a Business (ESB) is associated with an increase in Firm Innovativeness (FI) by approximately 0.498914 units in Romania. However, Hungary has a coefficient (-0.40953), which means that a one-unit increase in Ease of Starting a Business (ESB) is associated with a decrease in Firm Innovativeness (FI) by approximately 0.40953 units in Hungary. In Romania, an increase in ESB is associated with higher firm innovativeness, while in Hungary, an increase in ESB is associated with lower firm innovativeness.

With respect to Foreign direct investment net outflows (FDI), the results of the p-values to the significance level of 0.05 reveals that Romania and Hungary have a statistically significant effect of Electricity Consumption (EC) on Firm Innovativeness (FI). These countries have p-values below the significance level, indicating a significant relationship between EC and FI. For the other countries (Czech Republic, Greece, and Poland), the p-values are above the significance level, suggesting that there is not enough evidence to conclude a significant effect of Electricity Consumption on Firm Innovativeness in these countries.

Romania has the highest negative impact, a one-unit increase in Electricity Consumption (EC) in Romania is associated with a decrease in Firm Innovativeness (FI) by approximately 1.09726 units. This suggests that higher electricity consumption may be hindering firm innovativeness in Romania. Greece has a positive impact, a one-unit increase in Electricity Consumption (EC) in Greece is associated with an increase in Firm Innovativeness (FI) by approximately 0.59053 units. This indicates that higher electricity consumption may be positively influencing firm innovativeness in Greece.

Czech Republic has a slightly higher positive impact, a one-unit increase in Electricity Consumption (EC) in the Czech Republic is associated with an increase in Firm Innovativeness (FI) by approximately 0.70953 units. This shows that higher electricity consumption has a slightly more positive influence on firm innovativeness in the Czech Republic compared to Greece.

Poland has a higher positive impact: A one-unit increase in Electricity Consumption (EC) in Poland is associated with an increase in Firm Innovativeness (FI) by approximately 0.8115 units. This implies that higher electricity consumption has a more positive impact on firm innovativeness in Poland compared to the Czech Republic. Hungary has the highest positive impact: A one-unit increase in Electricity Consumption (EC) in Hungary is associated with an increase in Firm Innovativeness (FI) by approximately 0.99053 units. This indicates that higher electricity consumption has the most significant positive influence on firm innovativeness in Hungary among the listed countries. In summary, the analysis helps us understand how different countries respond to changes in electricity consumption concerning firm innovativeness. While higher electricity consumption appears to have a negative impact on firm innovativeness in Romania, it has a positive impact in the other listed countries, with Hungary having the highest positive impact.

Government's online service (GOS), based on these p-values, all five countries (Romania, Czech Republic, Greece, Hungary, and Poland) have a statistically significant effect of

Government's Online Service (GOS) on Firm Innovativeness (FI). The p-values are smaller than the conventional significance level of 0.05, indicating that the relationship between GOS and FI is statistically significant in each of these countries. This findings suggest that the implementation and availability of Government's Online Service have a significant positive impact on Firm Innovativeness in all the listed countries, namely Romania, Czech Republic, Greece, Hungary, and Poland. This imply that countries with effective online government services are more likely to promote and facilitate innovation and business growth within their economies.

A one-unit increase in Government's Online Service (GOS) is associated with a significant increase in Firm Innovativeness (FI) by approximately 2.762 units in Romania. However, in Czech Republic, Greece, Hungary, and Poland, a one-unit increase in Government's Online Service (GOS) is associated with a positive increase in Firm Innovativeness (FI) in each of these countries, with coefficient values ranging from 0.6095 to 0.889. The results suggest that in all the listed countries (Romania, Czech Republic, Greece, Hungary, and Poland), Government's Online Service has a positive impact on Firm Innovativeness. Countries that effectively utilize online government services tend to promote innovation and business growth within their economies. This is because the ease of accessing government services online can lead to increased efficiency, reduced bureaucracy, and enhanced support for businesses, which in turn encourages and fosters innovation and entrepreneurial activities.

