Cross Country Study of Human Capital Formation and USFDI Inflows. Do Institutions Matter?

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Research Article

Abstract

Purpose: *The neo-classical theory of economic growth features the positive impact of the human capital of an economy on its growth. The inflow of foreign direct investment is one of the main components to carry forward the growth effect, this study investigates the impact of country-specific institutional quality and human capital on the cross-country variations of US-Foreign Direct Investment (FDI) inflows. Our core hypothesis is that Countries with better Human capital will attract more FDI if they have good quality institutions in terms of less risk in investment opportunities.*

Method: *Using a set of panel data of US-Foreign Direct Investment (FDI) inflows for both developed and developing countries over the period 1984-2021.*

Result: *The country-specific quality of institutions reinforces the impact of human capital on the inflow of US foreign direct investment in this study. Using two-dimensional panel data we find strong support for our hypothesis using a two-way fixed effects model. Our results are robust to the alternative measures of institutional quality.*

Implications: *The strength of our approach is that in contrast to the previous works (1) we have used the USFDI inflow across countries that have been widely neglected in the related literature and (2) emphasis has been given to the conditional or joint impact of human capital and country-specific institutional quality in determining the cross-country variations in USFDI inflows.*

Keywords: Human Capital, Institutional Quality, USFDI flows.

1. Introduction

A wide-ranging literature emphasizes the determinants of Foreign Direct Investment (henceforth, FDI) and has identified human capital to be a crucial variable in attracting FDI to the developing countries (see, Eicher & Kalaitzidakis, 1997; Blomström and Kokko, 2003a; Kar & Sinha, 2013 for a brief survey; Asongu et al, 2018, etc.). At the same time, factors like institutions continue to improve various economic characteristics of a country (see, Al-Sadig, 2009; Smarzynska & Wei, 2002; etc.). While the literature documents both the beneficial impact of human capital and country-specific institutions on FDI inflows, such discussions appear in isolation. In fact, the interactive impact of human capital and institutional quality in the context of USFDI inflows has been ignored in the previous literature. This study tries to meet the gap in the literature and investigates the link between USFDI inflows to different countries, country-specific institutional quality measured in terms of property rights protection, and the level of Human Capital. In this endeavor, we are mainly interested in the conditional relationship between the three

variables mentioned above for 41 developed and developing countries over the period 1984-2021. This article seeks to understand two marginal effects:

(1) Whether the rise in the country-specific level of institutional quality makes the human capital of the country more productive in terms of its attractiveness to USFDI.

(2) The rise in the level of the human capital of a country makes the institutional quality of the country more productive in attracting more USFDI by increasing the absorption capacity of the economy.

The rest of the paper is arranged as follows. Section 2.1 discusses the literature that links FDI and Human capital. Section 2.2 discusses the link between institutional quality and the inflow of FDI. The objective of the study and hypothesis building are discussed in section 3. In section 4 empirical strategy, model, data, and methodology are discussed. Section 5 discusses the results and section 6 concludes with policy recommendations.

2. Literature Review

2.1 Relationship between the Inflow of FDI and the role of Human Capital

Globalization has increased the importance of FDI worldwide, both for the developed and the developing world. The endogenous growth theories emphasize that FDI is a key determinant of economic growth. In addition, cross-country variations in per capita income can be attributed to the cross-country differences in the accumulation of capital and in turn differences in the savings rate (Solow 1956; Koopmans 1965). The difference in the savings-investment rate can be filled up by the inflow of FDI (see Sabir & Khan 2018). The developed countries require FDI for sustainable economic growth and the developing world for growth and investment purposes. In addition to the above, FDI can directly and indirectly reduce unemployment (Lipsey 2001) and increase the productivity of labor by improving their skills and knowledge in the host country. The upsurge of FDI leads to high financial growth and capital formation in the host countries. The decade of the 1990s saw immense competition among the developed and the developing world to pull inward FDI (see UNCTAD, 2014) and this has been attributed to global, national, and firm-level functioning. At the global level, international institutions like IMF, and WTO worked very hard to ensure that restrictions were reduced so that global capital flows uninterruptedly. At the national level, most of the recipient countries designed appropriate policies to attract more FDI. The policy of reduced taxation or preferred treatment for the MNCs in the local market was adopted by most of the nations to attract inward FDI. At the firm level, FDI was the source of higher-order transferred technology and innovation. Since the 1990s, FDI increased in developing countries including the member nations of the South Asian Association of Regional Cooperation (SAARC), the Association of Southeast Asian Nations (ASEAN), Sub-Saharan African countries, and Central Asian countries. These countries benefitted from improved technology, increased capital accumulation, higher productivity, employment, and economic growth.

Over the past ten years, the amount of FDI flowing into emerging nations has dramatically increased. Overall FDI influxes to evolving nations rose by 323.4% between 2002 and 2012, from $172.3 billion to $729.5 billion. (see UNCTAD, 2006, 2014). This growth was seen primarily in the South American and Asian countries. The funds flowing into Africa grew significantly, rising from $14.6 billion in 2002 to $55.2 billion in 2012. In comparison, the numbers for Southeast Asia were 10% and 16%, respectively, as reported by UNCTAD in 2006 and 2014. Due to the relative growth in the share of FDI, policies were aimed at improving the investment climate in Africa, and several countries introduced incentives to boost the percentage of FDI inflows to their economy. Market forces and resource constraints played an important role in driving most of the FDIs in Africa.

There is a growing literature emphasizing the level of human capital of the host country to attract FDI (see Lucas 1990, Zhang & Markusen 1999 and Dunning 1988, 2009). According to the theoretical literature, human capital is among the major factors influencing FDI imports. T.W. Schultz and G.S. Becker are

credited with coining the phrase human capital. They described it as a collection of traits, innate abilities, propensities, attitudes, recognized values, learned skills, and human knowledge that may be enhanced via investment. The phrase has changed and been extensively examined by numerous researchers since the 1960s, and this has led to various definitions of human capital. Human capital can be defined as a society's collective knowledge, education, credentials, and abilities that can be developed through education and the development of professional skills, while also considering factors related to work culture and psychological and physical conditions. In addition, a significant part that helps build a smart economy based on knowledge is human capital. According to De La Fuente and Ciccone (2002), the valuable knowledge and skills that people gain through education, training, and experience are known as human capital. Accordingly, these abilities that imply skilled labor are useful for generating mechanisms, providing services, and even creating more knowledge. (see A. de la Fuente, A. Ciccone). Skills are developed through investments in education and training, and it is a part of the economic investment climate. According to J. Benhabib and M. Spiegel (1994) nations with higher levels of human capital can attract foreign businesses and successfully adopt new technologies, leading to higher growth rates. Lucas (1990), estimated that the lack of human capital in less developed countries discourages foreign investment. According to T. S. Eicher and P. Kalaitzidakis (1997), the host economy may become more competitive due to FDI, which can improve domestic firms' productivity and encourage sectoral and product diversification. According to, R. Easterlin (1981) hypothesize that lack of training and poor skill levels negatively impact the FDI return rate, discouraging capital inflows. On a similar note, Dunning (1988) and Zhang and Markusen (1999) the availability of skilled labor in the host country enhances the inflow of FDI.

