

DO MULTINATIONAL ENTERPRISES MATTER FOR ECONOMIC DEVELOPMENT? THE ROLE OF FREE TRADE AGREEMENTS IN HIGH AND UPPER-MIDDLE INCOME COUNTRIES

¿Importan las empresas multinacionales para el desarrollo económico?
El papel de los acuerdos de libre comercio en los países de ingresos altos y medianos altos

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ABSTRACT

The aim of the paper is to determine the effect of Multinational Enterprises on economic development, measured by the Human Development Index, in a group of 58 high and upper-middle income countries where they operated from 2005-2016, while considering the role of free trade agreements. We follow a robust dynamic panel data econometric methodology. For our analysis, we considered the total sample and sub-samples of countries based on their trade status. The results indicate that Multinational Enterprises drive economic development by favoring the expansion of people's capabilities. Therefore, measured by added value, the economic activity of this type of company tends to enrich the life of society as well as the fundamental freedoms in the foreign country in which they operate. The effects of Multinational Enterprises on economic development are higher in countries with a large number of Free Trade Agreements, which means that intensification of free trade favors the MNE's role in social goals.

KEYWORDS: MULTINATIONAL ENTERPRISES, HUMAN DEVELOPMENT INDEX, FREE TRADE AGREEMENTS, ECONOMIC DEVELOPMENT COUNTRIES.

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RESUMEN

El objetivo del trabajo es determinar el efecto de las Empresas Multinacionales en el desarrollo económico, medido por el Índice de Desarrollo Humano, en un grupo de 58 países de ingreso alto y medio-alto donde operan para el período 2005-2016, considerando el rol de los libres acuerdos comerciales. Se sigue una metodología econométrica robusta de datos de panel dinámico. Para el análisis se considera la muestra total y las submuestras de países en función de su situación comercial. Los resultados indican que las Empresas Multinacionales impulsan el desarrollo económico al favorecer la expansión de las capacidades de las personas. Por tanto, la actividad económica de este tipo de empresas, medida por el valor añadido, tiende a enriquecer la vida de la sociedad, así como las libertades fundamentales en el país extranjero en el que operan. Los efectos de las Empresas Multinacionales sobre el desarrollo económico son mayores en países con un gran número de Tratados de Libre Comercio, lo que significa que la intensificación del libre comercio es una vía que favorece el papel de las Empresas Multinacionales en los objetivos sociales.

PALABRAS CLAVE: EMPRESAS MULTINACIONALES, ÍNDICE DE DESARROLLO HUMANO, TRATADOS DE LIBRE COMERCIO, PAÍSES EN DESARROLLO ECONÓMICO.

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INTRODUCTION

Globalization has been promoted through the signing of numerous free trade agreements (FTAs) among countries on the basis of bilateral or regional treaties. These treaties are meant to accelerate the exchange of products and services, as well as the flow of Foreign Direct Investment (FDI).

Thus, Multinational Enterprises (MNEs) become central actors since this process channels the largest flows of productive investment, services, capital, trade, and knowledge. It crosses borders and affects the economic, social, and political situation of all host countries. According to Kim & Milner (2019), MNEs play significant roles in shaping the global economy, especially in job creation, poverty reduction, and capital distribution.

Moreover, the more capital-intensive productivity foreign companies favor substantial increases in wage levels (Braha *et al.*, 2022). So Porter & Kramer (2011) consider that MNEs incorporate improvements in social issues in different areas in which they act. These include the working conditions of employees, better products and services, progress in a local community's needs, and in environmental management, among others. Therefore, Aguilera *et al.* (2017) consider MNEs as a precondition for economic and social progress.

The contribution of MNEs to economic development is shown in the creation of new labor and higher incomes. This requires positioned value chains, new companies and the consolidation of existing ones, among other aspects. It also implies access to larger markets, the financial system, new technologies and knowledge. All these tend to be boosted by multinational companies, as political and economic actors. Furthermore, achieving further economic development requires systemic change and MNEs are an efficient and sustainable engine of change.

Even more, the economic development impacts of MNEs are not only linked to income or inequality but also to humanitarian issues such as human rights, freedoms, capabilities and opportunities, that enable people to live long, healthy, and creative lives. In consequence, MNEs are a potential determinant of economic development.

The quantitative analysis of MNEs' impact on human development is limited in the academic literature. Nevertheless, studies such as Cruzatti (2021), Korhan *et al.* (2018), and Mishra (2018) find a positive impact of MNEs on the human development index (HDI), as well as in school enrolment, life expectancy at birth and national income. On the other hand, the literature does not find significant effects or even negative impacts. Nam & Ryu (2023) argue that predatory or

invasive MNEs that hamper human development in the host country exist. They aggregate that FDI could improve human development if social/political mechanisms regulate its operation. Narula & van der Straaten (2021) state that the gains of FDI-MNEs are rarely evenly distributed within recipient countries, which leads to unequal economic development processes. Thus, there is no consensus about the effect of MNEs on HDI.

In addition, in the last years, there has been a rise in the number and depth of free trade agreements that include investment provisions (Crawford & Kotschwar, 2018). In consequence, since FTAs tend to increase FDI and MNEs participation in host economies, it is possible to expect potential effects on HDI through their activities. This leads to questions about the contribution of MNEs to the human development process. This effect depends on the free trade context of the host countries.

The aim of our paper is to determine the effect of MNEs on economic development, measured by the HDI, in a group of 58 high and upper-middle income countries where they operate from 2005-2016 (according to data availability), while considering the role of free trade agreements. We follow a robust dynamic panel data econometric methodology (sys-GMM). For our analysis, we considered the total sample and sub-samples of countries based on their trade status, that is, as a function of the total and core depth of FTAs. Given the central empiric arguments, it is expected that MNEs positively affect economic development.

Our paper will contribute to the scarce literature that quantitatively analyzes the role of MNEs on economic development. In addition to their introduction, our paper describes the theoretical and empirical effects of MNEs in economic development and the relationship between MNEs and FTAs. Then, it briefly presents the methodology, variables used, main results, and discusses them. Finally, we present some final reflections.

LITERATURE REVIEW

This section describes the effects of MNEs on economic development, as well as the relationship between MNEs and HDI, education, health, and GDP per capita. It also considers the relationship between MNEs and FTAs.

