# FDI, Economic Growth and Innovation: The Role of Culture

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**Abstract**

We investigate how cultural variations shape the value-generating effects of inward foreign direct investment (FDI) on economic growth and innovation in 24 Emerging Market Countries (EMCs) from 1995 to 2020. By employing System Generalized Method of Moments (SGMM) to mitigate endogeneity concerns, our study provides new insights into the interplay between culture and FDI-driven economic development. Our findings reveal that the positive effect of inward FDI on economic growth is stronger in countries with limited long-term planning and more restraint. However, in nations characterized by high masculinity, uncertainty avoidance, and indulgence, inward FDI tends to have a stronger tempering effect on innovation. Our results emphasize the importance of national culture in determining the effectiveness of foreign investment, refining our understanding of when and where FDI yields the greatest impact and offering strategic guidance for MNEs and policymakers in culturally diverse emerging markets.

*Keywords*: foreign direct investment, culture, economic development, innovation.

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# 1 Introduction

The significance of international capital flows in economic development is well-established in the literature on growth and development. Among these flows, foreign direct investment (FDI) has emerged as one of the largest and most stable sources of external finance for emerging market countries (EMCs), distinguishing itself by its countercyclical resilience. Its stability, combined with its ability to drive economic growth through capital formation, technology transfers, and human capital development (Öztürk, 2007), makes FDI particularly appealing to developing economies. Nonetheless, the literature reveals ambiguity regarding FDI's impact on innovation. Some scholars argue that FDI fosters competition and facilitates knowledge spillovers, thus enhancing domestic innovation (Caves, 1974; Kearns & Ruane, 2001; Javorcik, 2004), while others highlight the potential for FDI to crowd out local firms, reducing their incentives for technological advancement (Aitken & Harrison, 1999; Konings, 2001; García et al., 2013).

Given these conflicting findings, it becomes crucial to explore factors that shape the effectiveness of inward FDI in stimulating economic growth and innovation. An underexplored yet potentially influential factor is national culture. The role of cultural characteristics in shaping economic development, investment dynamics, and firm-level innovation has gained increasing attention in the international business and economic development literature (Shane, 1993; Kostis et al., 2018; Kapás & Czeglédi, 2020). Multinational enterprises (MNEs) must adapt not only to cultural differences but also to the unique, standalone cultural norms of host markets, such as power distance or uncertainty avoidance (Meyer et al., 2011; Contractor et al., 2010). From an MNE strategy perspective, host-country culture affects how foreign firms transfer knowledge, manage local partnerships, and navigate institutional voids (Contractor et al., 2010). For instance, high uncertainty avoidance might deter MNEs from sharing proprietary technologies with local partners due to fears of misappropriation, while high individualism may enhance knowledge spillovers by promoting employee mobility (Berry et al., 2010).

Our study contributes to international business theory by addressing an important gap in the literature, drawing on the institution-based view (Peng et al., 2008) to conceptualize culture as an informal institution moderating the impact of foreign direct investment (FDI). Specifically, we systematically analyze how culture interacts with inward FDI to influence economic growth and innovation. By explicitly investigating these interactions, we extend ongoing debates on the "liability of foreignness" (Hymer, 1976) and the institutional integration of multinational enterprises (MNEs) (Meyer et al., 2020), providing a

deeper understanding of why MNE-led growth succeeds in some emerging markets but encounters challenges in others. Our empirical approach employs a panel dataset covering 24 Emerging Market Countries (EMCs) over the period from 1995 to 2020. Leveraging Hofstede's 6-D model of national culture, we investigate how distinct cultural dimensions —Power Distance (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty Avoidance (UAI), Long-term versus Short-term Orientation (LTO), and Indulgence versus Restraint (IND) — influence FDI's effectiveness in driving economic progress. By integrating national culture into the analysis, we move beyond traditional economic and institutional frameworks to illustrate how societal values and norms significantly influence international capital flows and their resulting outcomes. This approach also enriches the literature on the boundary conditions of MNE-driven economic development and the cultural contingencies influencing knowledge diffusion (Dunning, 1988).

A distinctive methodological contribution of our study lies in its explicit treatment of endogeneity concerns. This issue has been often overlooked in relevant prior literature[1]. Conventional methods, such as OLS or fixed effects do not control for the possibility of reverse causality or omitted variable bias. FDI inflows may themselves be influenced by the rise of GDP or innovation dynamics. This makes it difficult to establish the true direction of causality. Similarly, unobserved factors such as policy regimes, may simultaneously affect both FDI and economic outcomes, leading to an overestimation of estimates, particularly when studying its interaction with cultural factors. To overcome these limitations, and in addition to conventional Pooled OLS and OLS-Fixed Effects regressions, we employ System Generalized Method of Moments (SGMM) estimations (Arellano and Bover, 1995; Blundell and Bond, 1998). This method addresses endogeneity concerns by using internal instruments derived from lagged levels and differences in the variables, and provides a more credible causal inference regarding how cultural variations shape economic outcomes of FDI inflows.

Our findings reveal that the impact of FDI on economic growth and innovation is significantly affected by different national culture dimensions. Countries characterized by short-term planning and restraint experience stronger positive effects of FDI on economic growth, while those marked by indulgence, lower uncertainty tolerance, and greater gender inequality see weaker innovation-driven growth from FDI inflows. This insight is particularly important because while many EMCs actively pursue FDI as a development strategy, our evidence suggests that not all EMCs benefit equally. These asymmetric effects

[1]Exceptions include the papers by Li and Zahra (2012) and Siegel et al. (2013).

may explain why some EMCs realize substantive gains from FDI, while others can achieve only modest or even negative outcomes. Cultural traits play an important role in shaping the ability of an economy to productively absorb and leverage FDI. Ignoring this dimension may limit our understanding of the broader economic consequences of external finance. Hence, our empirical evidence highlights the role of culture in determining how much EMCs gain from FDI. That is, even when two countries receive similar volumes of FDI, the developmental impact may differ significantly depending on their cultural profiles. For example, if uncertainty avoidance is lower in Thailand than in Malaysia, Thailand is more likely to use foreign investment in ways that do not limit the innovation of local firms. Similarly, countries with lower long term orientation — such as Peru compared to Poland - may benefit more from FDI spillovers.