A significant proportion of skilled workers can be one of the principal criteria for attracting FDI. Among the developing nations, India has been one of the primary recipients of foreign investment since the post-reform era that began in 1991. Even though India has previously lagged significantly behind China in luring foreign investment, the situation has drastically altered recently, as seen by the FDI influx of nearly USD 50 billion between January and November 2011. The number of Multinational Enterprises (henceforth, MNEs) and the flow of FDI increased significantly following World War II. The volume and geographic diversification grew into more high-end goods (see Buckley & Casson, 1976). Significant deviations occurred in how international business was organized, particularly with the growth of horizontal FDI and with the new Japanese vertical FDI (see Dunning, 1979). The neo-classical theory needed to be expanded upon and modified, and new methodologies had to be developed to explain this occurrence fully.

The international business literature on FDI rapidly increased due to the release of the product cycle theory (Vernon, 1966) and extensive research into the variables influencing foreign production by numerous academics. Additionally, the work of Kindleberger (1969) and Hymer (1960) had a significant impact. Businesses' decisions to possess manufacturing and trade facilities abroad were rationalized convincingly by the "internalization theory" (see Buckley, 1985; Casson, 1987; Hennart, 1986; Rugman, 1980, 1985) and the "eclectic paradigm" theory of Dunning, 1979, 1988. Four categories of MNE behavior can be identified: resource hunting, market hunting, efficiency hunting, and strategic asset hunting. Two of them prioritize efficiency. It is asserted that inequalities in labor production, one of which is primarily influenced by human capital, are more susceptible to FDI. On the other hand, high FDI inflows into the region's natural resource industry have been encouraged even throughout global economic crises by the ongoing boom in global commodity markets (see 2009 UNCTAD).

The economic opinion on providing incentives to draw FDI is very diverse. According to their proponents, such incentives (see Black & Hoyt, 1989; Blomstrom & Kokko, 2003; Bora, 2002; UNCTAD,1996), aid in luring more investment, generating employment, and having other socioeconomic advantages. However, studies by Flamm (1984), Halvorsen (1995), McLure (1999), Osman (2000), and Wilson (1996) all contend that the incentives are distortionary and may not be the best method for luring FDI. When it comes to attracting or promoting FDI, several countries have a policy of talent development. Through government and other sponsored training programs, these policies try to reduce human capital expenses and enhance

the skills and productivity of employees rather than only relying on cheap untrained or low-skilled labor. According to this assumption, a trained and educated labor force would presumably be better equipped to adapt to new technologies (see Osman, 2000). Evidently, the relationship between human capital and FDI extends beyond the latter's efficiency-seeking subset. According to Aslan, Bloom, and Canning (2006), the existence of a healthy and more highly trained staff can increase the efficiency of capital to the extent that physical capital and skills become complementary inputs. According to Aze'mar & Desbordes (2009), and Ghosh & Renna (2015), FDI is anticipated to be significantly influenced by human capital, including schooling and health.

Human capital is a key aspect in the development of a knowledge-based economy and has long been regarded as a significant factor in economic growth and development. Due to Schultz's ground-breaking studies (Schultz 1961), the significance of human capital investment in traditional economic growth models was recognized in the 1960s and 1970s. Becker (1964) and P.M. Romer (1986) widely cited Human capital as a key driver of economic growth. The role of human capital in economic development has also been studied by Stokey (1991), and J. Benhabib, & M. Spiegel (1994). Lucas (1988) in his work has viewed human capital as an input into the production process as par with other production inputs. According to him, the building up of human capital indicates a deepening of the capital, which accelerates growth. However, not all studies unequivocally support the notion that human capital and economic growth are positively correlated. M. Bils and P. Klenow, (2000) find a tenuous correlation between growth and the number of educated people. Pritchett (1996) refutes common justifications for the absence of evidence at the macro level that human capital positively corresponds to production and growth.

According to the recent literature, nations that have significant levels of human capital receive more FDI. The type of investment (labor-intensive or capital-intensive) may be important in determining where an FDI will be located. Due to advanced technology, global investors seek highly qualified individuals for capital-intensive investment projects. Access to a cheap workforce is crucial for luring investors to labor-intensive investments. Reduced transaction costs are the driving force for business relocation to foreign nations. They seek out locations where educating staff on cutting-edge technology reduces transaction costs. Yeaple (2003) asserts that cost-cutting is the primary driving force behind FDI (see S.R. Yeaple, 2003). According to Xing (2006), FDI inflows have been drawn mostly by China's very affordable human resources.

There exists a good number of studies that show the link between human capital and FDI, however, most of them have worked with a small sample (for example Dasgupta, Mody, & Sinha, 1996 worked in China, Indonesia, India, Philippines, Malaysia, Thailand, and Vietnam; Iyanda & Belo, 1976 worked on Nigeria; Kumar, 1990 on India; Natarajan & Miang 1992 worked on South-East Asia; Sibunruang & Brimble 1988 on Thailand; Yong 1988 on Malaysia). Countries covering a large sample of developed and developing countries are rare. However, Root and Ahmed (1979), Schneider and Frey (1985), and Narula (1996) are the three major cross-country studies that consider human capital as a possible determinant of FDI in developing countries. According to Borensztein et al. (1998), countries with a low level of human capital do not benefit from FDI investment. Aze'mar and Desbordes (2009) and Nunnenkamp and Spatz (2002) used tertiary, gross enrollment ratio and science and engineering student ratio as additional proxies, as well as average years of education for the entire population aged 15 and above, expenditures on higher education, and the number of higher education institutions (see Kar, 2013). In contrast to labor costs, Cheng and Kwan (2000) found that a larger domestic market, as measured by regional income, good infrastructure, the density of roads, and preferential policy, contributed to drawing FDI. They discovered no bearing on education-related variables. Boermans, Hein, and Zhang (2011) investigated how FDI was dispersed differently in different parts of China. The endogenous growth model, which emerged more recently, has promoted human capital to the fore (see Romer, 1986; Lucas, 1988; Becker et al., 1990). Since