The effects of MNEs on economic development

There are several studies on the importance of MNEs for host countries. For example, globalization has the potential to generate economic and social benefits, such as employment, market expansion, resource efficiency, technology and knowledge spillovers, and access to products and opportunities (Kiani *et al.*, 2021; Hasan & Waheed, 2020; Paliova *et al.*, 2017; Tehseen & Waheed, 2017). Following Buckley (2009), globalization has both affected and been caused by the strategies of multinational enterprises. Moreover, as a consequence of their scale, MNEs rule the global economy (OECD, 2018).

Portia *et al.* (2017) observe that MNEs drive economic development and play a dominant role in the globalization of world economies. Their activities are channeled through trade, foreign direct investment, and the transfer of knowledge and technology. In some cases, MNEs have created links with local companies to facilitate access to local inputs and production techniques, capacity development, and the creation of market opportunities. Ezeoha *et al.* (2022) find that linking local businesses to global value chains enables the redistribution of economic benefits, helps build a complementary relationship between MNEs and local businesses, and facilitates access for local companies to international markets.

In particular, according to Braha *et al.* (2020), Moss (2017), and Lehnert *et al.* (2013), MNEs could positively affect domestic labor markets leading to higher wages, less labor inequality, and better living standards. Ake (2002) pointed out that MNEs provide income flows needed to achieve higher standards of well-being for their employees. Kim & Han (2014) put forward that MNEs contribute to economic development since their activities, in general, mean economic growth. All this modifies the conditions of the economic development process.

MNEs can have a decisive influence on the development path of countries, although the effectiveness of an FDI-assisted development strategy depends on a variety of factors. The net benefits depend not only on the quantity but also on the quality of FDI. Quality has to do with the investment motivations of the MNEs, the mandate, and the autonomy of its subsidiaries. They determine in turn the potential for linkages and indirect effects. These effects also depend on the ability of domestic companies to absorb, internalize, and improve their knowledge assets.

Although governments offer generous incentive packages to attract FDI, few countries carry out adequate cost/benefit analyses according to Narula & Pineli (2016).

This shows that MNEs alone cannot generate the expected effect. Host countries need to face issues such as corporate social responsibility, political problems and

economic issues. For Kyove *et al.* (2021) MNEs in developing countries rely heavily on sales abroad for revenue growth. Multinationals from developing countries are more likely to use less advanced factors of production, which can lead to low salaries.

Regarding the role of government in regulating the activities of MNEs, Tirimba & Munene (2014) point out that, the government should assume a prerogative role in supporting the operation of multinationals since they have promoted the economic development of developing countries with a drive towards full employment. Portia *et al.* (2017) for their part point out that few MNEs take note of how government policies and directions influence their activities. Therefore, there is a need to improve the implementation of policies and the regulatory framework for obtaining maximum benefits from the operation of MNEs.

HDI and its empirical determinants: the role of MNE

The global economy has been both a mechanism for world prosperity and for overcoming pervasive poverty (Sen, 2002). In this respect, MNEs play a key role that links capital, knowledge, international trade, and local capacities. In consequence, MNEs have the potential to contribute to the economic development process. One of their benefits is their participation in the economic growth of the host country.

Economic growth promotes human development when it uses available resources to improve the well-being and quality of life of the world population. Human development requires ideological and political freedom, social equity, the redistribution of wealth, environmental sustainability and personal and collective security, among others. Therefore, a development model cannot be conceived when it is based exclusively on material accumulation and economic growth, and when it does not take into account the free exercise of human capacities and potential (Fuertes *et al.*, 2017).

Human development is a multivariable process. Literature has identified countless factors affecting the HDI (see for example, Tudorache, 2020; Paliova *et al.*, 2019; Arisman, 2018; Amate *et al.*, 2017; Caglayan & Hanifi, 2017; Sangaji, 2016; Binder & Georgiadis, 2011; Sharma & Gani, 2004). Among these factors are political and ideological freedom, institutions, social equity, redistribution of wealth, personal and collective security, education, life expectancy of the population, environmental sustainability, urban, and gender.

Giuliani & Macchi (2014) point out that developing countries are attracting an important part of global foreign direct investment in order to generate jobs, increase wages, improve education, and increase the health levels of the population through

infrastructure and other aspects. Ranjan & Kumar (2022); Patel & Annapoorna (2019); Paliova *et al.* (2017), Prasetyo & Zuhdi (2013), and Tanzi (2005) conclude that this with the addition of public spending on education and health is a powerful mechanism for reducing inequality and poverty, and at the same time contributes to realizing human rights in issues of health and education, among others.

Furthermore, this equity allows countries to reach their desired achievements and freedoms. For example, the balance of capabilities between genders in terms of education, income, resource access, and participation in community impacts the quality of life of society as whole in addition to the individual well-being of each gender (Malik, 2018; Binder & Georgiadis, 2011; Binder & Georgiadis, 2010; Vepa, 2007; Sharma, 1997). Finally, the ability of MNE subsidiaries to obtain resources from related parties or from financial markets, which they then invest in infrastructures necessary for their operation and competitiveness (telecommunications projects or highway modernization), facilitates access to education and health services. Vakhtang *et al.* (2020) discuss a similar idea.

Also, Aguilera & Guerrero (2017) point out that MNEs follow strategies of Corporate Social Responsibility (CSR) that could promote human development. Barkemer (2011) claims, that through CSR, MNEs give back to local communities via the opportunity and capacity to develop, by guaranteeing access to basic necessities. Duke *et al.* (2012) indicate that developed country-MNEs work closely with stakeholders through specific programs related to microfinance, food, health, vulnerable groups, employment, and productive capacities, which can favor these development dynamics. Specifically, Yiu (2014) & van Tulder (2008) argue that different MNEs follow codes linked to problems of poverty and the working poor, aimed at improving working conditions.

However, governments of these countries often compete fiercely to attract multinationals with the expectation of these advantages, prioritizing economic objectives over fundamental human rights. This is the reason why Tirimba & Munene (2014) warn that the governments of host countries must avoid excessive dependence on multinationals at all costs.

MNEs and FTA

Over the past three decades, free trade agreements (FTA) have become an integral part of the global trading system. Athukorala (2020) points out that the number of FTAs notified to the World Trade Organization increased from 19 to 292 in

the period 1990-2019. Nowadays, the number of these agreements is above 500. This could lead to an increase in MNE activities. In this sense, the “spaghetti bowl” phenomenon, understood as the vast number of overlapping bilateral, regional, and multilateral trade liberalization agreements (Baldwin, 1996) can also be translated into a spaghetti bowl of MNEs operating from a global value chain perspective.