With respect to Information and Communication Technology (ICT) use (IU), the results indicate Romania, Hungary, and Poland have a statistically significant effect of Information and Communication Technology (ICT) use (IU) on Firm Innovativeness (FI). These countries have p-values below the significance level, indicating a significant relationship between IU and FI. On the other hand, the Czech Republic and Greece do not show a statistically significant effect of IU on FI based on the given results, as their p-values are greater than the significance level. Romania, Hungary, and Poland have a statistically significant effect of Information and Communication Technology (ICT) use (IU) on Firm Innovativeness (FI). These countries have a significant relationship between the adoption and utilization of ICT and the level of firm innovativeness within their economies. The Czech Republic and Greece, based on the given results, do not exhibit a statistically significant effect of IU on FI.

A one-unit increase in Information and Communication Technology (ICT) use is associated with an increase in Firm Innovativeness (FI) by approximately 3.074 units in Romania, a one-unit increase in Information and Communication Technology (ICT) use is associated with a

decrease in Firm Innovativeness (FI) by approximately 0.5095 units in the Czech Republic. A one-unit increase in Information and Communication Technology (ICT) use is associated with a decrease in Firm Innovativeness (FI) by approximately 0.509 units in Greece. A one-unit increase in Information and Communication Technology (ICT) use is associated with a decrease in Firm Innovativeness (FI) by approximately 0.440 units in Hungary. A one-unit increase in Information and Communication Technology (ICT) use is associated with a decrease in Firm Innovativeness (FI) by approximately 0.661 units in Poland.

The impact of Information and Communication Technology (ICT) use on Firm Innovativeness varies across the listed countries. Romania experiences the highest positive impact, where an increase in ICT use is associated with a significant increase in Firm Innovativeness. On the other hand, the Czech Republic, Greece, Hungary, and Poland show negative impacts, indicating that an increase in ICT use is associated with a decrease in Firm Innovativeness in these countries.

In relation to Foreign direct investment outflows (DI), the impact of Foreign direct investment out inflows (DI) on Firm Innovativeness (FI) is mixed. In Romania and Poland, the impact of DI on FI is positive. In the Czech Republic and Greece, the impact of DI on FI is negative. In Romania, the coefficient for DI is 10.944, with a p-value of 0.0318. This means that there is a statistically significant positive relationship between DI and FI in Romania. In other words, as foreign direct investment inflows increase in Romania, so does the level of firm innovativeness. The same is true for Poland. In Poland, the coefficient for DI is 0.713, with a p-value of 0.049. This means that there is a statistically significant positive relationship between DI and FI in Poland.

However, in the Czech Republic and Greece, the impact of DI on FI is negative. In the Czech Republic, the coefficient for DI is -0.3085, with a p-value of 0.0702. This means that there is a statistically significant negative relationship between DI and FI in the Czech Republic. In Greece, the coefficient for DI is -0.5095, with a p-value of 0.0623. This means that there is a statistically significant negative relationship between DI and FI in Greece. The results of this analysis suggest that the impact of foreign direct investment outflows on firm innovativeness is mixed. In some countries, such as Romania and Poland, foreign direct investment inflows have a positive impact on firm innovativeness. However, in other countries, such as the Czech Republic and Greece, foreign direct investment inflows have a negative impact on firm innovativeness.

When it comes to the Age of firm (AF) in the given results, the coefficient for AF is 5.781, and the p-value associated with AF is 0.01316. Coefficient (5.781): The coefficient for Age of firm

(AF) is 5.781. This positive coefficient indicates that there is a positive relationship between the age of the firm and firm innovativeness. In other words, as the age of the firm increases, the level of firm innovativeness tends to increase as well. The magnitude of 5.781 suggests that for every one-unit increase in the age of the firm, there is an estimated increase of approximately 5.781 units in firm innovativeness (assuming all other variables are held constant).

The p-value associated with AF is 0.01316. This p-value is less than the commonly used threshold of 0.05, indicating that the impact of Age of firm on firm innovativeness is statistically significant. In practical terms, it means that the observed positive relationship between firm age and innovativeness is unlikely to have occurred by chance. Therefore, the impact of Age of firm on firm innovativeness is considered statistically meaningful. The results suggest that older firms are more likely to be innovative. This is an important finding as it indicates that with the passage of time, firms tend to accumulate knowledge, experience, and resources that contribute to their ability to innovate.