then, several findings have demonstrated that spending on education has increased enrolment, on-the-job training has increased focus on preventative and beneficial healthcare, and these investments have increased economic growth (see Barro and Lee, 1992; Levine and Renelt, 1992; Bloom et al., 2004; Tiruneh and Radvansky, 2011; Farkas, 2012). In a recent study, Rashid (2000) concluded that human development is multifaceted and includes economic growth. Government consumption spending is growth-retarding, according to Hansson and Henrekson (1994), whereas spending on education has a beneficial effect on economic growth. Similar findings were made by Azam et al (2010), who discovered that both HK components—education and health—have a favorable and statistically significant impact on Pakistan's economic growth. To the contrary and somewhat unexpectedly, Alfaro et al. (2004) found a fragile direct correlation between education and economic development. In another study, Benhabib and Spiegel (2005) demonstrated that human capital is both a production factor and an accelerator of technical breakthroughs. For example, the findings of the assessments carried out for Ireland and a few systemically changing nations showed that the concentration of human capital in urbanized areas attracted foreign investment to technologically advanced industries. The likelihood that technologically advanced industries and nations observe human capital's indirect consequences is higher. Furthermore, nations with a large proportion of human capital are more receptive to the unintended consequences of technological transfer. More advantages from technology transfer and unintended human capital impacts come from concurrent efforts to enhance technology and education (see OECD 2003).

In addition to the above, some studies have not found any positive impact of human capital in attracting FDI (see Blomstrom, Lipsey, and Zeyan, 1994; Schneider and Frey,1985; Hanson 1996). According to Blomstrom (1994), there is no positive influence of human capital in fetching FDI; Schneider and Frey (1985) showed that secondary education has no role to play in attracting FDI; and according to Hanson and Narula adult literacy and tertiary education level were not significant factors in determining the role of FDI inflows. Hanson (1996), for a sample of 105 developing countries, showed that political stability and security of property rights were more important determinants for fetching FDI rather than Human capital.

To create an atmosphere conducive to investment, it is essential to invest in education and human resources. It is highlighted that for a nation to attract and retain FDI and optimize the human capital-related indirect benefits brought on by businesses with foreign capital, a specified minimum level of education must be attained. The primary motivator for many resource-seeking MNEs has been the availability of trained labor. Many organizations now see a talented and creative workforce as an essential component of competitiveness. The products, technologies, and organizational solutions developed by their parent firm or daughter companies were transferred to FDI enterprises by more than 60% of foreign investors. Significantly, their improvements were implemented by half of the businesses. Most FDI enterprises have a research and development division, and about one-third of FDI corporations collaborate with research institutes to develop and implement unique solutions. However, businesses can become more competitive by improving product quality, reducing per unit costs of production along with increasing the level of political stability and property rights protection.

In this study, we focus on USFDI, as the United States is the biggest outward-bound foreign direct investor in the globe. US MNCs invest in most of the sectors and across most regions of the world. By concentrating on a single source country, we hold constant the fundamental choices that multinationals might have in investing in a particular country or sector. In this model, we use year-fixed effects and country-fixed effects to capture any unnoticed effect specific to individual cross-sectional units or time. Year-fixed effects capture common alterations in USFDI inflows through countries/regions due to potential common shocks. For example, changes in US interest rates can create shocks across countries, leading to changes in USFDI inflows. Country-fixed effects catch the case where there may be some natural reasons for US firms to invest in a specific country (for example, for cultural or geographical reasons).

2.2 Institutional Quality and Inflow of FDI

FDI bridges the gap between savings and necessary investment levels (see Sabir and Khan 2018). The relevance of FDI has expanded due to globalization, and endogenous growth theories emphasize that it is a major factor in determining economic growth since it facilitates the transfer of technology from industrialized to developing nations (see Chenaf-Nicet and Rougier 2016). By enhancing the knowledge and abilities of workers in the host country, FDI can directly and indirectly lower unemployment (see Lipsey, 2001) and enhance productivity. Since the 1990s, the competition to reduce taxes and offer subsidies to draw FDI inflows has increased between industrialized and developing nations. Many developing nations adopted measures to encourage FDI inflows and track FDI activities (see World Bank 2013). Examples include banking sector adjustment programs, structural adjustment programs, economic recovery programs, and economic cooperation agreements (see Asamoah et al., 2016).

Along with FDI and human capital, economic institutions also play a crucial role in determining how economic actors and stakeholders behave (see Sabir and Zahid 2012). The location decision of FDI has been an important topic of discussion in the literature of international economics (see Nachum & Zaheer, 2005; Sen and Sinha, 2017). The earlier literature in this regard has discussed resource endowments, the product cycle, and the market size of the host countries (see Dunning, 1970; Vernon, 1966). However, more recent literature has emphasized the role played by institutions in explaining the cross-country variations in FDI inflows (e.g., see Altomonte, 2000; Bevan & Estrin, 2004; Mody & Srinivasan, 1998; Peng, Wang & Jiang, 2008; Rodriguez, Siegel, Hillman & Eden, 2006; Tuman & Emmert, 1999; Wei, 2000). Dunning (1998) proposed the theory of the Eclectic paradigm where he stated that the decision to invest in a foreign country by a Multinational Corporation depends on the size of the firm, administration and management schemes, labor and transportation charges, government policies, as well as institutions and political firmness. According to Fedderke & Romm (2006), foreign investors are more concerned about the risk and return when they enter the foreign market. According to North & Thomas (1973), cross-country variations in economic growth and development are not only attributed to economic factors such as capital accumulation, per capita income, and innovation but also to the systematic differences in institutional quality. For example, countries such as North and South Korea have quite similar economic attributes, but their economic outcomes differ. South Korea enjoys a higher per capita income than North Korea due to its institutional differences (see Acemoglu et al. 2006). According to Buchanan et al. (2012), poor institutional quality of the host country acts as an impediment to foreign firms doing business in the country. According to Mengistu and Adhikary (2011), countries having high rates of corruption, nepotism, and red tape lag behind FDI investment. In a recent study by Kwame Acheampong (2019), the interaction effects of foreign capital inflows and financial development on economic welfare in Sub-Saharan Africa have been discussed. Based on the system-GMM estimator and using panel data for 23 Sub-Saharan African countries over the period 2000-2003, this study finds positive interaction between foreign capital inflows and financial development on the welfare of the countries.