Briefly, we observed that the EU countries concentrate the highest number of FTAs during the period of interest (26), followed by the European Free Trade Association (23), Singapore (19), Korea (17), and Japan (15). Thus, these countries have a greater total depth of FTAs. Less developed economies have fewer agreements (for example, Chile 13, China, Thailand and Mexico 11, Colombia and Costa Rica 10). However, South Asia and Oceania economies show a higher grade of core depth, that is, FTAs that tend to incorporate more investment provisions in their agreements. Canada, the United States, and Russia have the highest average of FTAs including investment liberalization provisions. Likewise, investment national treatment and investment liberalization clauses are the most frequent in FTAs. In contrast, the investor to state dispute settlement and investment-MFN are the least common arrangements. In part, this shows the proliferation and deepening of FTAs and the increase in the number of more complex forms of FTAs (Cruzatti, 2021).

There is a consensus that FTAs increase the MNEs operating in a given country by facilitating their operations in foreign markets and linking their activities to those of local suppliers and consumers. Hayakawa & Toshiyuki (2017) state that MNEs use FTAs as an export platform mainly from their affiliates’ location. Furthermore, Urata & Kato (2017) establish that the FTA networks in the economies where MNEs operate allow them to build regional production networks to increase their competitiveness and resilience to global external shocks.

The relationship between MNEs and international agreements has been extensively demonstrated. According to Anderer *et al.* (2020), MNEs play a crucial role in the new alliance between free trade and firms needing intermediaries from abroad for their production processes, due to their strong participation in international trade. Miroudot & Rigo (2022) find that FTAs with investment provisions have positive effects on MNE production. Specifically, a new free trade agreement leads to an increase in MNE production of 26% in the manufacturing sector and 34% in the services sector.

The main consequence of this relationship is the increase in the HDI. Cruzatti (2021), Islam & Fatema (2017), and Davies & Quinlivan (2006) argue that the more MNEs in the domestic economy, the higher the HDI when the market operates in an environment of commercial intensification derived from the network of free

agreements. The positive effect of MNE-FTA could be understood by the fact that foreign firm investments make countries more receptive to social and economic changes, adopting modern business values and practices as outlined in FTAs.

Rodrik (2018) on the one hand, points out the capacity of trade agreements to empower a set of global economic agents, among which multinational companies, oriented towards rent seeking, stand out. However, FTAs, focused on tariffs and non-tariff barriers, can lead to freer global trade that is beneficial to all, both in terms of access to markets and quality of life. Likewise, although global companies compete with each other for new markets, MNEs engage in “defensive investments,” mainly in oligopolistic sectors, which could emerge from bilateral or regional FTAs (Knickerbocker, 1973). In other words, they invest in a country to match the movement of a rival company, which favors economic activity in the host country and, eventually boosts the HDI.

Cruzatti (2021) on the other hand, establishes that the positive effect of the FTAs is explained by an increase in economic activity that does not alter the levels of inequality. Consequently, the actions of MNEs in FTA contexts tend to favor the exercise of fundamental freedoms. In this regard, Kumar (2017) argues that the more a country increases its commercial intensity, the greater the increase in its income, flow of new technologies, superior human skills, and availability of goods. All of this translates into a higher quality of life. Throughout this process, the MNEs, are a central agent of change.

The change in institutional conditions may encourage companies to consider the potential of new markets (Saarelainen, 2020). This means that for example, if the rules of origin increase tax revenues within NAFTA countries, they can transform a welfare-reducing FTA into one that enhances it (Mukunoki & Okoshi, 2021). Therefore, policymakers in developing countries should encourage and liberalize FDI from developed countries to increase their volume of economic activity (Sohail *et al.*, 2021). However, even though there are empirical results that could be taken as valid evidence for a causal connection between free trade and economic gains, none of them allow trustworthy inferences about trade liberalization reforms (Mireles, 2022).

METHODOLOGY AND DATA

To estimate the effect of MNEs on economic development, a pool data series is used for 58 high and upper-middle-income countries for a period of 12 years

(2005-2016),¹ given the availability of information. The final base consists of 696 observations. An econometric model of balanced panel data is proposed, which tends to show autocorrelation, heteroscedasticity, cross-sectional dependence and multicollinearity.

To consider these problems, we used the sys-GMM dynamic panel data methodology. It is based on the Generalized Method of Moments (GMM), proposed by Arellano-Bover (1995). The GMM takes the first differences to remove invariant country effects. Formally:

$$hdi_{it} - hdi_{it-1} = \alpha + \beta_1(hdi_{it-1} - hdi_{it-2}) + \beta_2(X_{it} - X_{it-1}) + (u_{it} - u_{it-1})(1)$$

By taking the lagged values of the endogenous variables as instruments, valid if the error term u_{it} is not serially correlated, it is possible to consider endogeneity problems.

However, the GMM estimator faces finite sample bias and low precision (Alonso & Arellano, 1996). Consequently, we use the expanded two-stage dynamic model sys-GMM (Blundell & Bond, 1998). This combines the first lagged differences of the dependent variable with its lagged levels. Moreover, dynamic endogeneity is present, since the current values of MNEs (independent variable) are affected by the past values of HDI (dependent variables), as a locational determinant of investment, which can lead to biased estimates (Le *et al.*, 2021). Sys-GMM methodology significantly improves precision and reduces small-sample bias (Blundell & Bond, 2000). The dynamic panel model approach allows us to control for the dynamic nature of the relationship among HDI, MNEs and FTAs (Babajide *et al.*, 2012). For the regression in levels, we used the lagged differences as instruments, while for the regressions in first differences, the instruments used are the lagged levels.

To verify the consistency of the sys-GMM estimator, it is necessary to corroborate the validity of the levels and lagged differences of the explanatory variables as instruments, which would reduce the finite sample bias (Blundell & Bond, 1998). To do this, we used two tests. The Hansen test of over-identification of restrictions to determine the joint validity of the instruments given the heteroskedastic

¹ The countries analyzed are: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Morocco, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Romania, Russia, Saudi Arabia, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States, and Vietnam.

distribution of the errors,² and the difference-in-Hansen test, defined as the difference between the Hansen statistics of the differentiated GMM and the sys-GMM.³

Failure to reject the null hypothesis implies that the instrumental variables are not correlated with the residual term, that is, that the instrument set is valid. Also, the Arellano-Bond autocorrelation is used to determine the existence of first and second order autocorrelation, and corroborate that $[\mu_{it} - \mu_{it-2}] = 0$, guaranteeing the consistency of the sys-GMM estimator. Since other factors not included in the human development analysis tend to vary in an unobservable small magnitude across time, the methodology employs a dynamic approach with specific effects for each country and invariant over time.