In summary, our study advances international business (IB) theory and contributes to the FDI-economic progress nexus in several ways. First, we complement cultural distance research (Shenkar, 2001) by showing that local cultural traits can independently shape FDI economic outcomes, refining the criteria MNEs use to assess and select entry markets. Second, we integrate the institution-based view (Peng et al., 2008) with cultural frameworks, highlighting how informal norms, such as Restraint versus Indulgence, interact with FDI-driven formal institutional changes. Third, we extend the 'liability of foreignness' (LOF) concept by identifying asymmetric cultural effects, showing that certain traits, such as low Long-term Orientation amplify the positive impacts of FDI, while others, such as high Uncertainty Avoidance exacerbate MNEs' disadvantages. These findings suggest that MNEs should reconsider their strategies when operating in culturally diverse emerging markets, while also offering practical guidance for policymakers by highlighting the importance of accounting for cultural factors when designing strategies to maximize the benefits of FDI.

The remainder of the paper is structured as follows. Section 2 provides a review of the literature on the intersection of FDI, economic growth, innovation, and culture. Section 3 outlines the hypotheses that we test in our study. Section 4 discusses our data and methodology, Section 5 presents and analyzes the results. Lastly, Section 6 concludes.

# 2 Literature Review

## 2.1 FDI and Economic Growth

A substantial body of literature has explored the relationship between FDI and economic growth, with the majority of studies suggesting a positive impact through multiple channels, including capital formation, technology transfers, and human capital development (Öztürk, 2007). Javorcik (2004) finds that foreign investment enhances the productivity of local suppliers, particularly when foreign firms maintain partial ownership and rely on local sourcing. Burstein & Monge-Naranjo (2009) highlight the importance of managerial know-how transfers, showing that reallocating management expertise from developed to developing economies can significantly boost productivity.

Iamsiraroj (2016) provides empirical evidence supporting the notion that FDI inflows and economic growth form a virtuous cycle, where FDI attracts more investment by creating a stable and favorable business environment. Similarly, Fons-Rosen et al. (2021) find that foreign acquisitions yield productivity gains, but these gains are delayed and primarily materialize when investors assume majority control. These studies emphasize the importance of stability, openness to trade, skilled labor force, and of a favorable investment environment in maximizing FDI benefits.

## 2.2 FDI and Innovation

Despite the general consensus on FDI's positive effects on economic growth, its impact on innovation remains ambiguous. A strand of literature finds that inward FDI generates positive externalities by facilitating knowledge transfer and increasing competitive pressure, which incentivizes domestic firms to innovate (Caves, 1974; Kearns & Ruane, 2001).

Siegel et al. (2013) analyze Lithuanian firm-level data and show that FDI generates productivity spillovers primarily through interactions between foreign affiliates and local suppliers. Their methodology involves using a semiparametric method, which captures unobserved firm-level productivity, in order to address potential endogeneity. Jha et al. (2024), using a multilateral approach to FDI analysis, find that greater diversity and higher quality of inward FDI ties significantly enhance economic growth, particularly in countries with high absorptive capacity.

However, other studies suggest that FDI may have negative spillover effects on domestic innovation. Aitken and Harrison (1999) show that while FDI improves productivity in small recipient firms, it neg-

atively affects fully domestic firms in the same industry, resulting in modest overall economic gains. Konings (2001) argues that FDI does not generate positive spillovers, but instead intensifies competition, reducing the market share of inefficient domestic firms. García et al. (2013) further suggest that foreign firms may substitute home-country innovation for local R&D, potentially crowding out domestic firms and limiting product innovation.

### 2.3 Cultural Influences on FDI

A growing body of research emphasizes the role of cultural factors in shaping economic outcomes. National culture influences how economies absorb FDI, determining the extent to which it contributes to growth and innovation. Shane (1993) argues that organizational behaviors reflect societal values, making innovation more prevalent in cultures that support entrepreneurial activity. Petrakis et al. (2015) further highlight that pro-innovation cultures drive economic expansion even in challenging macroeconomic environments, whereas anti-innovation cultures impede progress despite policy improvements. Kostis et al. (2018) identify trust, work ethic, and honesty as cultural drivers of innovation, while obedience hinders it.

Cultural traits also affect how multinational enterprises (MNEs) select host countries for investment. Research on cultural distance suggests that investors consider cultural compatibility when making FDI decisions (Steigner et al., 2019; Izadi et al., 2023). Bhardwaj et al. (2007) find that trust enhances FDI flows, particularly when host countries exhibit low uncertainty avoidance. Steigner et al. (2019) show that civil law countries invest more in host nations with high masculinity and indulgence scores, while Izadi et al. (2023) demonstrate that lower masculinity and higher individualism attract more FDI.

### 2.4 Cultural Diversity and Economic Outcomes

Beyond cultural traits, diversity within a population also influences economic complexity and productivity. Docquier et al. (2019) find that diversity among college-educated immigrants positively impacts U.S. economic growth. Similarly, Bahar et al. (2022) demonstrate that birthplace diversity contributes to economic complexity, particularly in middle-income countries. Ottaviano and Peri (2006) further show that increasing foreign-born populations in U.S. cities enhances native productivity, as reflected in rising wages and housing prices.