Foreign firms are encouraged to make international investments that stimulate economic growth in nations with safe, well-protected property rights. The effect of institutional quality on FDI has received considerable attention in recent studies (see Ali et al., 2010; Buchanan et al., 2012; Wei, 1997; Gani, 2007; Globerman & Shapiro, 2002; Globerman, Shapiro, & Tang, 2006; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997; The World Bank Group, 2002). The consensus is that countries with good governance can attract more foreign direct investment, whereas weak governance cannot protect the investments (Globerman & Shapiro, 2003). Corruption, political constraints, and property rights protection are crucial institutional factors influencing multinational and foreign direct investments (see Henisz, 1998; Jensen, 2003; Richards & Nwankwo, 2005; Wei, 2000). According to Staats and Biglaiser (2012), panel data analysis shows that judicial independence and the rule of law are significant predictors of FDI inflows in

17 Latin American nations. As MNCs shift their focus from market and resource-seeking to efficiency-seeking, Dunning (2002) further claimed that institutional elements like good governance and economic freedom are becoming increasingly popular predictors of FDI. Natural resources and low labor costs are conventional FDI characteristics that are comparatively losing importance, while less traditional elements like governance and economic freedom are gaining in popularity (see Addison & Heshmati, 2003; Becchetti & Hasan, 2004; Loree & Guisinger, 1995; Noorbakhsh, Paloni, & Youssef, 2001). Ali et al. (2010) found that other institutional elements indirectly affect FDI through property rights, which led them to conclude that property rights were a more significant factor in determining FDI. Leisher, Li, and Zhao (2010) demonstrated that regional differences in FDI flows and physical, human, and infrastructure capital determine regional growth patterns in China. The authors concluded that, before 1994, FDI inflows had a substantially higher impact on the rise of total factor productivity than they did after 1994, using the province aggregate production function. Additionally, they discovered that investments in infrastructure produce better returns in the eastern region than in the interior, but investments in human capital produce just marginally or comparable returns. According to Harms and Ursprung (2002), countries with robust democratic frameworks attract foreign investment, whereas autocratic societies frequently face policy reversals and draw less FDI. According to Gani, 2007; Ullah and Khan 2017, Institutional quality has a favorable and considerable impact on FDI inflow to Asia, Latin America, the SAARC, Central Asian nations, and the ASEAN region. Lucke and Eichler (2016) in a study calculated the influence of institutional and cultural determinants of FDI in developing countries and discovered a positive association between them. Moreover, they found that foreign investors favor investing in nations with less diverse societies and political instability. Using corruption and the rule of law as indicators of institutional quality, Peres et al., (2018) analyzed the impact of institutional quality on FDI inflows in developed and developing countries and discovered that institutions have a negligible impact on FDI in developing countries due to the weak institutional structure, whereas institutional quality positively and significantly impacts FDI in developed nations.

The related literature indicates that Inward FDI depends on macroeconomic stability, market size, institutional quality of the host country, and natural and human resources. According to Schneider and Frey 1985; Buchanan et al. 2012; macroeconomic stability and market size are the crucial factors that determine FDI in the host country. Boermans, Hein, and Zhang (2011) investigated how FDI was dispersed differently in different parts of China. They discovered that strong institutions and big market size are essential for FDI inflow in certain provinces. Additionally, they discovered that low labor costs were statistically significant. The profit-seeking character of multinational corporations and their ownership advantages, according to Lin and Kwan (2011), are crucial in determining investment choices. They also discovered that FDI tended to be lower in industries with a high presence of state-owned firms. In the past ten years, institutional quality has attracted too much attention to obtain FDI. Numerous studies show that FDI and capital mobility in the global market are enhanced by high-quality institutions (see; Kottaridi et al., 2019 and Contractor et al., 2021). According to studies such as Soh et al., 2021; and Azzimonti, 2019, high-quality institutions significantly increase FDI inflow, whereas low-quality institutions or deficiencies in institutional arrangements, such as lack of law-and-order, investor protectionism, political stability, governmental policies, and formal and informal conduct codes, can have a negative impact on investment. Institutional quality is appealing to international investors since it reduces implementation costs and simplifies conducting business in host nations. However, poor institutions can function as a tax and obstruct FDI, which drives up the cost of FDI (see Donghua et al., 2019; Camarero et al., 2021). Foreign investors avoid investing in nations whereas institutions support corruption, nepotism, and red tape since these qualities raise business operating costs (see Wang et al., 2019; Cicatiello et al., 2021). The concept highlighted by Ryan and Tang (2021) suggests that in cases where institutions lack sound governance, governments may opt for alternative strategies or mechanisms to manage foreign investment, rather than solely relying on imposing taxes on foreign investors as a means of generating revenue or regulating their

activities. This concept underscores the importance of institutional quality and effective governance in shaping a country's approach to foreign investment. According to Piteli (2021), developing nations' worsening law-and-order situations, bureaucratic delays, and corruption considerably deter FDI. On the other hand, FDI advances the quality of the institutions that support the domestic economy and transfers innovations in productive technologies.

The existing literature on FDI and Institutional quality has diverse outcomes. Many studies have used aggregated FDI data to explain the association between FDI and institutional quality, which does not give a clear picture of the causal relationship between FDI and institutional quality. Moreover, most of the studies have studied the relationship by taking only one component of the institution's quality. In addition, many of the works rely on cross-country analysis, which produces unclear conclusions because of heterogeneity problems (see Heavilin & Songur, 2020). Political considerations were examined by Ali et al. (2011) and Aust et al. (2020) in attracting FDI inflows. According to François et al. (2020), democratic governments are more likely to draw more FDI than authoritarian ones. Ades and Tella (1999), Ahmad et al. (2003), Alfaro et al. (2004), Asiedu (2002), Atkinson and Brandolini (2001), etc., on the other hand, discovered that political issues have a negligible impact on FDI. When examining how the quality of institutions affects FDI, corruption and poor execution contracts are additional elements to consider. According to Liu et al. (2020), FDI inflow is decreased by corruption. However, Jung (2020) concluded that FDI is unaffected by corruption. In their study of the effects of property rights protectionism on the conduct of multinational corporations, Lakshmi et al. (2021) discovered a substantial correlation between institutional performance and the ratio of FDI to total domestic investment. The study by Athreya et al. confirmed the significance of property rights for FDI attraction (2021).

Many researchers have worked to combine different aspects of institutional quality. According to Bhagwati's analysis of various indicators in 2007, the performance of the administration, political unrest and violence, adherence to the law, and regulatory burden all have a substantial impact on FDI. In contrast, the voice of accountability aspect has little bearing. Using data from the World Bank, Index of Environmental Sustainability, and United Nations Development Program, Globerman, and Shapiro (2002) discovered that governance infrastructure is one of the key factors affecting FDI inflow and outflow. FDI-promotion strategy is effective, as demonstrated by Wells and Wint in 1990. According to cross-country research, a promotional organization in the US increased total inward FDI flows in developing nations by 30% in 1985. The cross-country variations in the inflow of FDI depend on available funding, organizational structure, and implementation strategy. Specific promotional programs, targeting certain transnational corporations (TNCs), are considered significantly more effective than general promotional strategies.[1].