Additionally, the panel data methodology increases the power of statistical tests by combining cross-section elements with time series, making the results more reliable than standard tests, where the estimators have a normal distribution (Baltagi & Kao, 2003). However, to avoid spurious results, it is necessary to determine the level of the series integration. Thus, we used Fisher-type tests, which first determine the existence of unit roots for each panel individually and then combine the resulting *p*-values for the total test. We also used the Levin, Lin & Chu (LLC), Im, Pesaran & Shin (IPS), Kwiatkowski, Phillips, Schmidt & Shin (KPSS) and Hadri (H) panel unit root tests.⁴ We determined the optimal lag length according to the Schwarz criterion. As a robustness analysis, we used the unit root tests of ADF-Fisher and PP-Fisher. According to Choi (2001), these tests eliminate the problems in the LLC and the IPS.

At the same time, to consider possible structural breaks, we used the panel stationarity test proposed by Carrion *et al.* (2005), based on a test statistic for the

² Overidentification means that the number of instruments used is bigger than the number of endogenous regressors. The test allows testing if all instruments are exogenous assuming that at least one of them is exogenous. The null hypothesis states that the overidentification restrictions are valid.

³ The test establishes the null hypothesis of joint validity of a subset of instruments and is asymptotically distributed as a χ^2 with *n* degrees of freedom equal to the additional instruments.

⁴ In general, there are two types of unit root tests for panel data: common unit root processes, which occur when cross-sectional units share parameters with each other (LLC test), and individual unit root processes when parameters are different between units (IPS test). The first test allows for heterogeneity of the individual deterministic effects and the serial correlation structure. It assumes the alternative hypothesis of the presence of homogeneous autoregressive roots (same coefficient of the autoregressive term), which limits its power. The test evaluates the hypothesis of non-stationarity for each individual series using pooled *t*-statistics. The IPS test overcomes this limitation by assuming that autoregressive root heterogeneity exists (heterogeneous cross-section formation). This test calculates the residual serial correlation, allowing different coefficients of the autoregressive terms, based on the simple average of the Dickey-Fuller (DF) statistics of each cross-section in the panel. LLC and Hadri tests assume that there is a common unit root process across cross-section units. KPSS test allows checking for stationarity of a series around a deterministic trend.

null hypothesis of panel stationarity that allows for the presence of multiple structural breaks. The methodology considers a general specification with individual effects, individual structural break effects (changes in the mean due to structural breakdowns), time effects and temporary structural break effects (changes in the individual time trend). The stationarity test of the panel by Carrion, Del Barrio and Lopez -CBL- (2005) follows the proposal of Hadri (2000), who designed a test statistic that is the average of the univariate stationarity test of Kwiatkowski, Phillips, Schmidt & Shin -KPSS- (1992). The standardized test statistic, with the null hypothesis of stationarity, converges to the standard Normal distribution (Hadri, 2000).⁵

Human development is a multivariable process. Literature has identified a wide range of factors that influence the HDI. In brief, a selected set of variables is included in our estimation and it captures the economic, political, institutional, social, urban, and gender factors influencing the HDI. The proposed model derives from our revision of theoretical, empirical and conceptual papers. This has allowed us to identify methodologies, variables and expected effects on human development. Formally, the equation to be estimated is:

$$hdi_{it} = \alpha + \beta_1 hdi_{it-1} + \beta_2 mne_{it} + \beta_3 sge_{it} + \beta_4 di_{it} + \beta_5 urb_{it} + \beta_6 misery_{it} + \beta_7 gend_{it} + \varphi_t + \mu_i + \varepsilon_{it} \quad (2)$$

Here α is the constant, i the individual observation (country), t the year, hdi the Human Development Index, mne the multi-national companies operating in the i country, sge is social public spending, di the Democracy Index, urb the level of urbanization, $misery$ the Misery Index as a measure of economic health, $gend$ an indicator of gender inequality, ε the error term, φ the temporal effects (associated with possible changes over time or structural breaks), μ the specific effects at the country level (associate with possible structural heterogeneity), and the parameters β_1 to β_7 stand for the coefficients of each variable to be estimated.

As usual, the data is transformed into logarithms, so the coefficients are interpreted as elasticities. An estimated positive sign indicates an increase in development. Positive signs are expected for all variables except for *misery*.

⁵ The Hadri (2000) test assumes that the individual time series y_{it}^* is generated by the unobserved component model: $y_{it}^* = f_i(t) + r_{it} + \varepsilon_{it}$ and $r_{it} = r_{i,t-1} + u_{it}$, where $f_i(t)$ being a constant or a linear time trend, ε_{it} is assumed to be an $I(0)$ stationary process and $u_{it} \sim iid(0, \sigma_{u,i}^2) \forall i, i=1, \dots, N$, and ε_{it} and u_{it} are mutually independent. Likewise, to test the null hypothesis of stationarity, Hadri (2000) used the panel version of the KPSS test: $\eta_k = N^{-1} \sum_{i=1}^N (\omega_i^{-2} T^2 \sum_{t=1}^T S_{it}^2)$, where $k = \{\mu, \tau\}$, $S_{it} = \sum_{j=1}^t \varepsilon_{ij}$ is the partial sum process generated from the estimated OLS residuals.

It should be noted that there is only an emergent theoretical framework about MNEs-HDI. It also only basically examines the relation from the FDI perspective or it analyzes FDI locational decisions (HDI pillars as attractors of FDI). According to Sharma & Gani (2004) the theoretical framework of this relationship can be traced back to the welfare and economic growth literature. In sum, economic growth provides the resources to sustained improvements in human development, and, as a consequence, determinants of growth (technology, human capital, knowledge, public spending, economic freedom, etc.) are also potential factor for the human development process.

In this regard, Bajrami & Zeqiri (2019) argue that FDI and human capital development, as a proxy of development, have complementary effects and reinforce each other. Additionally, Brewer & Young (2011) define MNEs as firms, financed by foreign direct investment, that own, control, and manage value-adding activities in at least two different economies.