### 2.5 Culture, Institutions, and Policy Effectiveness

Culture not only affects FDI absorption but also shapes the efficacy of economic policies. Kafka et al. (2020) argue that institutions and cultural traits complement one another in fostering economic development. Their analysis across 80 countries from 1981 to 2019 reveals that strong institutions and pro-growth cultures jointly enhance GDP per capita, while deficiencies in either factor hinder growth. Taylor and Wilson (2012) show that individualistic cultures foster national innovation, whereas collectivist cultures may limit it unless complemented by strong institutional support. Berry et al. (2010) show that power distance shapes institutional trust, which moderates spillover efficiency. Li and Zahra (2012) - through a two-stage least squares estimation method to address endogeneity - provide evidence that the effectiveness of institutional frameworks in promoting entrepreneurship depends on national culture, particularly in influencing venture capital investment.

## 3 Hypotheses

In our framework, we propose that the effect of FDI on measures of economic progress[2] is moderated by specific cultural characteristics. These characteristics are captured by Hofstede's six cultural dimensions: Power Distance (PDI), Individualism vs Collectivism (IDV), Masculinity vs Femininity (MAS), Uncertainty Avoidance (UAI), Long-Term vs Short-Term Orientation (LTO), and Indulgence vs Restraint (IND). We argue that national culture influences how FDI is received and utilized, particularly the extent to which foreign capital is directed toward innovative and entrepreneurial activity. These culturally shaped responses can either amplify or weaken the contribution of FDI to broader economic progress in emerging market countries (EMCs). Based on this rationale, we formulate the following hypotheses:

**Hypothesis 1: The effect of FDI on economic progress is greater in EMCs with higher levels of power distance (PDI)**.

Power Distance (PDI) measures the degree of power inequality in a culture. The effect of FDI on local firms' productivity is stronger in high-power-distance cultures, where hierarchical structures allow MNEs to better control and coordinate knowledge transfer to domestic partners (Meyer et al., 2011). While low power distance is generally associated with innovation through decentralized decision-making (Hofstede,

[2]In our context, economic progress encompasses both economic growth and innovation.

1983; Shane, 1993), high-PDI environments may enhance the productivity impact of FDI by supporting top-down spillover channels and fostering entrepreneurship as individuals seek alternatives to constrained upward mobility (McGrath et al., 1992; Berry et al., 2010).

**Hypothesis 2: The effect of FDI on economic progress is greater in EMCs with higher levels of individualism (IDV)**.

Individualism vs Collectivism (IDV) differentiates the extent to which societies rely on individual or collective decision-making. Individualistic societies value autonomy and personal achievement more than group interests (Hofstede, 1980). In individualistic cultures, values such as self-reliance, personal achievement, and rational decision-making foster entrepreneurial activity and innovation (Shane, 1993). These environments also encourage employee mobility and market competition, which incentivize domestic firms to adopt and build on MNE technologies, enhancing FDI-driven innovation spillovers (Kogut & Singh, 1988). In contrast, collectivist emerging markets often direct FDI toward shared consumption or social support (McGrath et al., 1992), and in-group favoritism may hinder the diffusion of knowledge beyond close networks, limiting the developmental impact of FDI (Li et al., 2017).

**Hypothesis 3: The effect of FDI on economic progress is greater in EMCs with higher levels of masculinity (MAS).**

Masculinity vs. Femininity (MAS) reflects the extent to which cultures value achievement, competition, and material success over cooperation and quality of life (Hofstede, 1980). Masculine societies prefer advancement, high earnings, and challenging projects, while feminine societies emphasize teamwork and quality of life. In masculine emerging markets, cultural norms emphasize ambition, entrepreneurial drive, and skill development (House et al., 2004; Shane, 1993), aligning with MNE strategies focused on risk-taking and market expansion. As a result, FDI is more likely to stimulate entrepreneurial activity and productive investment in these contexts (McGrath et al., 1992; Brouthers et al., 2015). In contrast, more feminine cultures tend to prioritize social stability and well-being, increasing the likelihood that FDI supports consumption-oriented or socially focused initiatives rather than disruptive growth.

**Hypothesis 4: The effect of FDI on economic progress is lower in EMCs with higher**

**levels of uncertainty avoidance (UAI).**

Uncertainty Avoidance (UAI) represents the extent to which individuals avoid uncertainty and ambiguity. In high-UAI emerging markets, cultural norms emphasize conformity, risk aversion, and adherence to established routines (Hofstede, 1983), making FDI less likely to support entrepreneurial or innovative ventures. MNEs operating in such environments often limit technology sharing to protect intellectual property, weakening FDI's innovation spillovers (Contractor et al., 2014). In contrast, low-UAI cultures foster openness to change and experimentation, increasing the likelihood of channeling FDI into business creation and innovation.

**Hypothesis 5: The effect of FDI on economic progress is greater in EMCs with higher levels of long-term orientation (LTO).**

Long-Term vs. Short-Term Orientation (LTO) captures the extent to which cultures value perseverance and strategic planning over immediate results and traditional obligations. Short-term-oriented societies emphasize personal stability, tradition, and rapid outcomes, while long-term-oriented cultures prioritize thrift, learning, and future-oriented investment. Recent research identifies LTO as a key cultural driver of national innovation, associated with R&D intensity, product development, and organizational adaptability (Bukowski & Rudnicki, 2019). In high-LTO emerging markets, such as China, South Korea, and Germany, these values are embedded in policies that support sustained innovation and growth. In such contexts, FDI more effectively upgrades domestic capabilities, as patient capital and continuous learning align with MNE strategies for incremental innovation (Meyer et al., 2020). In contrast, low LTO cultures may channel FDI toward short-term consumption or traditional uses.

**Hypothesis 6: The effect of FDI on economic progress is weaker in EMCs that emphasize indulgence.**

Indulgence vs Restraint (IND) measures the degree of openness or strictness toward the gratification of basic social needs. Indulgent societies emphasize leisure, optimism, and personal enjoyment, often stimulating consumer demand and short-term gratification. While indulgence has been linked to emotional autonomy and design innovation, it tends to be negatively associated with thrift and technological advancement (Griffith & Rubera, 2014; Taylor & Wilson, 2012). In the context of FDI, such consumer-

driven orientations may weaken productivity spillovers, as foreign capital is more likely directed toward consumption than investment. Thus, FDI's impact tends to be less effective in indulgent cultures, where consumer demand diverts resources from productive investment. In contrast, restrained cultures support more focused, growth-oriented use of foreign capital.