3. Objective of the Study and Hypothesis Building

The objective of this study is to examine the link between UDFDI inflows to different countries, country-specific institutional quality measured in terms of property rights protection, and the level of Human Capital. Though there are plenty of studies that individually explore the relationship of human capital and

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[1]Though there exists numerous research (see Challe et al., 2019, Antonietti and Franco, 2021;) have investigated the influence of quality of Institutions on attracting FDI; but very few have focused on the influence of FDI on institutional quality (see Tag, 2021). In a recent study, Junjian (2021) conducted research to understand how Foreign Direct Investment (FDI) influenced institutional quality through both demand and supply channels. The study aimed to explore the mechanisms by which FDI impacts the overall quality of institutions, considering factors related to both the demand for and supply of goods and services in the context of international investment. According to Kellard et al., (2020), foreign investors' practice of good governance and improved management has caused the level of corruption in receiving nations to decrease. According to Slesman et al., (2021), effective institutions and technological improvement (primarily brought about by FDI) are crucial for economic growth. In a very recent study by B. Sarker (2024), FDI growth and Trade-growth have been analysed for Bangladesh for three crisis periods over the period 1974-2020. Accordingly, FDI showed a positive effect on the growth rate in the short and long run. However, the crisis had a dampening effect on the growth rates in both the short run and the long run.

institutions with FDI, in this study we are mainly interested in the conditional relationship between human capital and Institutions on the inflow of USFDI to 41 countries over the period 1984-2021.

The core hypothesis of the study is:

There exists a positive relationship between the level of Human Capital and inflows of FDI given the level of country-specific institutional quality. Countries with better Human capital will attract more FDI if they have good institutional quality. On the other hand, countries with good-quality institutions will receive more FDI inflows if the level of Human capital in the country is high.

4. Empirical Strategy: Model, Data and Methodology

The model, data, and methodology to investigate the relationship between FDI, institutional quality, and Human Capital are examined in the following subsections. According to the hypothesis of this study, the joint impact of institutional quality in terms of property rights protection and Human Capital has a positive effect in inviting USFDI inflow to the countries.

4.1. The Model

Our focus of this study is to explore the joint effect between property rights protection and the level of Human Capital in attracting USFDI which is structured in equation 1. Following Baltagi, 2008; Sen and Sinha, 2017, Sinha and Saha, 2022, etc., the interaction effect is modelled for the panel fixed effects technique over the period 1984-2021 for 41 countries.

$$USFDI_{it} = \alpha_0 + \alpha_1 CONTVIAB_{c,t} + \alpha_2 HK_{c,t} + \alpha_3 CONTVIAB_{c,t} * HK_{c,t} + \alpha_4 X_{c,t} + \eta_c + \phi_t + u_{c,t}$$

(1)

Where *USFDI* is the logarithm of real USFDI and is our dependent variable. The focus variables are *CONTVIAB.*[2] (a measure of property rights), *HK* (a measure of the human capital of a country) and the interaction term *CONTVIAB * HK* (captures how country-specific property rights institutions in conjunction with the human capital of a country can attract *USFDI*).

In the above equation (1), one of the most important independent variables is human capital. As a benchmark measure of human capital, we have taken the average of secondary and tertiary enrollment. X is a vector of control variables, η captures country fixed effects, ϕ captures time fixed effects and *u* is a stochastic error term. Subscripts *c* stands for country and *t* stands for time. Country and year-fixed effects are calculated to capture any unobserved effect specific to individual cross-sectional units or time. The individual effects of property rights and human capital are expected to influence *USFDI* flows positively. As an alternative measure of property rights protection, we have taken the ICRG variable Investment Profile *(INVPRO)* for robustness check.

The variable of importance in this study is the interaction term *CONTVIAB*HK*. A positive coefficient α_3 shows that the joint effect of property rights and *HK* increases the level *of USFDI* flows in a country. The quality of property rights and the level of *HK* might not work effectively at the individual level, but they are expected to work effectively in attracting FDI when they work together. The expected sign of the α_3 coefficient is positive. To explore the effect more rigorously, the marginal effect of *CONTVIAB* on *USFDI* inflows for different levels of *HK* is estimated in equation (1a). Similarly, equation (1b) measures the partial/ marginal effect of HK on *USFDI* for different levels of *CONTVIAB*.

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[2]Country specific Quality of Institutions, in this work, has been measured by International Country Risk Guide (ICRG) variables like investment profile (INVPRO); and contract Viability (CONTVIAB, see Sen and Sinha, 2017*). CONTVIAB* measures the risk of unilateral contract modification or cancellation and is constructed from two International Country Risk Guide (ICRG) variables called *repudiation of contracts* and *expropriation risk*. The variable *repudiation of contracts* captures the risk that foreign businesses, contractors, and consultants face during a fall in income, curtailment in the budget, indigenization pressure, a change in government, or a change in social and economic priorities of a government. Lower values show the risk of modification or repudiation of a contract with a foreign industry. The variable *risk of expropriation* measures the risk of complete elimination and forced nationalization of property. Countries with lower values possess the highest risk. All the institutional measures are low risk at low values and high risk at high values. For details see https://www.prsgroup.com/wp-content/uploads/2014/08/icrgmethodology.pdf.

$$\frac{\partial USFDI}{\partial CONTVIAB} = \alpha_1 + \alpha_3 HK \qquad (1a)$$

$$\frac{\partial USFDI}{\partial HK} = \alpha_2 + \alpha_3 CONTVIAB \qquad (1b)$$

A positive α_3 coefficient indicates that countries with higher levels of property rights protection measured in terms of *CONTVIAB* receive relatively more *USFDI* as their level of *HK* rises (see equation 1a). Likewise, if the coefficient $\alpha_3 > 0$, then equation (1b) reveals an increasing inflow of *USFDI* with rising levels of *HK* for countries with higher levels of institutional property rights protection.

4.2. Control Variables

The choice of control variables is as per the previous literature. The variables are merchandise trade as a percentage of GDP (OPEN), number of telephones per hundred people (TEL), life expectancy at birth (LEB), percentage of urban population to total population (URBAN), inflation consumer prices (INFCP), real per capita GDP (GDPPC), general government final consumption expenditure as a percentage of GDP (GENGOVEXP) and per capita electric power consumption (EPC). TEL, LEB, INFCP, GDPPC, and EPC are in logarithms, while OPEN and GENGOVTEXP are ratios. The hypothesis is that higher life expectancy, a lower inflation rate (as a measure of macroeconomic stability), better electricity provision, smaller size of the government, and greater urbanization (as another proxy for market size) would foster FDI inflows (see Al-Sadig 2009, Noorbakhsh et al. 2001, Schmitz & Bieri 1972 and Schneider & Frey 1985, etc.).

