

DIGITALIZATION AND FOREIGN DIRECT INVESTMENT PERFORMANCE: THE MODERATING ROLE OF CORRUPTION AND JUDICIAL INDEPENDENCE

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Abstract

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The aim of this paper is to investigate the relationship between digitalization and foreign direct investment (FDI) and test whether corruption (COR) and judicial independence (JUD) moderate this relationship. The sample contains 114 countries during 2016. The author obtains FDI data from the World Development Indicator (WDI) database, which was published by the World Bank in 2016. The World Bank's digital adoption index (DAI) for 2016 was used to collect digitalization proxies. Finally, the remaining variables are gathered from the Global Competitiveness Report for the same year. Results show a positive and significant association between digitalization and foreign direct investment. This positive association remains stable and more pronounced and significant in countries with low levels of corruption, while it becomes weak and non-significant in countries with high levels of corruption. When the moderating effect of judicial independence is tested on the association between digitalization and foreign direct investment, the positive association between the two variables remains positive but more pronounced and significant in countries with high judicial independence systems, while it becomes low pronounced and non-significant in countries with low judicial independence systems. The findings emphasize the importance of decreasing corruption and strengthening judicial independence in order to maintain the positive relationship between digitization and FDI. Therefore, investors prefer stable environments with transparent legal systems, making anti-corruption policies and independent judiciaries critical in attracting and retaining FDI. These initiatives promote trust, foster a favorable business climate, and ensure that digitalization contributes to long-term economic progress.

Keywords: Digitalization, Foreign Direct Investment, Corruption, Judicial Independence

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1. INTRODUCTION

Digitalization is a catalyst for economic growth and for sustainability by enhancing efficiency, innovation, competitiveness, and access to markets.

It is a key driver in today's global economy (Robertson & Lapina, 2023). According to the Digital Regulation Platform (2023) "digital transformation offers huge potential. Econometric evidence suggests that digital transformation has

positive impacts on economic growth and market outcomes. From a governance perspective, digital transformation holds the potential to enhance transparency and accountability, limit bureaucracy, corruption, tax avoidance, and facilitate citizens' interaction with their governments".

Given the importance on how digitalization can provide numerous benefits, investors must also address new challenges associated with the digital economy. Therefore, many studies have examined the economic consequences of digitalization. For example, Ha and Huyen (2022) conducted a study including 23 European countries during the COVID-19 pandemic to test the association between foreign direct investment (FDI) inflows and digitalization. The authors show that there is a non-linear relationship between digitalization and FDI inflows, implying that a certain level of digital transformation can increase FDI inflows. However, Wu et al. (2023) investigated the role of the digital economy in increasing the profitability of foreign investors in emerging markets with high levels of corruption. Similarly, Khelil, El Ammari, et al. (2023) demonstrated that digitization reduces the incidence of financial crime. Therefore, our study is pioneering in examining the global economic impacts of digitalization, filling a significant research gap due to the scarcity of cross-country studies.

Therefore, the objective of this study is to address to the following research question:

RQ1: How does foreign direct investment influence digitalization, and to what extent do corruption and judicial independence moderate this relationship?

As digitalization has a positive impact on economic growth and significantly contributes to advancing the economy and increasing welfare (Kusairi et al., 2023), it is expected to have a positive impact on foreign direct investment as FDI has a positive association with growth (Benetrix et al., 2023).

Based on a sample of 114 countries in 2016, this paper shows that digitalization is positively related to FDI. When the moderating effect of corruption is examined, the positive and significant relationship between the overall digitalization score and FDI is significant only in low corrupt environments. In contrast, in a high-corrupt environment, the association becomes insignificant. Similarly, when the moderating effect of judicial independence is tested, the positive relationship between digitalization and FDI remains positive and significant only in high judicial independence settings, while it is insignificant in low judicial independence settings.

Our study contributes to the large body of research on the economic consequences of digitalization by emphasizing the importance of reducing corruption and strengthening judicial independence in attracting foreign direct investment inflows.