# 4 Methodology

## 4.1 Data

We collect annual data from a sample of 24 Emerging Markets Countries (EMCs)[3], as classified by the Morgan Stanley Capital International (MSCI) Emerging Markets Index. The time period spans from 1995 to 2020[4]. The variables utilized in the study are summarized in Table 1 and described as follows.

### 4.1.1 Economic Growth and Innovation

Economic growth is measured by the annual percentage growth rate of GDP per capita (in natural logs). The GDP per capita is the gross domestic product divided by midyear population. Data is sourced from the World Development Indicators (WDI) of the World Bank database. Innovation is measured by patent counts. Patents are a widely used innovation metric used as early as the 1960s (Scherer, 1965)[5]. Each patent reflects a distinct technological advancement that has undergone scrutiny and secured legal protection. Data on patents is available from the World Intellectual Property Organization (WIPO).

### 4.1.2 FDI and Culture

We gather inward FDI data from the UNCTAD (United Nations Conference on Trade and Development) database, which measures net inflows — calculated as new investment inflows minus disinvestment — expressed as a percentage of GDP. The consequences of inward foreign direct investment (FDI) for economic development is a fundamental topic in the international business (IB) and management literature.

[3]Sample list of emerging market countries (EMCs): Argentina, Brazil, Chile, China, Colombia, Egypt, Greece, Hungary, India, Indonesia, Iran, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Thailand, Turkey, United Arab Emirates.

[4]Our sample starts from 1995 due to limitations on the institutional variables included (political and regulatory institutions indices), with data availability starting from this particular year.

[5]It has to be noted that patents have been criticized as proxies of innovation output, as they may ignore innovation quality, impact, and cross-country selection biases (Jaffe et al., 2000).

In terms of culture, cultural values are generally stable over time, as the fundamental factors shaping them — such as resource availability, climate, and geographical characteristics — tend to change only gradually (Petrakis & Kostis, 2013, 2014). Consequently, significant cultural shifts are believed to unfold over long periods rather than abruptly. Hofstede further supports this notion, arguing that cultural dimensions remain valid over extended durations, with changes occurring at a slow and evolutionary pace.

To assess different cultural characteristics, we employ the six cultural dimensions developed by Hofstede (1983)[6]. Each country's dimension scores are measured relative to those of other countries and include: Power Distance (PDI), Individualism vs Collectivism (IDV), Masculinity vs Femininity (MAS), Uncertainty Avoidance (UAI), Long-Term vs Short-Term Orientation (LTO), and Indulgence vs Restraint (IND).

#### 4.1.3 Control Variables

Our set of control variables aligns with the relevant literature in economic development. Aggregate consumption, measured as Final Consumption Expenditure as a percentage of GDP, and aggregate investment, proxied by Gross Capital Formation, are both crucial factors influencing economic growth (Barro, 1991). Additionally, trade openness (imports and exports as a percentage of GDP) and the GDP deflator may impact economic performance. Human capital, which includes education and health, can stimulate economic development by enhancing productivity (Romer, 1994). Therefore, we control for expenditures in both education and health (as a percentage of GDP). We also include Industry Value Added, defined as the sector's net output after summing all outputs and subtracting intermediate inputs. Industry Value Added serves as a reliable indicator of variations in corporate and industrial sector economic growth, with its origin determined by the International Standard Industrial Classification (ISIC). Data for all control variables is obtained from the World Development Indicators (WDI) of the World Bank.

Lastly, we account for different dimensions of governance, by constructing two distinct indices, using data from the World Governance Indicators (WGI) of the World Bank: the Political Institutions Index, which is a weighted average of indices for government performance, political stability, control of corruption, and the absence of violence and terrorism; and the Regulatory Institutions Index, which is a weighted

[6]Alternative measures of culture, including savings behavior and trust, can be obtained from the World Values Survey (WVS).

average of indices for regulatory quality, rule of law, and voice and accountability. In this context, governance refers to the frameworks through which authority is exercised in a country, including the processes of government selection and oversight, policy formulation and implementation, and the extent to which institutions uphold economic and social interactions (Kaufmann et al., 2010).

Table 1: Summary Statistics

| **Variable** | **Mean** | **Std. Dev.** | **Min.** | **Max.** |
|---|---|---|---|---|
| GDP per capita (logs) | 9.691 | 0.829 | 7.261 | 11.621 |
| Patents (log) | 7.031 | 3.447 | 0 | 13.092 |
| FDI / GDP (%) | 2.327 | 5.466 | -40.081 | 109.331 |
| Education Exp. / GDP (%) | 4.501 | 0.083 | 4.066 | 4.605 |
| Health Exp. / GDP (%) | 1.599 | 0.411 | 0.470 | 2.346 |
| Trade Openness (%) | 3.981 | 0.589 | 2.446 | 5.395 |
| Consumption | 11.643 | 1.348 | 7.927 | 15.904 |
| Capital Formation | 10.585 | 1.358 | 6.709 | 15.658 |
| Industry Value Added | 11.923 | 1.352 | 8.487 | 16.505 |
| GDP Deflator | 75.495 | 201.274 | 0 | 4400.779 |
| Reg. Institutions | -0.044 | 0.691 | -2.087 | 1.336 |
| Polit. Institutions | -0.067 | 0.618 | -1.358 | 1.277 |
| FDI x PDI | 0.016 | 0.027 | -0.184 | 0.503 |
| FDI x IDV | 0.010 | 0.042 | -0.321 | 0.875 |
| FDI x MAS | 0.001 | 0.005 | -0.035 | 0.096 |
| FDI x UAI | 0.017 | 0.045 | -0.329 | 0.897 |
| FDI x LTO | 0.011 | 0.033 | -0.232 | 0.634 |
| FDI x IND | 0.011 | 0.020 | -0.124 | 0.339 |

*Notes*: Summary statistics cover annual data from 1995–2020, excluding outliers. Economic growth is measured by the log of GDP per capita, sourced from the World Bank's WDI. Innovation is captured through the log of patent counts from WIPO. Inward FDI, expressed as a percentage of GDP is obtained from UNCTAD. Cultural characteristics are assessed using Hofstede's six dimensions, incorporated through interaction terms with FDI (e.g., FDI × PDI, IDV, MAS, UAI, LTO, IND). Control variables include education and health expenditures as a percentage of GDP, trade openness, aggregate consumption, gross capital formation, and Industry Value Added, all sourced from the WDI. The GDP deflator captures price level fluctuations. Institutional quality is reflected by regulatory and political institutions indices.