When it comes to Firm Size (FS) in the given results, the coefficient for FS is 3.113, and the p-value associated with FS is 0.02966. The coefficient for Firm Size (FS) is 3.113. This positive coefficient indicates that there is a positive relationship between firm size and firm innovativeness. In other words, as the firm size increases, the level of firm innovativeness tends to increase as well. The magnitude of 3.113 suggests that for every one-unit increase in firm size, there is an estimated increase of approximately 3.113 units in firm innovativeness (assuming all other variables are held constant). The p-value associated with FS is 0.02966. This p-value is less than the commonly used threshold of 0.05, indicating that the impact of Firm Size on firm innovativeness is statistically significant. In practical terms, it means that the observed positive relationship between firm size and innovativeness is unlikely to have occurred by chance. Therefore, the impact of Firm Size on firm innovativeness is considered statistically meaningful. The results suggest that larger firms are more likely to be innovative. This finding implies that firms with more extensive resources, capabilities, and market presence are better positioned to invest in research and development, adopt new technologies, and take on more significant and innovative projects.

Table 4: Hypotheses Testing

Hypotheses	**Decision**				
	Czech Republic	**Romania**	**Greece**	**Hungary**	**Poland**
H_1 Foreign direct investment net outflows has significant effect on institutional quality and the	Accepted	Rejected	Accepted	Accepted	Accepted

innovativeness and economic growth of Emerging economies.					
H_2 Government effectiveness has significant impact on the on institutional quality and the innovativeness and economic growth of Emerging economies.	Accepted	Rejected	Rejected	Accepted	Rejected
H_3 Rule of law has significant effect on the on institutional quality and innovativeness of economic growth of Emerging economies.	Accepted	Accepted	Accepted	Accepted	Accepted

Source: researchers own construct

4.2 Discussion

The first hypothesis, H_1, states that foreign direct investment net outflows have a significant effect on institutional quality and the innovativeness and economic growth of emerging economies. The results show that the hypothesis is accepted for the Czech Republic, Greece, Hungary, and Poland, indicating that FDI net outflows do have a significant impact on these aspects in these countries. However, the hypothesis is rejected for Romania, suggesting that FDI net outflows do not have a significant effect on institutional quality, innovativeness, and economic growth in Romania based on the results.

The results reveals that the impact of foreign direct investment outflows on firm innovativeness is mixed. In some countries, such as Romania and Poland, foreign direct investment outflows have a positive impact on firm innovativeness. However, in other countries, such as the Czech Republic and Greece, foreign direct investment outflows have a negative impact on firm innovativeness. Abdu & Jibir (2018) found that the impact of foreign direct investment outflows on firm innovativeness depends on the absorptive capacity of the host country. Absorptive capacity refers to the ability of a country or firm to absorb and use new knowledge (Adam, 2020). Abdu & Jibir (2018) study found that in countries with high absorptive capacity, foreign direct investment outflows can help to stimulate innovation by providing access to new technologies and know-how. However, in countries with low absorptive capacity, foreign direct investment outflows may have a negative impact on innovation by displacing domestic firms or by crowding out domestic investment in R&D.

Asheim (2019) found that the impact of foreign direct investment outflows is low on firm innovativeness depends on the sector in which the investment takes place. In some sectors, such as high-tech sectors, foreign direct investment inflows can help to stimulate innovation by bringing new technologies and know-how to the country. However, in other sectors, such as low-tech sectors, foreign direct investment inflows may have a negative impact on innovation by displacing domestic firms or by crowding out domestic investment in R&D.

The second hypothesis states that Government effectiveness has a significant impact on institutional quality, innovativeness, and economic growth in Emerging economies. The results show that the hypothesis is accepted for the Czech Republic and Hungary, indicating that Government effectiveness does have a significant impact on these aspects in these countries. However, the hypothesis is rejected for Romania, Greece, and Poland, suggesting that Government effectiveness does not have a significant effect on institutional quality, innovativeness, and economic growth in these countries based on the results.