The rest of the paper is organized as follows. Section 2 develops the literature review for the relationship between digitalization and foreign direct investment, as well as how corruption and judicial independence can moderate this relationship. Section 3 discusses the methodology. Section 4 presents the study's results and discussion. Finally, Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1. Digitalization and foreign direct investment

The digital economy framework is comprised of six critical pillars which are: 1) digital infrastructure, 2) public digital platforms, 3) digital financial services, 4) digital businesses, 5) digital skills, and 6) trust environment (World Bank Group, n.d.-b). Furthermore, according to the World Bank Group (n.d.-a), the digital adoption index (DAI) is "a worldwide index that measures countries' digital adoption across three dimensions of the economy: people, government, and business". However, FDI is one of the most important channels of direct investment between countries. FDI is also an important and insightful indicator of a country's political and socio-economic stability. Furthermore, FDI has a positive impact on economic growth and job creation, as well as the introduction of new technologies and skills, which can boost the productivity and competitiveness of local industries, as foreigners' decision to invest in a given country is influenced by a variety of factors, including infrastructure, economic growth, and country level of development (Obwona, 2001). Given the importance of digitalization as an important determinant of infrastructure development in one country, there is a large of previous studies have investigated the economic consequences of digitalization. For example, Peng et al. (2022) investigated the impact of digitalization on companies' outward foreign direct investment (OFDI). The authors demonstrated, using a sample of Chinese listed companies on the Shanghai Stock Exchange (SSE), that digitalization significantly promotes corporate OFDI and that digital economy policies can provide favourable support for firms' digital transformation. In the same vein, Satyanand (2021) emphasized that countries must focus on three important pillars in order to attract FDI, promote and facilitate investments, and develop an FDI strategy: 1) digital infrastructure, 2) digital business development, and 3) wider digital adoption. Similarly, Tkalenko et al. (2020) demonstrated the role and necessity of digital transformation of the Ukrainian economy in the context of global economic digitalization on the volume of FDI attraction. Furthermore, Kouladoum et al. (2022) investigated the digital technology-financial inclusion nexus in 43 Sub-Saharan African countries between 2004 and 2019. Their findings show that the rate of financial inclusion in Sub-Saharan Africa rises with increasing digital technologies. According to the authors, financial inclusion and digitalization are closely interconnected, and the use of digital technologies has become a potent tool in advancing financial inclusion. This implies that expanding access to financial services to a larger segment of the population can help to drive economic growth. Therefore, it may result in more savings and investments. In turn, this can make a country more appealing to foreign investors looking for opportunities, as well as countries with well-developed financial systems and a high level of financial inclusion.

Consequently, the impact of digitalization on FDI has been studied in specific countries or continents in previous studies, but a comprehensive

global study encompassing all nations has yet to be conducted. In this regard, more research is needed to thoroughly examine the relationship between digitalization and FDI, especially when countries with limited digital infrastructure are included.

Therefore, the relationship between digitalization and foreign direct investment must be investigated further, and a thorough understanding of the relationship between digitalization and foreign direct investment at the global level must be clarified in the literature review dealing with the economic consequences of the digital economy.

Accordingly, our study's first hypothesis is as follows.

H1: Digitalization is positively and significantly associated with foreign direct investment (FDI).

2.2. The moderating effect of corruption on the association between digitalization and foreign direct investment

According to the United Nations Office on Drugs and Crimes [UNODC] (n.d.) "corruption is a complex social, political and economic phenomenon that affects all countries. Corruption undermines democratic institutions, slows economic development and contributes to governmental instability".

Brada et al. (2019) provide evidence that FDI is affected negatively by the level of corruption. In addition, Kim and An (2022) documented that online government services (e-government) help a country in disseminating information with greater transparency and efficiency and are expected to reduce corruption in the country. The authors conclude that corruption may mitigate the association between a country's level of digitization and its ability to attract foreign direct investment. Moreover, according to Baber et al. (2019), digitization is an anti-corruption instrument. According to the authors, a highly digitalized setting can promote transparency and better monitor corruptive and other unethical behavior.