4.3. Data Sources

The data on USFDI has been taken from the US Bureau of Economic Analysis (henceforth, US BEA). Data about *INVPRO* is taken from the Political Risk Services (henceforth, PRS) database of the ICRG (https://www.prsgroup.com/). All the data has been taken since 1984. The PRS group provides data on Institutional variables from 1984. Data on the variable's repudiation of contract and expropriation risk are taken from the PRS group to build the variable *CONTIAB*. The data for the control variables are taken from the World Development Indicators (henceforth, WDI) database of the World Bank.

5. Results:

The relationships between *HK* and property rights (*CONTVIAB*) with *USFDI* are explored rigorously using panel fixed effects and the results are reported in Table 1. The coefficients of contract viability and *HK* are negative at the individual level and significant at the 1% level of significance suggesting that property rights and *HK* are not able to bring *USFDI* flows at the individual level but behave oppositely. Interestingly, the findings reflect that the interaction term between *HK* and *CONTVIAB (HK*CONTVIAB)* is positive and significant at a 1% level of significance indicating that *HK* and *CONTVIAB* are jointly effective in bringing *USFDI* (see TABLE-1). We have used *INVPRO* for robustness check and we have received the same results as *CONTVIAB*. The interaction term between *INVPRO* and *HK* (*INVPRO*HK*) is positive. With respect to our control variables, the coefficients of GDPPC, and OPEN are positive and most of them are significant at the 1% level of significance suggesting that large markets and openness of the economy attract FDI significantly. However, the coefficients of EPC and LEB are surprisingly negative. Moreover, the coefficients of TEL, INFCP, and GENGOVEXP vary in sign.

Table 1: Relationship between *USFDI*, Property Rights Protection (*CONTVIAB/INVPRO*), and Human Capital (*HK*) (OLS and Fixed Effect Results)

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9
USFDI	*USFDI*	*USFDI*	*USFDI*	*USFDI*	*USFDI*	*USFDI*	*USFDI*	*USFDI*
EPC	-.701***	-.76***	-1.95***	-1.793***	-0.778***	-0.768***	-1.892***	-1.842***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LEB	-4.921***	-6.431***	-13.46***	-17.895***	5.886***	7.197***	16.692***	20.308***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
OPEN	0.0009	0.0008	0.007***	0.005***	0.001*	0.001**	0.007***	0.005***
	(0.150)	(0.187)	(0.000)	(0.000)	(0.079)	(0.044)	(0.000)	(0.000)
TEL	0.002	0.007***	-0.002	-0.005***	0.006***	0.0117***	0.004	-0.001
	(0.187)	(0.002)	(0.176)	(0.003)	(0.001)	(0.000)	(0.187)	(0.621)
INFCP	-0.046	0.53	0.111***	0.176***	-0.054	-0.007	0.062*	0.123***
	(0.307)	(0.277)	(0.000)	(0.000)	(0.234)	(0.885)	(0.054)	(0.000)
GENGOVEXP	-0.41***	-0.038***	0.025***	0.024***	-0.038***	-0.039***	-0.017***	-0.020***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
URBAN	0.002	0.002	-0.013***	-0.016***	0.0039*	0.0039	-0.017***	-0.020***
	(0.178)	(0.225)	(0.000)	(0.000)	(0.055)	(0.54)	(0.000)	(0.000)
GDPPC	1.454***	1.53***	5.077***	4.814***	1.341***	1.351***	4.876***	4.647***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HK	-0.030***	-0.042***	-0.046***	-0.048***	-0.025***	-0.031***	-0.019***	-0.019***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CONTVIAB	-0.227***	-0.255***	-0.378***	-0.404***				
	(0.000)	(0.000)	(0.000)	(0.000)				
INVPRO					-0.156***	-0.190***	-0.194***	-0.019***
					(0.000)	(0.000)	(0.000)	(0.000)
*HK*CONTVIAB*	0.003***	0.004***	0.005***	0.005***				
	(0.000)	(0.000)	(0.000)	(0.000)				
*HK*INVPRO*					0.002***	0.003***	0.002***	0.002***
					(0.000)	(0.000)	(0.000)	(0.000)
CONSTANT	90.965***	12.89***	16.745***	26.442***	11.708***	14.39***	21.96***	30.523***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year Fixed Effect		YES					YES	
Country Fixed Effect			YES					YES
Country-Year Fixed Effect				YES				YES

Note: P value in the parenthesis. *** significant at a 1% level of significance; ** significant at a 5% level of significance and * significant at a 10% level of significance.

We have used *INVPRO* for robustness check and we have received the same results as *CONTVIAB*. The interaction term between *INVPRO* and *HK* (*INVPRO*HK*) is positive. With respect to our control variables, the coefficients of GDPPC, and OPEN are positive and most of them are significant at the 1% level of significance suggesting that large markets and openness of the economy attract FDI significantly. However, the coefficients of EPC and LEB are surprisingly negative. Moreover, the coefficients of TEL, INFCP, and GENGOVEXP vary in sign.