Colen *et al.* (2008) argue about two basic hypotheses regarding the impact of FDI on human development: “race to the bottom” and “climb to the top.” The first states that foreign companies tend to be located in countries with low wages and taxes and weak social and environmental regulations. To “benefit” from these investments, governments make concessions to foreign capital despite the negative effects that would entail. That is, FDI is an obstacle that leads the economy into a “race to the bottom.” The second establishes that MNEs seek countries that offer greater profitability based on strong markets (high salaries and productivity), and democratic and lawful states. Firms are also interested several issues such as achieving economies of scale, the performance of their brands and that of their suppliers, and the establishment of a global network of relationships and information. For it, they generate and disseminate new knowledge, skills and technologies and promote better social and environmental standards. That is, FDI is a force that leads the economy to a “climb to the top.”

The main theoretical specifications of this relationship are synthesized by Nam & Ryu (2023). They identify positive and negative effects on economic development. On the one hand, FDI favors economic growth by means of knowledge transfer, absorptive capability, spillover effects, technological change, productivity and job opportunities by introducing new technologies, advanced managerial skills, and access to basic services (clean water, electricity, transportation, education, health-care) via foreign and domestic trade and infrastructure development.

On the other hand, FDI has negative impacts, mainly in social (human rights violations regulations on labor, child and forced labor, etc.), economic (labor

standards -minimum wage, working hours-, income inequality, tax evasion, etc.), political (lobbying and democracy) and environmental (energy consumption, exploitation of natural resources) terms. These have consequences on overall health. Thus, it is clear that MNEs through FDI can strengthen or weaken development depending on the given scenario. Therefore, according to Nam and Ryu (2023), the effect had by FDI as a promoter of human development depends on a set of external factors, grouped into the economic, political, social, technological and environmental dimensions that regulate FDI activities and MNEs.

In this context, we defined *mne* as the gross value added (millions of dollars) by foreign multinational companies in the host economy. Our source was the AMNE Database of OCDE. In this respect, globalization, by definition, has the potential to generate economic and social benefits, such as employment, market expansion, resources efficiency, technology and knowledge spillovers, and access to products and opportunities (see Kiani *et al.*, 2021; Hasan & Waheed, 2020; Paliova *et al.*, 2017; Tehseen & Waheed, 2017). For example, Buckley (2009) affirms that globalization has both affected, and been caused by, the strategies of multinational enterprises. Moreover, as a consequence of their scale, MNEs rule the global economy (OECD, 2018).

Here, *spe* is the sum of public spending on education and health as a proportion of GDP taken from The World Development Indicators (WDI) of The World Bank Social public expenditure. These include social protection, healthcare and education. Therefore, *spe* is a powerful mechanism for reducing inequality and poverty, and at the same time. it contributes to the realization of human rights in issues of health and education, among others (see Ranjan & Kumar, 2022; Patel & Annapoorna, 2019; Paliova *et al.*, 2017, Prasetyo & Zuhdi, 2013; Tanzi, 2005).

The institutional factor is approximated by the Democracy Index (*di*), provided by The Economist Intelligence Unit, which measures the quality of democracies considering dimensions such as electoral pluralism, government, political participation, political culture and civil liberty. Its range of values is between 0 and 100, with 100 being the highest quality of democracy. Democracy, and its institutions, tends to create a political context favorable to guaranteeing the needs and interests of its society. Citizen participation in political and government issues allows for development patterns where governments are more accountable in matters of social and economic necessities (see Gerring *et al.*, 2021; Liotti *et al.*, 2018; Gamalath, 2015; Gerring *et al.*, 2012).

Urbanization (*urb*) plays an important role in the economic and social fabric of a country by offering opportunities for employment, education and health services, concentrating capacities and offering opportunities for economies of scale and

urbanization (Toria *et al.*, 2021). We define the variable *urb* as the people living in urban areas, the percentage they represent of the total population. Our source is the WDI (Tripathi, 2021; Ivanov, 2020; Huang & Jiang, 2017; UN-Habitat, 2016).

We obtained the data for our Misery Index (*misery*), the sum of inflation (end of period consumer prices index) and unemployment rate (% of total labor force), from the WDI. Inflation and unemployment as economic phenomena impact much more than just economic activities. Their negative effects in production, public finances, consumption capacity and so on, which in turn impact life quality, are broadly recognized in the literature (Sumaryoto *et al.*, 2020; Bayar & Aytemiz, 2019; Amate *et al.*, 2017; Paliova *et al.*, 2017; Yolanda, 2017; Sangaji, 2016; Shah, 2016; Tolga *et al.*, 2011). Thus, both variables represent obstacles to improving the components of the human development process.

Finally, *gend* stands for the ratio of female to male labor force participation rate in percentage, taken from the WDI. The welfare, theoretically reflected in the HDI, constitutes the development of both women and men. Since gender equity propels the empowerment, representation, and provision of equal opportunities between women and men, besides being a fundamental human right, it is also a potential driver of human development, mainly in health and education (Campbell *et al.*, 2021). In turn, the equity it represents allows each country to move closer to their achievements and freedoms. The balance of capabilities between genders in terms of education, income, access to resources and participation in community and group activities impacts the quality of life of society as whole in addition to the individual well-being of each gender (Malik, 2018; Binder & Georgiadis, 2011; Binder & Georgiadis, 2010; Vepa, 2007; Sharma, 1997).

RESULTS

The results of the three univariate unit root/stationarity tests (ADF, PP, KPSS) are shown in Table 1. Panel A indicates that the null hypothesis of unit root existence tends not to be rejected by any of the tests (ADF or PP). The null hypothesis of stationarity is rejected for the KPSS test for practically all countries.⁶ Panel B presents the results of the unit root/panel stationarity tests (IPS, LLC and H). All three tests indicate that the panel is stationary.

⁶ Except for Argentina, Costa Rica, Croatia, Iceland, Latvia, and Malta (significant at 10%) for the PP test and for Cyprus, Greece, and Luxembourg (significant at 10%) for the KPSS test.