Therefore, in countries with high corruption, digitalization might not be enough to attract FDI. Investors may be concerned about the risks associated with corruption, despite the digital infrastructure. Thus, the effect of digitalization on FDI might be weaker in highly corrupt nations (Ha & Huyen, 2022). However, in countries characterized by low corrupt environment, digitalization could play a more significant role in attracting FDI, as investors may perceive a safer and more transparent environment for their investments. Based on the preceding discussions and previous empirical findings, we suppose that corruption may mitigate the relationship between digitization and foreign direct investment. Therefore, it is expected that the relationship between digitization and FDI will be stronger in settings with low corruption, while it will be weaker in settings with high corruption. Thus, the second hypothesis is formulated as follows:

H2: The positive association between digitalization and foreign direct investment is more (less) pronounced in countries characterized by high (low) level of corruption.

2.3. The moderating effect of judicial independence on the association between digitalization and foreign direct investment

In this study, we expect judicial independence to mitigate the link between FDI and digitalization by creating a stable legal environment. When a country's judicial system is independent, it boosts investor confidence and decreases uncertainty. Therefore, this stability attracts FDI and promotes a more secure investment climate. In this sense, a stable and predictable legal system encourages investors to engage in digitalization projects because they can operate with confidence, knowing that their rights and contracts are protected by an impartial judicial system (Li & Peng, 2023). Furthermore, empirical research indicates that improved regulation is required to reap the benefits of FDI inflows on gross domestic product (GDP) (Busse & Groizard, 2008). According to Gramckow and Ebeid (2016), "a stronger judiciary is also associated with the more rapid growth of small firms. In fact, enhancing the efficiency of the judicial system can improve the business climate, foster innovation, attract foreign direct investment, and secure tax revenues". In the same vein, Stephenson (2020) undertook a global survey to ask investment decision-makers in enterprises from various jurisdictions what policies, laws, and metrics were most important to them when deciding to invest in a market. The digital FDI initiative posed five main questions. Some questions concern new digital activities, while others concern digital adoption, physical dimensions of digital infrastructure, and regulatory dimensions of digital infrastructure. According to the survey findings, the top three aspects that investors consider when deciding whether to invest in the digital economy are 1) the degree of digital skills in the economy; 2) regulatory stability and predictability; and 3) the regulatory framework. Accordingly, the findings of the WEF survey demonstrate the relevance of the regulatory framework, as well as the stability and predictability of the legal system, as one of the most important factors influencing an investor's decision-making (Browne et al., 2016).

According to the theoretical predictions outlined above, judicial independence can have a moderating effect on the link between digitization and FDI by creating a stable legal environment. This stability and robust independent judicial system may attract more FDI. In this regard, we anticipate that the positive relationship between digitalization and foreign direct investment will be more significant and pronounced in environments with a highly independent judicial system, while it will be insignificant and less pronounced in environments with a low independent judicial system. Therefore, the following hypothesis is proposed:

H3: The positive association between digitalization and foreign direct investment is more (less) pronounced in countries characterized by high (low) level of judicial independence.

3. METHODOLOGY

Data for this study were obtained from the World Development Indicator (WDI) database, which was published by the World Bank in 2016. The World Bank's DAI for 2016 was used to collect

digitalization proxies. Finally, the remaining variables are gathered from the Global Competitiveness Report for the same year. Table 1 describes the data used to measure the various variables and their various sources.

Table 1. Data description and sources

<i>Variables</i>	<i>Description</i>	<i>Source</i>
<i>Ln FDI</i>	Natural logarithm of foreign direct investment inflows data in current us dollars.	World Bank Group (n.d.-c)
<i>DAI</i>	Digital adoption index.	World Bank Group (n.d.-a)
<i>COR</i>	The weight of corruption as the most problematic factor in doing business (a percentage). From a list of 16 factors, respondents were asked to select the five most problematic and rank them from one (most problematic) to five. The results were then tabulated and weighted according to the ranking assigned by respondents.	Schwab (2015)
<i>JUDI</i>	Judicial independence is a measure on how in your country, to what extent is the judiciary independent from influences of members of government, citizens, or firms (one = heavily influenced; seven = entirely independent)?	Schwab (2015)
<i>EBOF</i>	In your country, how do you rate the corporate ethics of companies (ethical behavior in interactions with public officials, politicians, and other firms) [one = extremely poor — among the worst in the world; seven = excellent — among the best in the world]?	Schwab (2015)
<i>SIP</i>	Strength of investor protection index on a 0–10 (best).	Schwab (2015)
<i>MKS</i>	The size of the national domestic and foreign market in an index ranging from zero to seven.	Schwab (2015)

3.1. Sample

The World Bank's digitalization adoption index includes data for 180 countries. The Global Competitiveness Report 2015–2016 comprises 144 nations. Accordingly, our initial sample covers 144 countries. As not all countries are included in the World Bank's data on foreign direct investment inflows, 30 countries are eliminated to yield a final sample of 114 nations for 2016.