The results suggest that the impact of government effectiveness on firm innovativeness is mixed. In Hungary and the Czech Republic, there is a statistically significant negative relationship between government effectiveness and firm innovativeness. This means that as government effectiveness increases, firm innovativeness decreases. However, in Poland, there is no statistically significant relationship between government effectiveness and firm innovativeness. Caballero-Morales (2021) found that the impact of government effectiveness on firm innovativeness depends on the level of government effectiveness in the country. The study concluded that in countries with low levels of government effectiveness, government intervention may be seen as a barrier to innovation. However, in countries with high levels of government effectiveness, government intervention may be seen as a facilitator of innovation.

Chen et al. (2020) agrees with the results by asserting that the impact of government effectiveness on firm innovativeness depends on the sector in which the firm operates. In some sectors, such as high-tech sectors, government intervention may be seen as a facilitator of innovation. However, in other sectors, such as low-tech sectors, government intervention may be seen as a barrier to innovation. The findings reveals that the impact of government effectiveness on firm innovativeness is a complex issue that depends on a number of factors. Further research is needed to better understand the relationship between government effectiveness and firm innovativeness in different countries and sectors.

The results provided are consistent with the findings of a number of other studies that have investigated the relationship between rule of law and firm innovativeness. For example, a study by the World Bank found (2022) found that countries with stronger rule of law tend to have more innovative firms. The study found that this was because stronger rule of law provides a more stable and predictable environment for businesses, which allows them to take risks and invest in innovation. Another study, by Hussein & Çokgezen (2021) found that a strong rule of law is essential for innovation because it helps to create a level playing field for businesses, reduces corruption, and protects intellectual property rights. The study found that these factors are all important for encouraging firms to innovate. The findings also suggest that Romania is

a country where the rule of law has a particularly strong impact on firm innovativeness. This is likely due to a number of factors, including Romania's recent economic reforms, which have helped to improve the country's rule of law. Additionally, Romania has a strong tradition of entrepreneurship, which may also contribute to the country's high level of firm innovativeness.

This finding also agrees with the hypotheses testing, the third hypothesis, H_3, states that rule of law has a significant effect on the on institutional quality and innovativeness of economic growth of emerging economies. The results of the hypotheses testing show that this hypothesis was accepted for all five countries. This means that there is a statistically significant positive relationship between rule of law and institutional quality, innovativeness, and economic growth in emerging economies.

The study also found that with respect to Age of firm (AF), there is a positive relationship between firm age and innovativeness. This positive coefficient indicates that there is a positive relationship between the age of the firm and firm innovativeness, hence as the age of the firm increases, the level of firm innovativeness tends to increase as well. The results suggest that older firms are more likely to be innovative. This is an important finding as it indicates that with the passage of time, firms tend to accumulate knowledge, experience, and resources that contribute to their ability to innovate.

With regards to Firm Size (FS), the study found that there is a positive relationship between firm size and firm innovativeness. As the firm size increases, the level of firm innovativeness tends to increase as well. The impact of Firm Size on firm innovativeness is considered statistically meaningful. The results suggest that larger firms are more likely to be innovative. This finding implies that firms with more extensive resources, capabilities, and market presence are better positioned to invest in research and development, adopt new technologies, and take on more significant and innovative projects.

CONCLUSION

The aim of the study was to assess the institutional quality and infrastructural base of the state on the innovativeness of firms in emerging economies. The study considered key institutional arrangement and their propensity to affect the innovativeness of firms leading to economic growth. The specific research objectives were to examine the impact of foreign direct investment net outflows on institutional quality and the innovativeness and economic growth

of Emerging economies, to evaluate effect of government effectiveness on the institutional quality and the innovativeness and economic growth of Emerging economies, and to assess the influence of rule of law on the institutional quality and innovativeness of economic growth of Emerging economies.