TABLE I
PANEL AND UNIVARIATE UNIT ROOT/STATIONARITY TESTS (FOR HDI)

(A) Unit Root Tests/Univariate Stationarity											
Country	ADF	PP	KPSS	Country	ADF	PP	KPSS	Country	ADF	PP	KPSS
Argentina	0.565	3.858 ***	0.295	Hong Kong	0.698	0.648	0.218	Philippines	0.740	0.588	0.218
Australia	0.339	0.399	0.178	Hungary	0.710	0.650	0.181	Poland	0.688	0.602	0.205
Austria	0.379	0.440	0.217	Iceland	0.698	2.885 ***	0.258	Portugal	0.701	0.731	0.241
Belgium	0.685	0.628	0.188	India	0.714	0.667	0.172 *	Romania	0.580	0.390	0.121 *
Brazil	0.703	0.684	0.176	Indonesia	0.660	0.379	0.183	Russia	0.794	0.731	0.256
Bulgaria	0.561	0.559	0.148	Ireland	0.738	0.602	0.220	Saudi Arabia	0.590	0.372	0.145
Canada	0.692	0.594	0.227	Israel	0.745	0.705	0.315	Singapore	0.689	0.638	0.236
Chile	0.566	0.589	0.165	Italy	0.750	0.742	0.157	Slovak Republic	0.630	0.552	0.215
China	0.689	0.659	0.191	Japan	0.713	0.711	0.155	Slovenia	0.665	0.340	0.136
Colombia	0.586	0.557	0.188	Korea	0.648	0.602	0.247	South Africa	0.736	0.695	0.278
Costa Rica	0.645	2.996 ***	0.139	Latvia	0.602	2.780 ***	0.278	Spain	0.707	0.614	0.252
Croatia	0.740	3.119 ***	0.130	Lithuania	0.614	0.588	0.247	Sweden	0.715	0.590	0.242
Cyprus	0.683	0.555	0.103 *	Luxembourg	0.605	0.579	0.093	Switzerland	0.665	0.634	0.266
Czech Republic	0.702	0.562	0.206	Malaysia	0.729	0.705	0.282	Thailand	0.739	0.570	0.236
Denmark	0.694	0.386	0.145	Malta	0.612	3.047 ***	0.305	Turkey	0.699	0.689	0.279
Estonia	0.715	0.458	0.130	Mexico	0.738	0.703	0.295	United Kingdom	0.712	0.682	0.280
Finland	0.702	0.587	0.242	Morocco	0.650	0.628	0.251	United States	0.727	0.704	0.296
France	0.694	0.648	0.220	Netherlands	0.665	0.590	0.254	Viet Nam	0.710	0.586	0.234
Germany	0.703	0.713	0.192	New Zealand	0.608	0.340	0.163				
Greece	0.714	0.655	0.096 *	Norway	0.611	0.386	0.158				
(B) Panel unit root/stationarity tests											
Test	p-value										
IPS	3.216	0.905									
LLC	3.069	0.894									
H											
Homogeneous variance	8.125	0.000									
Heterogeneous variance	8.057	0.000									

The null hypotheses posit the existence of a unit root in the ADF and PP tests. For the KPSS test, the null hypothesis establishes stationarity. The IPS, LLC and H tests posit non-stationarity as the null hypothesis.

* Significant at 10%. ***Not significant.

Source: own elaboration.

Similarly, Table 2 shows the results for the Carrion, Del Barrio and Lopez (CBL) panel stationarity test, which allows for multiple breaks in the intercept and slope terms. In panel A, the results for the univariate series are summarized, while panel B summarizes the results for the HDI series. To apply the test, and given the time length of the panel, we established a maximum of two breaks. To select the number of breaks in any univariate series, we used the modified Schwarz Information Criterion proposed by Liu, Wu and Zidek -LWZ- (1997).

In general, the null hypothesis of stationarity is rejected only for Argentina, Bulgaria, Cyprus, Latvia and Malta. Considering the long-term homogeneous and heterogeneous variances, the null hypothesis is not rejected at significant levels. Thus, we accepted that the panel of 58 countries for HDI is stationary in the period 2005- 2016.

TABLE 2. PANEL STATIONARITY TEST

(A) Univariate test statistic											
Country	Bartlet	Critical value 95%	Structural break year	Country	Bartlet	Critical value 95%	Structural break year	Country	Bartlet	Critical value 95%	Structural break year
Argentina	0.015 ***	0.078	2012	Hong Kong	0.210	0.227	2012	Philippines	0.101	0.140	2014
Australia	0.175	0.211	2008	Hungary	0.175	0.194	2010	Poland	0.140	0.142	2012
Austria	0.099	0.121	2012	Iceland	0.144	0.168	2010	Portugal	0.159	0.160	2012
Belgium	0.122	0.162	2012	India	0.212	0.229	2014	Romania	0.189	0.229	2012
Brazil	0.173	0.188	2010	Indonesia	0.231	0.250	2014	Russia	0.210	0.210	2012
Bulgaria	0.010 ***	0.056	2010	Ireland	0.168	0.173	2010	Saudi Arabia	0.149	0.165	2012
Canada	0.099	0.146	2008	Israel	0.229	0.231	2012	Singapore	0.116	0.130	2008
Chile	0.104	0.130	2012	Italy	0.230	0.249	2012	Slovak Republic	0.092	0.136	2010
China	0.090	0.111	2006	Japan	0.120	0.148	2012	Slovenia	0.184	0.196	2010
Colombia	0.117	0.130	2012	Korea	0.189	0.211	2008	South Africa	0.087	0.108	2014
Costa Rica	0.142	0.148	2012	Latvia	0.011 ***	0.096	2010	Spain	0.158	0.160	2012
Croatia	0.169	0.160	2010	Lithuania	0.221	0.276	2010	Sweden	0.130	0.149	2012
Cyprus	0.042 ***	0.095	2010	Luxembourg	0.185	0.204	2010	Switzerland	0.115	0.147	2012
Czech Republic	0.192	0.230	2012	Malaysia	0.145	0.161	2014	Thailand	0.156	0.162	2012
Denmark	0.206	0.219	2012	Malta	0.013 ***	0.060	2010	Turkey	0.096	0.104	2012
Estonia	0.185	0.185	2010	Mexico	0.169	0.188	2014	United Kingdom	0.107	0.119	2008
Finland	0.174	0.181	2012	Morocco	0.187	0.194	2012	United States	0.120	0.131	2008

TABLE 2. PANEL STATIONARITY TEST

(A) Univariate test statistic											
Country	Bartlet	Critical value 95%	Structural break year	Country	Bartlet	Critical value 95%	Structural break year	Country	Bartlet	Critical value 95%	Structural break year
France	0.095	0.139	2012	Netherlands	0.095	0.127	2012	Viet Nam	0.135	0.156	2014
Germany	0.148	0.152	2012	New Zealand	0.134	0.161	2012				
Greece	0.140	0.158	2010	Norway	0.098	0.117	2011				
(B) Panel test statistic											
	Statistic	95%									
Homogeneous variance	5.182	14.49									
Heterogeneous variance	4.674	18.79									

The test null hypothesis are panel stationarity. The critical values are computed by Bootstrap techniques using the Maddala and Wu (1999) proposal.