3.2. Dependent variable: Foreign direct investments

Foreign direct investment data for 2016 are derived from the World Bank's WDI database. We compute the natural logarithm of this variable in accordance with existing empirical literature on the determinants of foreign direct investments (e.g., Khelil, Guidara, et al., 2023). Burundi received the lowest score of 10.923 in 2016 while the United States received the highest score of 26.885 in 2016.

3.3. The test variable: Digitalization

The World Bank develops an overall digital adoption index (DAI) to measure the global spread of digital technologies. The DAI measures the degree of digitalization adoption in one country and "it draws on original and established data to provide a worldwide, comprehensive picture of technology diffusion across the three segments of the economy: businesses, people, and governments" (World Bank Group, n.d.-a). The minimum value for digitalization is for Chad (0.229) while the maximum value is observed for Singapore (0.871).

3.4. The moderating variables

3.4.1. The level of corruption

The level of corruption in our study is calculated as the weight of corruption as the most challenging aspect in doing business (as a percentage).

Respondents were asked to choose the five most problematic aspects from a list of 16 factors, including corruption, and score them from one (most problematic) to five. The findings were then tallied and weighted based on the respondents' rating. Albania has the highest score (23.600), while Belgium, Finland, France, Ireland, Japan, Luxembourg, the Netherlands, and New Zealand have the lowest (0.000). The median score in the sample amounts to 9.400%.

3.4.2. The judicial independence

A survey of senior executives from 144 countries is used to gain expert assessments on how independent a country's judicial systems are from government, individual, and corporate influences (Schwab, 2015). A study was performed among business leaders, who were asked to rank judicial independence on a scale of "1" to "7," with "7" denoting perfect independence. The judicial independence score for each country included in the study is computed by taking the weighted average of the scale reported by respondents in one country. Venezuela has a lowest score of (1.100), while Finland and New Zealand have a maximum score of (6.700). The median score for the sample is 3.900%.

3.5. Control variables

Three control variables are included in our models. First, we anticipate that ethical behavior of firms may influence positively the FDI inflows in one country. Accordingly, Khelil, Guidara, et al. (2023) highlight the importance of business ethics in attracting foreign direct investment inflows in African countries. Ethical behavior of firms is scored from "1" to "7," with "7" signifying an excellent level of corporate ethics (ethical behavior in relationships with public authorities, politicians, and other firms). The lowest figure is 2.600 for Mauritania, and the highest is 6.300 for Sweden. Second, it is expected that the strength of investor protection will have a beneficial impact on FDI inflows in one nation because countries with strong

investor protection measures tend to attract higher levels of FDI (Dixon & Haslam, 2016; Brada et al., 2021). Finally, as a third control variable, we consider the market size. We expect the market size to be a significant driver of FDI inflows in one country (Ho et al., 2013). Gambia has the lowest score of 1.340, while China has the highest of 7.000.

3.6. Models' specification

A balanced panel data analysis is used to test the empirical validity of the hypotheses given above. The regression model shown below is used:

$$\ln FDI_{it} = \alpha_0 + \alpha_1 DAI_{it} + \alpha_2 COR_{it} + \alpha_3 JUDI_{it} + \alpha_4 EBOF_{it} + \alpha_5 SIP_{it} + \alpha_6 MKS_{it} + \varepsilon_{it} \quad (1)$$

where:

Dependent variable:

- $\ln FDI$ = the natural logarithm of foreign direct investment inflows.

Independent variable:

- DAI = overall digital adoption index;

Moderating variables:

- COR = the corruption score;
- $JUDI$ = the judicial independence score.