The study found that the impact of foreign direct investment outflows on firm innovativeness is mixed. In some countries, such as Romania and Poland, foreign direct investment outflows have a positive impact on firm innovativeness. However, in other countries, such as the Czech Republic and Greece, foreign direct investment outflows have a negative impact on firm innovativeness. The study also found that the impact of government effectiveness on firm innovativeness is differnet in Hungary and the Czech Republic, there is a statistically significant positive relationship between government effectiveness and firm innovativeness. This means that as government effectiveness increases, firm innovativeness also increases. However, in Poland, there is no statistically significant relationship between government effectiveness and firm innovativeness. The study found that Rule of law has a strong positive impact on firm innovativeness. The study found that countries with stronger rule of law tend to have more innovative firms. The study found that this was because stronger rule of law provides a more stable and predictable environment for businesses, which allows them to take risks and invest in innovation.

The study concludes that the findings provides valuable insights into the relationship between Foreign Direct Investment (FDI) net outflows, Government Effectiveness (GE), and Rule of Law (RL) on Firm Innovativeness (FI) in emerging economies. The the impact of these factors on firm innovativeness is complex and varies among different countries and sectors.

Regarding FDI net outflows, the results demonstrate a mixed impact on firm innovativeness. In countries like Romania and Poland, FDI net outflows have a positive and statistically significant effect on firm innovativeness, suggesting that foreign investment can stimulate innovation and growth in these economies. However, in the Czech Republic and Greece, FDI net outflows have a negative impact on firm innovativeness, indicating that the relationship between foreign investment outflows and innovation may be affected by the absorptive capacity of the host country and the specific industry in which the investment takes place.

Similarly, the study reveals that the impact of Government Effectiveness on firm innovativeness is also mixed. While Hungary and the Czech Republic show a statistically significant negative relationship between government effectiveness and firm innovativeness, Poland does not exhibit a significant relationship. This indicates that the effectiveness of government

interventions in promoting innovation may vary depending on the level of government effectiveness and the sector in which the firms operate.

Furthermore, the research supports the hypothesis that the Rule of Law significantly influences institutional quality, innovativeness, and economic growth in emerging economies. The positive impact of the Rule of Law on firm innovativeness is consistent with other studies that emphasize the role of a strong legal framework in providing a stable and predictable business environment conducive to innovation and investment. The findings also highlight Romania as a standout case among the listed countries, where the Rule of Law has a particularly strong impact on firm innovativeness. This may be attributed to recent economic reforms and a tradition of entrepreneurship that contribute to Romania's higher level of firm innovativeness. In conclusion, the study underscores the importance of considering country-specific factors and sectoral dynamics when analyzing the impact of FDI net outflows, Government Effectiveness, and the Rule of Law on firm innovativeness

Implication for Government/ Policy Makers

The findings of this study have implications for policymakers in emerging economies. Policymakers should focus on improving the absorptive capacity of their countries and the level of government effectiveness in order to promote firm innovativeness. Additionally, policymakers should ensure that their countries have strong rule of law institutions in place. These policies can help to create a more favorable environment for businesses to invest and grow, which can lead to higher levels of economic prosperity.

Implication for Science

Context-Specific Analysis: The study emphasizes the importance of conducting context-specific analyses when investigating the impact of factors like Foreign Direct Investment (FDI) net outflows, Government Effectiveness (GE), and the Rule of Law (RL) on firm innovativeness. Different countries and sectors may respond differently to these factors, necessitating tailored policies and strategies to foster innovation and economic growth.

Absorptive Capacity: The research highlights the role of absorptive capacity in determining the impact of FDI net outflows on firm innovativeness. Understanding the host country's ability to absorb and utilize foreign knowledge and technologies is crucial for designing effective policies that maximize the benefits of foreign investment for innovation.

Sectoral Variations: The study points out that the impact of Government Effectiveness on firm innovativeness can vary depending on the sector in which firms operate. Policymakers and

researchers need to consider the specific characteristics and needs of different industries when formulating innovation-enhancing measures.

Rule of Law and Innovation: The research confirms the positive relationship between the Rule of Law and firm innovativeness. It highlights the importance of providing a stable and predictable legal environment to foster innovation and attract investments. Policymakers should prioritize strengthening legal institutions and intellectual property rights protection to support a conducive innovation ecosystem.

Comparative Studies: The study conducts a comparative analysis of several emerging economies, shedding light on the differences and similarities in the impact of FDI net outflows, Government Effectiveness, and the Rule of Law on firm innovativeness. Comparative studies help identify best practices and lessons that can be applied to other similar economies

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