Source: own elaboration.

Besides, Table 3 shows the results of the estimations (sys-GMM) using dynamic panel data. To assess the consistency of the sys-GMM estimator, we reported p-values for the Hansen, Diff-in-Hansen, and AR (1) and AR (2) specification tests. The tests do not reject the null hypotheses of joint validity for our main or additional instruments. Also, there is no evidence of second-order autocorrelation. Therefore, it is accepted that the model is well defined and adequately estimates the effect of MNEs, in addition to a series of control variables, on the HDI in this group of countries.

The sys-GMM estimates for the total sample are presented in Table 3. Here, we observed a statistically significant coefficient with a positive sign for multinational companies. It showcased how the value added by MNEs contributes to the development process in the host country in which they operate. These results are in line with Braha *et al.* (2020) and Lehnert *et al.* (2013), who argue that MNEs offer better salaries, reduce inequality, and increase household welfare.

Plausible explanations are that, although companies seek to maximize benefits for their shareholders, their actions generate positive externalities such as greater competition in domestic markets, increase of public infrastructure and tax collection. Likewise, they generate jobs directly and indirectly (CEPAL, 2015) and establish links with local companies, developing their capacities and bringing them closer to global markets. Gerschewski (2013) and Ezeoha *et al.* (2022) used this backdrop to establish the positive inter-industry linkages between MNE subsidiaries and local suppliers.

TABLE 3. ESTIMATION RESULTS (SYS-GMM)

	Total sample		Countries with high number of FTA ⁷		Countries with low number of FTA ⁸		Countries with wide investment provisions in FTA ⁹		Countries with reduced investment provisions in FTA ¹⁰		Countries with high percentage of FTA including investment provisions ¹¹		Countries with low percentage of FTA including investment provisions ¹²	
	(a)		(b)		(c)		(d)		(e)		(f)		(g)	
Variables	sys-GMM	[p-value]	sys-GMM	[p-value]	sys-GMM	[p-value]	sys-GMM	[p-value]	sys-GMM	[p-value]	sys-GMM	[p-value]	sys-GMM	[p-value]
hdi-1	1.015	[0.000]*	0.910	[0.000]*	0.988	[0.000]*	0.958	[0.000]*	1.001	[0.000]*	0.992	[0.000]*	0.972	[0.000]*
mnc	0.000	[0.082]**	0.001	[0.089]**	0.001	[0.088]**	0.001	[0.094]**	0.000	[0.091]**	0.001	[0.095]**	0.000	[0.087]**
spe	0.030	[0.001]*	0.020	[0.002]*	0.032	[0.009]*	0.016	[0.011]*	0.030	[0.013]*	0.009	[0.038]*	0.027	[0.010]*
di	0.016	[0.071]**	0.024	[0.076]**	0.010	[0.084]**	0.012	[0.088]**	0.010	[0.089]**	0.011	[0.092]**	0.009	[0.082]**
urb	0.003	[0.081]**	0.015	[0.083]**	0.014	[0.084]**	0.012	[0.096]**	0.012	[0.090]**	0.014	[0.098]**	0.011	[0.078]**
misery	-0.003	[0.049]*	-0.000	[0.070]**	-0.002	[0.071]**	-0.001	[0.064]**	-0.003	[0.076]**	-0.002	[0.068]**	-0.003	[0.075]**
gend	0.009	[0.061]**	0.034	[0.047]*	0.010	[0.062]**	0.033	[0.064]**	0.010	[0.066]**	0.005	[0.073]**	0.001	[0.068]**
Constant	0.059	[0.044]*	0.282	[0.044]*	0.006	[0.053]**	0.177	[0.048]*	0.014	[0.058]**	0.018	[0.059]**	0.024	[0.059]**
AB AR(1) (prob>Z)	0.001		0.004		0.003		0.004		0.002		0.016		0.002	
AB AR(2) (prob>Z)	0.126		0.131		0.329		0.184		0.180		0.283		0.165	
Hansen Test	0.376		0.282		0.342		0.235		0.228		0.227		0.206	
Diff-in-Hansen Test	0.325		0.267		0.321		0.181		0.214		0.193		0.167	
Observations	638		352		286		223		415		198		440	
No. of instruments	45		45		45		45		45		45		45	

Source: own elaboration.

In a more particular sense, according to Moss (2017), MNEs could positively affect domestic labor markets leading to higher wages, less labor inequality and increased living standards. Also, Kim & Han (2014) propose that MNEs contribute to economic development since their activities, in general, mean economic growth.

⁷ Within the top three quantiles in the distribution of countries according to the number of FTAs.

⁸ Within the bottom two quantiles in the distribution of countries according to the number of FTAs.

⁹ Those countries with FTA including investment provisions such as MNE provision, National Treatment with regard to the entry of investment (establishment), investment liberalization, and at least two of other investment provisions such as protection, promotion or State Dispute Settlement.

¹⁰ Those countries that not fulfill the condition in note 3.

¹¹ Countries with a high (above average) percentage of FTAs that include IP (the three Investment Liberalization Provisions clauses).

¹² Countries with a low (below average) percentage of FTAs that include IP (the three Investment Liberalization Provisions clauses).

Also, since MNE benefits are taxed, additional public resources are available to invest in education and health facilities, allowing the country's population to improve their quality life. This is complemented by the ability of MNE subsidiaries to obtain resources from related parties or from financial markets, which can invest in the infrastructure necessary for their operation and competitiveness, such as telecommunications projects or highway modernization. All of this facilitates access to education and health services. Vakhtang *et al.* (2020) discuss a similar idea. Alternatively, they can follow strategies of Corporate Social Responsibility (CSR) as Aguilera & Guerrero (2017) point out. In addition, Barkemer (2011) claims that through CSR MNEs give back to local communities via more opportunities and capacities to develop, by guaranteeing access to basic necessities.

Duke *et al.* (2012) indicate that developed country-MNEs work closely with stakeholders through specific programs related to microfinance, food, health, vulnerable groups, employment and productive capacities, which can favor the development dynamics reflected in the HDI. Specifically, Yiu (2014) & van Tulder (2008) argue that different MNEs follow codes linked to problems of poverty and the working poor, aimed at improving working conditions. Consequently, the estimated positive effect can be related to the efforts of multinational enterprises to achieve social objectives in order to promote their business from a more ethical and fair perspective.