Control variables:

- $EBOF$ = the ethical behaviour of firms score;
- SIP = the strength of investor protection score;
- MKS = the market size.

3.7. The moderating effect of corruption on the relationship between digitalization and foreign direct investment

We divide our overall sample into two sub-samples to test the moderating effect of corruption (COR) on the relationship between digitization and foreign direct investment: 1) low corruption (below or equal to the COR median) and 2) high corruption (above the median). According to $H2$, the positive and significant association between digitalization and foreign direct investment will endure only in nations

with low levels of corruption. Accordingly, $H2$ is tested using Model 2:

$$\ln FDI_{it} = \alpha_0 + \alpha_1 DAI_{it} + \alpha_2 JUDI_{it} + \alpha_3 EBOF_{it} + \alpha_4 SIP_{it} + \alpha_5 MKS_{it} + \varepsilon_{it} \quad (2)$$

3.8. The moderating effect of judicial independence on the relationship between digitalization and foreign direct investment

To test the moderating effect of judicial independence ($JUDI$) on the association between digitalization and foreign direct investment, we divide our overall sample into two sub-samples: 1) a system with low judicial independence (below or equal to the $JUDI$ median) and 2) a system with high judicial independence (above the median). According to $H3$, the positive relationship between digitalization and foreign direct investment will only persist in countries with high judicial independence. Accordingly, $H3$ is tested using Model 3:

$$\ln FDI_{it} = \alpha_0 + \alpha_1 DAI_{it} + \alpha_2 COR_{it} + \alpha_3 EBOF_{it} + \alpha_4 SIP_{it} + \alpha_5 MKS_{it} + \varepsilon_{it} \quad (3)$$

4. RESULTS AND DISCUSSIONS

4.1. Descriptive statistics

Table 2 displays descriptive statistics for all variables examined in the models. Foreign direct investment has an average value of 21.714 and a range of 10.923 to 26.885. The average for the entire digitalization adoption index is 0.576. Corruption is the first moderating variable, with a mean of 9.395 and a range of 0 to 23.600. Judicial independence, the second moderating variable, has a mean of 4.145 and a range of 1.100 to 6.700. The means of the control variables (firm ethical behavior, investor protection strength, and market size) are 4.092, 5.572, and 3.996, respectively. Table 2 provides more information on the descriptive statistics of all variables included in Model 1.

Table 2. Descriptive statistics

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
$\ln FDI$	114	21.714	2.305	10.923	26.885
DAI	114	0.576	0.176	0.229	0.871
COR	114	9.395	6.484	0.000	23.600
$JUDI$	114	4.145	1.232	1.100	6.700
$EBOF$	114	4.092	0.929	2.500	6.300
SIP	114	5.572	1.218	3.200	8.300
MKS	114	3.996	1.189	1.340	7.000

Note: $\ln FDI$: the natural logarithm of foreign direct investment inflow score; DAI : digital adoption index; COR : the level of corruption in one country; $JUDI$: the judicial independence score; $EBOF$: the ethical behavior of firms; SIP : the level of investor protection in one country; MKS : market size; * significant at 10%. ** significant at 5%; *** significant at 1%.

4.2. Univariate analysis

Table 3 displays the findings of the univariate analysis. With a Pearson correlation coefficient of 0.615, the findings demonstrate a significant positive association between digitization and foreign direct investment, providing early support for $H1$. Similarly, corruption (-0.355) and judicial

independence (0.407) are both negatively connected to foreign direct investment. Firms' ethical behavior is positively and significantly connected with foreign direct investment, according to a Pearson coefficient of 0.382. The strength of investor protection and market size, on the other hand, have Pearson coefficients of 0.377 and 0.808, respectively, that are positively connected with foreign direct investment.