### 4.2 Model

In this section, we proceed with our empirical methodology. To examine the impact of FDI inflows, in interaction with different cultural dimensions, on economic growth and innovation growth among local firms, we employ the following baseline estimation equation:

$$\Delta Y_{it} = \beta_1 Y_{it-1} + \beta_2 FDI_{it} + \gamma_i Culture_{it} + \theta_i (Culture_{it} \times FDI_{it}) + \lambda_i X_{it} + \delta_t + \mu_i + u_{it} \qquad (1)$$

where: $Y_{i,t}$ corresponds to the dependent variable, which is either economic growth, as measured by the growth of the real $GDP_{i,t}$ per capita, or the growth of innovation of local firms, as measured by the Total

Patent Applications. $FDI_{i,t}$ denotes the share of financial inflows to GDP of the transfer-receiving country. $Culture_{i,t}$ is a measure of cultural variation corresponding to each of the six dimensions of Hofstede (PDI, IDV, MAS, UAI, LTO, IND). Furthermore, we include an interaction term, $Culture_{it} \times FDI_{it}$ to test how different cultural dimensions influence the impact of inward FDI on the dependent variable.

The vector $X_{i,t}$ includes all the other controlling factors (macroeconomic and institutional variables). The term $\mu_i$ refers to country-specific fixed effects, capturing unobserved country-specific heterogeneity. Lastly, $\delta_t$ refers to time-specific effects that are common for all countries, and is approximated by time dummy variables for each year.

Using different econometric techniques allows for a more robust analysis of our research problem. Therefore our model is estimated with specifications involving Pooled OLS, OLS-FE (Fixed Effects) and SGMM (System Generalized Method of Moments). The results are presented in Tables 2 and 3.

### 4.3 Note on Endogeneity

OLS regressions do not address endogeneity-related issues. For instance, reverse causality might arise if FDI inflows respond endogenously to the growth of GDP or innovation, or if some unobservable characteristic is correlated with the independent variables and also influences the growth of the respective dependent variables. Theoretically, it is plausible and very likely that both the magnitude of FDI inflows can change with higher GDP growth rates or with larger innovation growth rates. This would lead to an overestimation of the effect of the FDI and its interaction with cultural dimensions on the dependent variables.

Given the dynamic structure of the model, one of the methods that is relevant to address the possible endogeneity problem is the System Generalized Method of Moments or SGMM (Arellano and Bover, 1995; Blundell and Bond, 1998). This method offers the advantage of accommodating weakly exogenous regressors while simultaneously addressing the endogeneity of the lagged dependent variable. It also accounts for initial observations, enabling the inclusion of data from the first time period. To maximize the number of usable observations in unbalanced panels, forward orthogonal deviations can be applied instead of first differencing. The reliability of SGMM estimators hinges on two main assumptions: (i) no evidence of higher-order serial correlation in the residuals, and (ii) the validity of the chosen instruments. To assess these conditions, we apply the Hansen J test (Hansen, 1982) to evaluate instrument validity and the Arellano-Bond AR(2) test to check for autocorrelation.

# 5 Results

The regression results are presented in Tables 2 and 3. Each table includes four specifications of our model. Specification (I) corresponds to Pooled OLS results. Specification (II) shows OLS-FE results with time fixed effects. Specification (III) shows OLS-FE results with both time and country fixed effects. Fixed time (yearly) and country effects control for common trends in the variables of interest. Lastly, Specification (IV) reports our SGMM results, which comprises the main results of our paper.

## 5.1 FDI, Economic Growth & Culture

Table 2 reports results of the relationship of FDI and Culture with the growth rate of GDP. All specifications include interaction terms for the FDI inflows with the six cultural dimensions. A positive interaction term indicates that the cultural dimension strengthens the effect of FDI inflows on economic growth. In contrast, a negative interaction term suggests that the cultural dimension diminishes the impact of FDI inflows on economic growth.

Across all specifications, the findings indicate that FDI inflows significantly foster economic growth, aligning with the broader economic development literature. Furthermore, the negative signs of GDP may suggest that higher levels of GDP could be associated with lower marginal growth, consistent with convergence effects.

According to the OLS results in column (I), from all cultural dimensions, only Uncertainty Avoidance (UAI) has a direct significant effect on the GDP growth rate. Specifically, UAI improves economic growth. Similar results were presented by Piteli et al. (2019) through different specifications. Interaction terms for FDI inflows with UAI, LTO and IND are all negative and statistically significant, implying that the benefits of FDI inflows on economic growth are higher in EMCs with lower levels of UAI, LTO, IND. This specification does not account for possible endogeneity or fixed effects, that might potentially bias the results.

Column (II) takes into account time (yearly) fixed effects. The effect of FDI inflows on economic growth is positive and highly significant. However, in this specification, UAI does not have a direct significant effect on economic growth. Interaction terms for FDI with UAI, LTO and IND continue to be negative and statistically significant.

Column (III) illustrates OLS regressions with both country and year fixed effects. FDI inflows continue

to affect positively economic growth. However, the addition of country fixed effects causes the interaction term of UAI to become insignificant. Interaction terms for FDI with LTO and IND continue to be negative and statistically significant, implying that the benefits of FDI on economic growth are higher in EMCs with lower levels of LTO and IND.