Following Sen et al., (2017) and Saha et al., (2009), in the next step we explore the marginal effect of *CONTVIAB* on *USFDI* at various levels of *HK* to identify how property rights affect *USFDI* as the level of *HK* expands (see equation 1a). We have arranged the countries according to their level of *HK* and see the relationship between *CONTVIAB* and *USFDI*. We find that our hypothesis is satisfied as we have a positive relationship between property rights protection and *USFDI* for different levels of *HK* (see Fig1a-1b). In a similar manner, to examine equation 1b, we have arranged the countries with different levels of their *CONTVIAB,* to find the relationship between *HK* and *USFDI* (see Fig 1c-1d). Countries like Mexico, Thailand, and Malaysia which are at the low level of property rights protection receive more FDI compared to the other countries in the same percentile. The countries with moderate to high levels of property rights
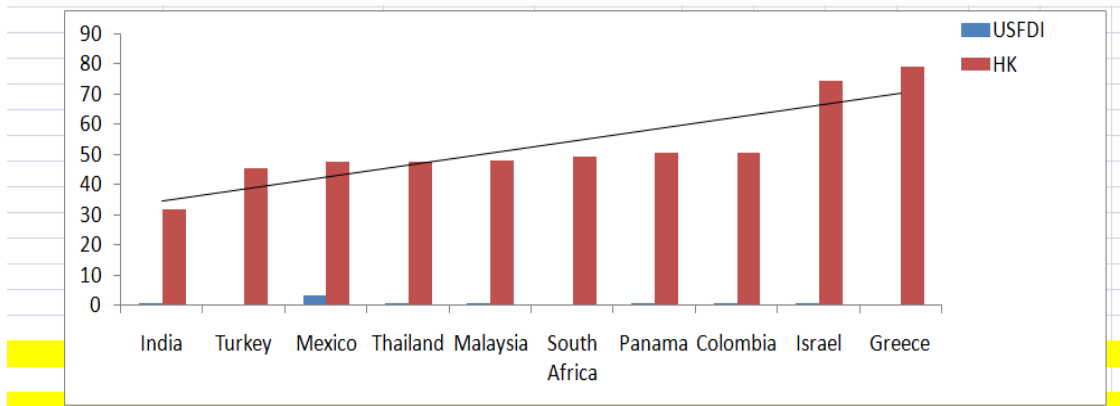
protection (for example Ireland, Canada, Spain, Australia, Belgium, and other developed nations) receive more FDI compared to the others.
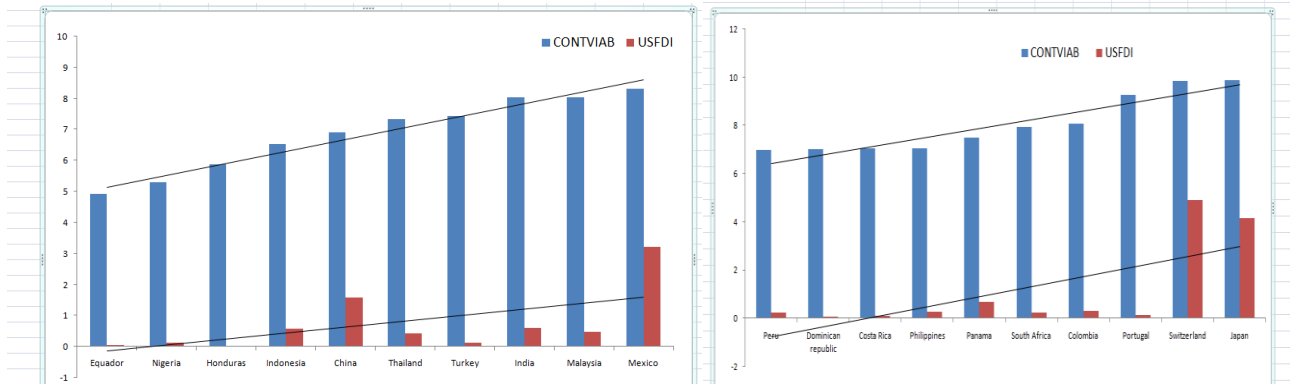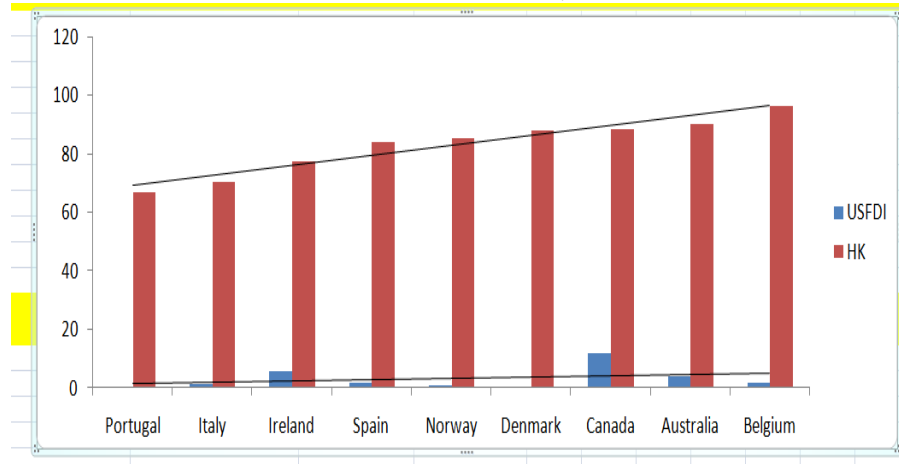

Fig. 1a: Marginal Effect: Relationship between *CONTVIAB* and *USFDI* for Countries with low levels of *HK*
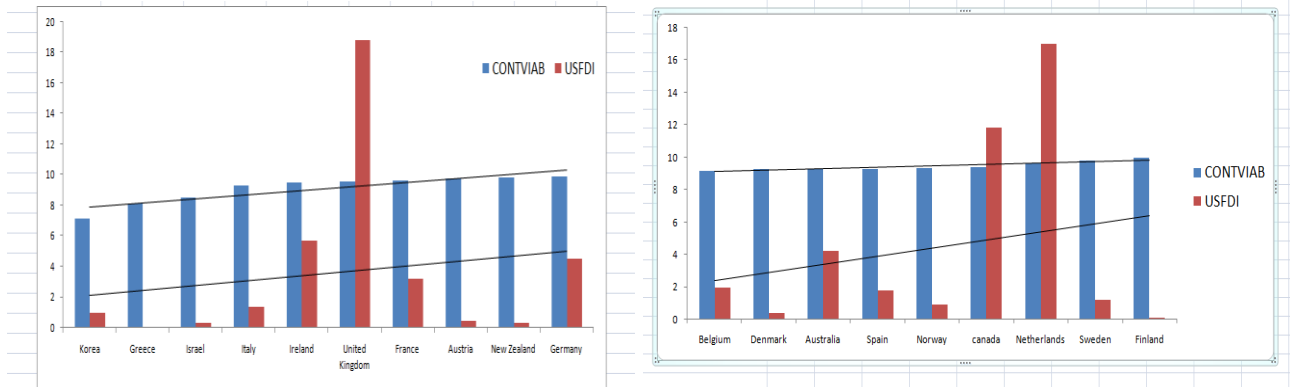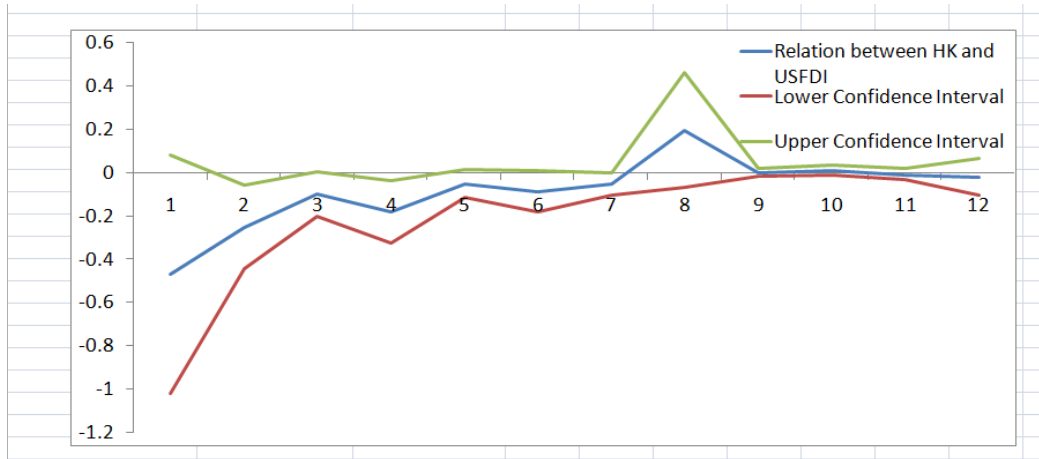