Table 3. Correlation matrix

	<i>Ln FDI</i>	<i>DAI</i>	<i>COR</i>	<i>JUDI</i>	<i>EBOF</i>	<i>SIP</i>	<i>MKS</i>
<i>Ln FDI</i>	1						
<i>DAI</i>	0.615***	1					
<i>COR</i>	-0.355***	-0.552***	1				
<i>JUDI</i>	0.407***	0.549***	-0.742***	1			
<i>EBOF</i>	0.382***	0.560***	-0.753***	0.891***	1		
<i>SIP</i>	0.377***	0.523***	-0.245**	0.354***	0.354***	1	
<i>MKS</i>	0.808***	0.503***	-0.252**	0.257**	0.237**	0.340***	1

Note: *Ln FDI*: the natural logarithm of foreign direct investment inflow score; *DAI*: digital adoption index; *COR*: the level of corruption in one country; *JUDI*: the judicial independence score; *EBOF*: the ethical behavior of firms; *SIP*: the level of investor protection in one country; *MKS*: market size. * significant at 10%; ** significant at 5%; *** significant at 1%.

4.3. Multivariate analyses

Table 4 shows the outcomes of the multiple regression specified in the Model 1. According to Model 1, digitalization is positively and significantly associated with foreign direct investment (coeff. = 2.975; $t = 3.000$). This finding supports *H1* and implies that digitalization often attracts FDI as it enhances a country's economic competitiveness. This implies that nations with advanced digital infrastructure, tend to attract more FDI. Companies are interested to invest in countries where they can leverage digital technologies for efficiency, innovation, and market expansion. However, the moderating variables (*COR* and *JUDI*) had no effect on *FDI*. Finally, for the control variables, the ethical behavior of firms and the strength of investor protection are insignificantly connected to foreign direct investment, whereas market size is positively and significantly related to foreign direct investment. This means that knowing the market size might assist investors analyze the potential profits and risks of FDI in a specific country. Furthermore, larger markets frequently have better-developed regulatory frameworks, resulting in a more stable and predictable business climate. This may entice overseas investors looking for legal and institutional support.

Controlling for multicollinearity, the reported variance inflation factor (VIF) indicates that Model 1 does not have such a problem, as the maximum VIF accounts for 5.470¹ (inferior to 10). The model's overall explanatory power is significant ($F = 46.550$; $p < 0.000$), and the adjusted R^2 accounts for 70.750%.

To examine if the corruption variable affects the link between digitalization and foreign direct investment (*H2*). The results show a significant and positive relationship between digitalization and foreign direct investment in low corrupt environments (coeff. = 3.561; $t = 2.160$), but the relationship becomes less pronounced and insignificant in countries characterized by high corrupt environments (coeff. = 1.939; $t = 1.550$). Therefore, *H2* is supported and digitalization can enhance transparency, streamline processes, and reduce opportunities for corruption. This implies that the positive association between digitalization and foreign direct investment is more pronounced in countries characterized by low level of corruption. Therefore, reducing corruption and embracing digitalization can positively influence a country's attractiveness for foreign direct investment. Countries that actively combat corruption and invest in digital infrastructure are more likely to create

a business environment that appeals to foreign investors seeking transparency, efficiency, and a lower risk of corrupt practices.

Furthermore, to determine whether judicial independence, a second moderating variable used in this study, has an impact on the relationship between digitalization and foreign direct investment (*H3*). The findings show that the positive relationship between *DAI* and foreign direct investment is more pronounced in environments with high judicial independence (coeff. = 3.430; $t = 2.700$), but it becomes less significant in countries with low judicial independence (coeff. = 2.112; $t = 1.270$). Thus, *H3* is supported and judicial independence represents a significant moderator of the association between digitalization and foreign direct investment. This implies, that judicial independence (*JUDI*) plays a crucial role in mitigating concerns related to digitalization (*DAI*) and foreign direct investment (*FDI*). An independent judicial system in one country can provide a reliable legal environment, ensuring that digital transactions are governed by impartial and consistent laws. This legal stability reduces uncertainties for foreign investors, bolstering confidence in the digitalized business landscape. A transparent and independent judiciary also facilitates dispute resolution, addressing concerns that may arise in the context of digital transactions and thereby promoting a favorable climate for FDI. Therefore, according to our Model 3 findings, the positive relationship between digitization and foreign direct investment is stronger in nations with a high level of judicial independence.