Considering the potential endogeneity bias and to ensure a robust estimation, we use dynamic two-step system-GMM as baseline estimator. The SGMM regressions are reported in column (IV) and comprise the main results of our paper in terms of economic growth. The large and positive coefficient on $\Delta GDP_{t-1}$ indicates strong persistence in GDP growth over time, implying past growth rates heavily influence current growth rates. The relationship between FDI inflows and economic growth is positive, highly significant and robust. Interaction terms for FDI with LTO and IND are negative and statistically significant, suggesting that the benefits of FDI on economic growth are higher in EMCs with lower levels of LTO and IND.

The interaction effects between FDI and cultural dimensions vary significantly, indicating that the developmental impact of FDI is shaped by cultural context. Specifically, the interaction terms for long-term orientation (LTO) and indulgence (IND) are negative and statistically significant, suggesting that the growth-enhancing effect of FDI is stronger in EMCs with a short-term outlook and greater cultural restraint. In such societies, foreign capital may be deployed more rapidly into profitable ventures, whereas in long-term-oriented or indulgent cultures, FDI may be absorbed more slowly or diverted toward less productive uses. These findings provide support for Hypothesis 6 and partial support for Hypothesis 5. They are consistent with Dunning's (2015) OLI paradigm and Meyer et al. (2020), who argue that efficiency-seeking FDI is more effective in low-LTO contexts. Similarly, our results reinforce Griffith and Rubera's (2014) argument that indulgent cultures prioritize consumer-driven innovation over productivity, thereby weakening the developmental impact of FDI.

In contrast, the interaction terms for uncertainty avoidance (UAI), power distance (PDI), individualism (IDV), and masculinity (MAS) are statistically insignificant in the most robust specification (Column IV), offering limited support for Hypotheses 1–4. While prior studies - such as Berry et al. (2010) on institutional trust and PDI, Kogut & Singh (1988) and Li et al. (2017) on IDV and knowledge diffusion, and Brouthers et al. (2015) on MAS and entrepreneurial activity - emphasize positive firm-level outcomes, our results suggest that these effects may not translate directly to aggregate GDP growth. Similarly, al-

though Contractor et al. (2014) and Meyer et al. (2020) highlight UAI's role in shaping MNE behavior, the lack of significance after controlling for fixed effects points to only weak support in the macroeconomic context.

In terms of diagnostic tests, the results in Column (IV) indicate that the model is well specified. Specifically, the p-value of AR(2) shows that the absence of second-order serial correlation cannot be rejected. Similarly, the p-value of Hansen J tests indicates that the instruments are valid. Hence, our empirical SGMM results are reliable for statistical inferences. Furthermore, the results for the control variables are consistent with those in the prior theoretical and empirical literature, and we find no anomaly in this context.

Overall, our findings imply that FDI inflows tend to be more effective to boost economic growth (i) in societies with a short-term outlook (low LTO score) and (ii) in societies that emphasize strict rules, social norms and practices (low IND score). The stronger effectiveness of FDI in shorter-term oriented cultures may reflect a focus on short-term results, where foreign capital is quickly allocated to profitable projects, leading to visible GDP growth. This could also suggest that institutional or bureaucratic barriers in long-term planning cultures slow down the impact of FDI. Furthermore, societies that emphasize structure and restraint could streamline FDI projects if existing social or institutional frameworks help foreign investors navigate local systems quickly and predictably.

### 5.2 FDI, Innovation Growth & Culture

Table 3 reports results of the relationship of FDI and Culture with the growth rate of Innovation. As in Table 2, we include the interaction terms of the FDI inflows with the six cultural dimensions. From all specifications, it is shown that FDI inflows consistently and significantly reduce growth of innovation. Our findings support the literature, according to which inward FDI may discourage innovation. Although the entry of foreign firms into the local market can create incentives for local businesses to improve their productivity, it can also lead to adverse effects for local firms due to increased competition. Foreign entry may displace domestic firms, particularly those that are less efficient (Blomström and Kokko, 1998). In addition, foreign firms frequently replace local businesses, pushing them toward less profitable and less innovative segments of the market (De Backer and Sleuwaegen, 2003).

Our results also reveal that several cultural dimensions directly influence the outcomes of innovation. In Specifications I and II, individualism (IDV) is positively associated with innovation growth, while mas-

culinity (MAS) and indulgence (IND) exhibit negative direct effects. These findings suggest that cultures that value personal autonomy and achievement may foster stronger innovation dynamics, while those that emphasize competition, gender inequality, or leisure may be less conducive to sustained innovation.

The interaction terms show that the negative impact of FDI on innovation is mitigated in EMCs with higher levels of MAS, UAI, and IND. These effects are statistically significant across all specifications, including the SGMM model. Although these findings contradict initial expectations for UAI and IND, they suggest that in more structured, competitive, or leisure-tolerant cultures, local firms may be better positioned to adapt to foreign competition, reducing the innovation-suppressing effect of FDI. While these findings diverge from earlier work on the liability of foreignness (e.g., Hymer, 1976; Contractor et al., 2014), they suggest that structured, competitive, or leisure-oriented cultures may equip local firms to better adapt to foreign competition. This provides support for Hypothesis 3 (MAS), but not for Hypotheses 4 (UAI) and 6 (IND).

Regarding IDV, we find a negative interaction with FDI in OLS models, indicating that individualistic societies may experience stronger innovation declines from FDI inflows. However, the interaction term becomes insignificant in the SGMM estimation, offering weak support for Hypothesis 2. Furthermore, the interaction terms for power distance (PDI) and long-term orientation (LTO) are consistently insignificant, suggesting no support for Hypotheses 1 and 5, further highlighting the need to distinguish between micro-level firm behavior and macro-level development outcomes.