Fig. 1b: Marginal Effect: Relationship between *CONTVIAB* and *USFDI* for Countries with Moderate to High Level of *HK*
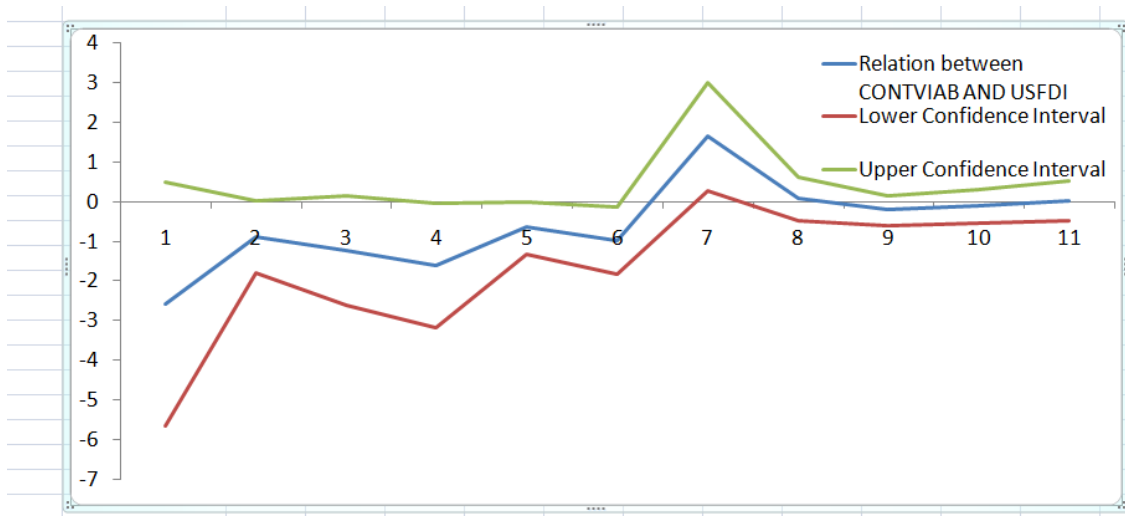

Fig. 1c Marginal Effect: Relationship between *HK* and *USFDI* for countries with low level of property rights protection (*CONTVIAB*)

Fig. 1d: Marginal Effect: Relationship between *HK* and *USFDI* for countries with moderate to high levels of property rights protection (*CONTVIAB*)

Fig. 1e: Relationship between *HK* and *USFDI* for different levels of *CONTVIAB*

Fig. 1f: Relationship between *CONTVIAB* and *USFDI* for different levels of *HK*

In a similar manner, Figures 1e and 1f also depict the marginal effects. Fig-1e shows the marginal effect of the impact of *HK* on *USFDI* inflows with increasing levels of *CONTVIAB*. Fig-1e shows that there exists a positive relationship between *HK* and *USFDI* for different levels of *CONTVAIB*. However, there is a threshold level (at *CONTVIAB*=7) after which the influence of HK on *USFDI* is highest (at CONTVIAB=8). The returns to *USFDI* turn out to be slightly negative after *CONTVIAB* reaches 9.

Similarly, in Fig-1f, we measure the relationship between *CONTVIAB* and *USFDI* for different levels of *HK*. The returns to institutional quality on *USFDI* are positive. At the threshold level of 6, of *HK*, there is a sharp increase in the *USFDI* with respect to the institutional quality. At the level of *HK*=8, the return falls and becomes slightly negative.

6. Concluding Remarks and Policy Recommendations:

The earlier literature investigates the relationship between institutional quality and FDI inflows in describing the cross-country variations in FDI. While there is a wealth of pragmatic works on the variables that affect the inflow of FDI into developing nations generally, the impact of the interaction effect of human capital and country-specific institutional quality on the inflow of USFDI to different countries is largely ignored. Moreover, the vast literature that has studied the determinants of the USFDI flows across countries has paid very little attention to this interaction effect. Yet we observe that US MNCs show a preference to invest in those countries that have high-quality institutions that give protection to the investors and at the same time high level of human capital.

Human capital and FDI individually affect growth and reinforce each other through complementary effects. Improved human capital increases the absorption capacity of the host country's economy which makes the host country's investment climate more attractive. On the other hand, the spillover effects of FDI create active providers of education and training, bringing new skills, information, and technology to the host developing countries. FDI contributes not only through increasing money and new managerial skills in the economy; but also, through benchmarks, and technological advancements; training of local personnel, as well as suppliers, distributors, subcontractors, and trained workforce that has direct effects on how well they operate. The skilled employees of MNCs change their professions, which imparts indirect impacts. MNC operations incentivize workers to pursue additional education, training, and skills. The spillover effect of MNCs on human capital creates a spiral that leads to a better business environment and, perhaps, additional FDI in the host country.

This study makes a fundamental contribution to the literature by looking at the joint impact of human capital and country-specific institutional quality to explain the cross-country variations in USFDI inflows. Using a two-dimensional panel data set of USFDI flows to 41 countries for the time period 1984-2021, we show that countries having a good quality of human capital are more likely to have more USFDI inflows if they have a good level of institutional quality measured in terms of property rights protection. In other words, HK has a positive and significant effect on USFDI inflows when the countries are endowed with good-quality institutions. Our results are robust to other measures of institutional quality.

In terms of policy measures, efforts at increasing the levels of human capital and institutional quality increase the USFDI inflows to the country and that is a win-win strategy both for the host economy and the investor. An increased level of human capital in the recipient country could function as a catalyst for absorbing more FDI inflows. The overall impact is most likely to be higher for countries that display high levels of human capital along with good-quality of institutions. It, therefore, needs to be emphasized that both the levels of human capital and institutional quality need to be improved in attracting USFDI inflows. Attracting FDI is one of the targets of a social planner, it needs to be acknowledged that the level of the human capital of the country should be increased along with the country's institutional quality as suggested by the empirical literature that finds the positive joint impact of human capital and institutional quality on

FDI inflows. However, most of the developing and underdeveloped countries invest a very trivial percentage of GDP in the education sector. The gains can be amplified if the policymakers are somehow willing to increase the percentage of GDP invested in Human capital formation and increase the confidence of foreign investors by protecting their property rights. This study can be extended further to include the role of financial development and its role in generating more human capital in developing nations.

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