For the control variables in Models 2 and 3, we find only the market size variable is positively and significantly associated with foreign direct investment. However, under high levels of judicial independence, we find that the ethical behavior of firms (*EBOF*) variable is positively and significantly associated with *FDI* (coeff. = 0.235; $t = 0.920$). However, when judicial independence is low, the *EBOF* variable is insignificant in relation to foreign direct investment. This implies that in a high judiciary independent system, firms demonstrating ethical behavior are more likely to comply with laws and regulations, reducing the likelihood of legal disputes. This enhances the overall business climate, making the investment destination more attractive to foreign investors who seek stability and ethical business practices. Moreover, a positive reputation for ethical conduct can be a significant asset, attracting FDI from companies that prioritize responsible and sustainable business practices.

Checking for the multicollinearity problem, Model 2 does not suffer from this problem since all maximum VIFs account for 1.830 in Model 2 (low *COR*) and 5.720 in Model 2 (high *COR*). Similarly,

¹ Multicollinearity is viewed as a serious problem when the VIF exceeds 10 (Neter et al., 1989).

Model 3 does not suffer from multicollinearity problem since all maximum VIFs account for 2.300 in Model 3 (low *JUDI*) and 2.430 in Model 3 (high *JUDI*).

Overall, our findings highlight that reducing corruption and enhancing judicial independence are crucial for sustaining the positive association between digitalization and FDI. Therefore, investors

seek stable environments with transparent legal systems, making anti-corruption measures and independent judiciaries key factors in attracting and retaining FDI. These efforts build trust, foster a conducive business climate, and ensure that digitalization contributes the sustainable economic growth.

Table 4. Multivariate regression analyses

Variables	Model 1 (overall sample)		Model 2				Model 3			
			Low COR		High COR		Low <i>JUDI</i>		High <i>JUDI</i>	
	Coeff.	t-statistic	Coeff.	t-statistic	Coeff.	t-statistic	Coeff.	t-statistic	Coeff.	t-statistic
Intercept	13.533	12.270***	14.795	9.720***	13.545	14.850***	12.185	6.390***	13.300	8.540***
<i>DAI</i>	2.975	3.000***	3.561	2.160**	1.939	1.550	2.112	1.270	3.430	2.700***
<i>COR</i>	0.018	0.620					0.040	1.080	-0.024	-0.550
<i>JUDI</i>	0.261	1.200	0.085	0.280	0.551	1.800*				
<i>EBOF</i>	0.034	0.120	-0.087	-0.170	-0.020	-0.530	0.668	1.510	0.235	0.920***
<i>SIP</i>	-0.022	-0.210	-0.029	-0.140	-0.007	-0.050	-0.094	-0.510	0.114	0.760
<i>MKS</i>	1.302	11.310***	1.242	6.030***	1.382	10.330***	1.476	7.290***	1.203	8.740***
F (p-value)	46.550*** (0.000)		41.740*** (0.000)		15.610*** (0.000)		20.450*** (0.000)		36.830*** (0.000)	
Adj-R square	70.750		78.740		56.170		63.880		74.290	
Max VIF	5.470		1.830		5.720		2.300		2.430	
Number of observations	114		58		56		56		58	

Note: Dependent variable: Ln FDI. Ln FDI: the natural logarithm of foreign direct investment inflow score; *DAI* = digital adoption index; *COR*: the level of corruption in one country; *JUDI*: the judicial independence score; *EBOF*: the ethical behavior of firms; *SIP*: the level of investor protection in one country; *MKS*: market size. * significant at 10%; ** significant at 5%; *** significant at 1%.

5. CONCLUSION

The purpose of this paper is to investigate the relationship between digitalization and foreign direct investment and test whether the corruption level in one country and judicial independence moderate this association. Using a sample of 114 countries during 2016, findings provide evidence that digitalization is positively associated with foreign direct investment. Furthermore, this positive association is more pronounced for settings characterized by low corrupt environments and a high level of judiciary independence.

Accordingly, regulators and policymakers play a critical role in creating a conducive climate for FDI by combating corruption and strengthening judicial independence. They can reduce corruption risks, boost investor trust, and promote a fair business climate by establishing strong regulatory frameworks, transparent rules, and effective law enforcement. Furthermore, maintaining an independent judicial system in one country helps protect property rights and contractual agreements, reinforcing the positive association between digitalization and FDI.

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