In terms of diagnostic tests, they confirm the robustness of the model. The AR(2) and Hansen J test results again support the absence of serial correlation and the validity of instruments, reinforcing the reliability of our SGMM estimates. The control variables also remain consistent with theoretical expectations and prior empirical findings.

Overall, the analysis indicates that the innovation-reducing effects of FDI are more pronounced in EMCs characterized by lower masculinity, lower uncertainty avoidance, and weaker institutional capacity, limited competitive pressure, or reduced firm adaptability. Meanwhile, the effect of individualism remains inconclusive, as its moderating effect varies across model specifications and lacks robustness under endogeneity correction.

Table 2: GDP, FDI and Culture

| | (I) Pooled OLS | (II) OLS-FE | (III) OLS-FE | (IV) SGMM |
|---|---|---|---|---|
| $\Delta GDP_{t-1}$, | | | | 0.957*** |
| | | | | (0.007) |
| $GDP_t$ | -0.037*** | -0.021 | -0.194*** | |
| | (0.014) | (0.015) | (0.062) | |
| FDI / GDP (%) | 0.026* | 0.039*** | 0.042** | 0.024*** |
| | (0.016) | (0.015) | (0.018) | (0.008) |
| Education Exp. / GDP (%) | -0.008 | -0.018 | 0.021 | -0.015 |
| | (0.025) | (0.022) | (0.027) | (0.016) |
| Health Exp. / GDP | -0.018 | -0.022 | -0.019 | -0.031*** |
| | (0.018) | (0.017) | (0.026) | (0.011) |
| Trade Openness / GDP (%) | 0.010 | 0.004 | -0.002 | 0.002 |
| | (0.015) | (0.014) | (0.038) | (0.007) |
| Consumption | 0.035 | 0.060 | -0.041 | 0.080** |
| | (0.055) | (0.051) | (0.079) | (0.037) |
| Capital Formation | 0.047** | 0.050** | 0.091** | 0.045*** |
| | (0.022) | (0.021) | (0.033) | (0.017) |
| Total Value | -0.079 | -0.108 | -0.031 | -0.124** |
| | (0.070) | (0.067) | (0.083) | (0.052) |
| GDP Deflator | -0.000** | -0.000** | -0.000*** | -0.000*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Reg.Institutions | -0.029 | -0.034* | -0.008 | -0.024 |
| | (0.019) | (0.019) | (0.024) | (0.016) |
| Polit. Institutions | 0.042** | 0.045** | 0.058** | 0.035** |
| | (0.021) | (0.021) | (0.025) | (0.017) |
| FDI x PDI | 0.010 | -0.007 | -0.016 | -0.007 |
| | (0.009) | (0.009) | (0.011) | (0.005) |
| FDI x IDV | 0.006 | 0.000 | -0.013 | -0.011 |
| | (0.012) | (0.013) | (0.012) | (0.009) |
| FDI x MAS | -0.011 | -0.048 | -0.006 | 0.041 |
| | (0.102) | (0.086) | (0.084) | (0.055) |
| FDI x UAI | -0.015** | -0.013* | -0.008 | -0.004 |
| | (0.008) | (0.007) | (0.008) | (0.003) |
| FDI x LTO | -0.028** | -0.026** | -0.018*** | -0.015*** |
| | (0.012) | (0.012) | (0.005) | (0.004) |
| FDI x IND | -0.019** | -0.019*** | -0.024*** | -0.015*** |
| | (0.009) | (0.007) | (0.008) | (0.004) |
| Power Distance | -0.033 | 0.011 | | |
| | (0.031) | (0.030) | | |
| Individualism | -0.008 | -0.013 | | |
| | (0.048) | (0.049) | | |
| Masculinity | -0.001 | 0.023 | | |
| | (0.038) | (0.036) | | |
| Uncertainty Avoidance | 0.079*** | 0.044 | | |
| | (0.024) | (0.028) | | |
| Long/Short Term Orientation | 0.042 | 0.028 | | |
| | (0.032) | (0.034) | | |
| Indulgence/Restraint | 0.035 | 0.023 | | |
| | (0.032) | (0.027) | | |
| Constant | 0.390** | 0.330* | 1.733** | 0.000 |
| | (0.151) | (0.175) | (0.687) | (0.000) |
| Observations | 214 | 214 | 213 | 214 |
| R-squared | 0.359 | 0.602 | 0.694 | 0.754 |
| Year fixed effects | No | Yes | Yes | Yes |
| Country Fixed Effects | No | No | Yes | No |
| Hansen Test | | | | 1 |
| AR(2) p-value | | | | 0.195 |

*Notes:* $^{***}$ $p < 0.01$, $^{**}$ $p < 0.05$, $^{*}$ $p < 0.1$. Dependent variable is $\Delta GDP$. Robust standard errors in parentheses.

Table 3: Innovation, FDI and Culture

| | (I) Pooled OLS | (II) OLS-FE | (III) OLS-FE | (IV) SGMM |
|---|---|---|---|---|
| $\Delta Innovation_{t-1}$, | | | | -0.232* |
| | | | | (0.088) |
| $Innovation_t$, | 0.857*** | -0.851*** | -0.800*** | |
| | (0.084) | (0.087) | (0.066) | (0.088) |
| FDI / GDP (%) | -4.240** | -4.842*** | -4.329** | -2.374** |
| | (1.651) | (1.796) | (1.542) | (1.040) |
| Education Exp. / GDP (%) | 1.979 | 1.823 | 3.115 | 1.480 |
| | (2.806) | (2.795) | (1.908) | (2.705) |
| Health Exp. / GDP | 3.125** | 2.510* | -0.138 | 4.484*** |
| | (1.339) | (1.413) | (2.396) | (1.639) |
| Trade Openness / GDP (%) | 1.029* | 0.365 | -1.317 | 1.973* |
| | (0.601) | (0.854) | (1.162) | (1.145) |
| Consumption | -7.162** | -7.917** | -5.744 | -4.475 |
| | (3.236) | (3.508) | (5.363) | (2.938) |
| Capital Formation | 0.579 | 0.839 | 0.713 | 3.001*** |
| | (1.120) | (1.169) | (1.297) | (1.139) |
| Total Value | 7.118* | 7.241* | 5.835 | 2.334 |
| | (4.013) | (4.057) | (6.229) | (3.630) |
| GDP Deflator | 0.000 | -0.000 | -0.000 | -0.001 |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Reg. Institutions | 0.844 | 0.968 | 0.347 | -0.309 |
| | (0.861) | (1.093) | (1.199) | (1.340) |
| Polit. Institutions | -0.741 | -0.827 | -0.001 | 0.143 |
| | (1.061) | (1.235) | (1.028) | (1.025) |
| FDI x PDI | 0.544 | 1.034 | 1.173 | 0.869 |
| | (1.020) | (1.152) | (0.809) | (0.687) |
| FDI x IDV | -3.377** | -2.897* | -5.123*** | -1.013 |
| | (1.576) | (1.703) | (1.337) | (0.910) |
| FDI x MAS | 50.050*** | 48.180*** | 57.223*** | 11.061** |
| | (9.472) | (10.311) | (11.074) | (5.461) |
| FDI x UAI | 1.461** | 1.563* | 1.751* | 1.389*** |
| | (0.726) | (0.874) | (0.839) | (0.513) |
| FDI x LTO | -0.364 | -0.302 | 0.715 | 0.443 |
| | (0.806) | (0.931) | (1.120) | (0.855) |
| FDI x IND | 4.493*** | 4.609*** | 3.562*** | 1.655*** |
| | (1.048) | (1.113) | (0.823) | (0.396) |
| Power Distance | 3.081 | 2.854 | | |
| | (3.531) | (3.841) | | |
| Individualism | 15.162*** | 15.589** | | |
| | (5.612) | (6.042) | | |
| Masculinity | -13.472*** | -13.450*** | | |
| | (4.393) | (4.744) | | |
| Uncertainty Avoidance | 0.774 | 1.319 | | |
| | (1.811) | (2.386) | | |
| Long/Short Term Orientation | 2.925 | 3.228 | | |
| | (2.088) | (2.397) | | |
| Indulgence/Restraint | -5.989** | -5.251* | | |
| | (2.844) | (2.884) | | |
| Constant | -20.198 | -12.247 | -13.930 | 0.000 |
| | (13.929) | (14.325) | (22.954) | (0.000) |
| Observations | 197 | 197 | 196 | 197 |
| R-squared | 0.707 | 0.726 | 0.766 | 0.766 |
| Year fixed effects | No | Yes | Yes | Yes |
| Country Fixed Effects | No | No | Yes | No |
| Hansen Test p value | | | | 1 |
| AR(2) p-value | | | | 0.178 |

*Notes:* $^{***}$ $p < 0.01$, $^{**}$ $p < 0.05$, $^{*}$ $p < 0.1$. Dependent variable is $\Delta Innovation$. Robust standard errors in parentheses.

# 6 Discussion and Concluding Remarks

Understanding the impact of foreign direct investment (FDI) has been a central focus in international business and management research, particularly given the role of FDI as a major source of external finance for emerging market countries (Meyer and Sinani, 2009). Yet, despite its importance, especially for policy and development strategies, questions remain about the conditions under which FDI promotes or hinders economic outcomes. Some countries may experience more beneficial effects from FDI than others. Our study sheds light on the underlying factors behind these cross-country differences, by investigating how specific cultural attributes shape the developmental outcomes of FDI.

To explore this relationship, we analyze a panel dataset of 24 emerging market countries (EMCs) over the period 1995-2010. We employ Pooled OLS, OLS-Fixed Effects (FE), and System Generalized Method of Moments (SGMM) estimation models, with the latter addressing potential endogeneity concerns. Our findings indicate that in nations characterized by limited long-term planning (low LTO) and stricter social norms and practices (low IND), the positive effect of FDI inflows on economic growth is amplified. Furthermore, in countries with higher levels of gender inequality (high MAS), a preference for stability (high UAI), and more relaxed social norms and practices (high IND), the negative effect of FDI inflows on innovation growth is also amplified.

Our study makes several distinct contributions to the international business (IB) research. For starters, while much of the existing literature conceptualizes cultural distance as a dyadic barrier between home and host countries (Kogut & Singh, 1988; Shenkar, 2001), we demonstrate that host-country cultural traits, independent of MNE origins, systematically influence the effectiveness of FDI. This perspective provides a clearer way to understand FDI outcomes, particularly in countries that attract investment from many different sources. Furthermore, in contrast to studies that focus primarily on MNE strategy (Meyer et al., 2011), we show that local cultural characteristics (e.g., restraint vs. indulgence) interact with FDI to shape local entrepreneurial ecosystems. This link remains largely overlooked in research on FDI spillovers. Lastly, by applying Hofstede's cultural framework across emerging markets, and based on our findings we identify important boundaries to where and how international business (IB) theories apply. In doing so, we advance the institution-based view by framing culture as a meta-institution that conditions the impact of FDI on local economic outcomes.

Our results can have important implications for economic policy and development strategies, suggest-

ing that cultural dimensions should be carefully considered by policymakers when designing approaches to attract and leverage FDI effectively. For instance, implementing regulations that encourage long-term planning more relaxed social norms can increase the positive impact of FDI on economic growth. Furthermore, in countries with high MAS, high UAI, or high IND policymakers could mitigate the adverse effects of FDI on innovation growth by promoting environments with more gender equality, more risk taking, and by encouraging openness to new ideas and diverse perspectives.

It has to be noted that our study is limited by the binary treatment of certain cultural dimensions, such as individualism vs. collectivism, which research suggests may be multi-dimensional (Triandis, 2018). This approach may not fully capture the ways in which culture interacts with FDI. Despite this limitation, our focus on emerging market countries (EMCs) can have broad relevance for developed economies.

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