In any case, Ake (2002) points out that MNEs provide income flows necessary to achieve higher standards in the well-being of their employees. All this modifies the conditions for the economic development process, therefore complementing public actions in this regard.

Lastly, the positive effect of MNEs in economic development could be derived from its contribution to poverty alleviation, given the feedback process it has with poverty (Mehanna, 2004). In this sense, Subhash & Sushil (2006), consider that the MNEs' new business models and investments in the host country boost the domestic productive approach, creating wealth, rather than just charity interventions, contributing to long run poverty reduction. Also, MNEs could play an active role fighting against social problems such as poverty (Turyahabwa, 2014). Specifically, they frequently hire local people, increase employment standards, offer permanent jobs, increase human capital -staff- (Pettinger, 2019), supply new products, or even, directly contribute to local societal development projects and provide public goods.

On the other hand, we estimated a statistically significant effect with a positive sign of the lagged HDI variable. This suggests that, once certain economic conditions and threshold have been reached, human development -as a process of

enlarging people's choices- is a phenomenon that persists over time, or that emerges from the societies themselves (through the reconfiguration of the use of available endogenous or exogenous resources), as long as the degenerative properties of the equilibrium state of the economy are low (Gonchar & Dovzhyk, 2019).

In the case of public social spending, as expected, we estimated a significant effect with a positive sign, which means that spending on education and health contributes directly to the human development process by expanding people's opportunities. Presumably, this is as a consequence of a redistribution of income towards long-term pro-development public policies and programs. A basic argument is that this spending is oriented towards the educational and health infrastructure that favors results in terms of access to them. Prasetyo & Zuhdi show similar results in contrast to those of Ranjan & Kumar (2021) who found no effects from spending on development in the long run.

Similarly, we estimated a significant and positive effect of the democracy index on HDI. This implies that the existence of institutions -and investments in them- that guarantee electoral pluralism, political participation and civil liberties, among other aspects, has positive returns for human development. Thus, democratic life represents a mechanism that expands people's opportunities, by rewarding or punishing rulers/politicians for their decisions. This tends to improve public actions centered on development (Liotti *et al.*, 2018). Similar results are found in Gamlath (2015), for whom democracy is an integral part of human development and, therefore, advances in the HDI cannot be achieved without democracy. Although, Gerring *et al.* (2021) also indicate that this impact depends on the historical regime in each country.

The urbanization coefficient is also positive and significant. Although the urbanization process is characterized by inequalities and other social problems, it also seems to be accompanied by opportunities for the population, particularly in education, health and work. Similar results are found in Cruzatti (2021), Ivanov (2020) and Tripathi (2019). Specifically, the development process depends on the number, size, power and economic resources of each urban area. These allow for the necessary supply of public services and facilities. Urbanization implies population concentration and the possibility of economies of scale in the provision of these services, in addition to other positive externalities, thus promoting the increase in the HDI.

The misery index coefficient is also significant but with a negative sign. Briefly, inflation leads to a loss of purchasing power of economic agents, which hinders effective access to health and education, while corroding other types of opportunities. A

similar result is found in Yolanda (2017) and Sangaji (2016), in contrast to what is shown in Arisma (2018). Likewise, this result suggests that the unemployment rate negatively influences the HDI. As unemployment reduces the number of people who receive an income and distorts the labor market (Sumaryoto *et al.*, 2020) via lower wages and compromised effective access to education and health. Thus, according to Aishwarya *et al.* (2021), the human development index is inversely proportional to the misery index.

Regarding the gender variable, the positive and significant coefficient indicates that higher levels of development are reached as women's participation in the labor market increases, given that the development of a country depends on both the well-being of women and men. In turn, this increases women's endowments, opportunities and outcomes, their effective access to health and education services, as well as contributing to their economic autonomy. Thus, the reduction of gender gaps contributes to balanced human development in a country. Similar ideas are discussed in Binder & Georgiadis (2010).

Additionally, the full sample of countries is split into two groups based on the trade status of each country. This works as a means of checking the robustness of aggregate estimations. Taking into account the role of FTAs allows us to analyze the effect of MNEs on the HDI in a context of trade preferences, differentiating by groups of countries with greater or lower trade openness promoted by these agreements.

Since all the countries in the sample have FTAs, indicating a process of intensification of free trade, defining this variable while differentiating between groups is complicated. The criterion to separate the sample is to consider the first three quintiles in the group with the highest number of FTAs (55% of the countries, which had at least 15 FTAs in 2016). The rest of countries are included in the group with the lowest number of FTAs.¹³

In addition, according to Yue *et al.* (2023), FTAs are heterogenous among countries and regions, and differ in terms of depth and core. In order to capture this heterogeneity, and since the axis of our work refers to MNEs, we divided the sample by considering FTAs that incorporate chapters referring to investments. This, in turn, means an increase in the scope and depth of FTAs (Crawford and Kotschwar, 2018).

¹³ The first group includes Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, United Kingdom, Switzerland, Iceland, Norway, Chile, Mexico and Singapore.

In particular, in the group classified as the most open incorporates countries with FTAs including investment provisions such as the MNF-investment clause, National Treatment with regard to the entry of investment (establishment), investment liberalization, and at least two other investment provisions such as protection, promotion or State Dispute Settlement. The less open group includes those countries that do not fulfill this condition. This allows us to take into account the differences in the contents of those agreements, due to the expansion of contents related to investment (MNEs), which are far beyond the reduction of tariffs in trade. Alternatively, we can establish a deeper distinction of free trade agreements among countries. Countries with a high percentage (above average) of FTAs that include the three Investment Liberalization Provisions, regarding the total number of agreements, are classified in group 1. In any other case, they are classified in group 2. This distinction controls for the effect of clauses of investment liberalization agreed upon in FTAs. The first measure is a link to the index total depth of FTAs, and the last two to the index of core depth, argued by Hofmann *et al.* (2017). In general, the IISD (2017) states that international agreements have potential benefits in terms of investment flows, governance at the national level, and distributive effects.

The sys-GMM estimates for the two subsamples satisfy the validity tests. The results for the subsamples, in panels b to g of table 3, are similar in both sign and significance. Thus, regardless of free trade level promoted by FTAs, the lagged dependent variable reinforces economic development. Also, according to these results, public social spending, favorable democratic conditions, urbanization processes and gender equity, in addition to the value added by multinational corporations, mean robust mechanisms for generating opportunities for human development.

It should be noted that the group of countries with the largest number of free trade agreements shows coefficients of greater magnitude, except for public social spending and the lagged human development variable. In particular, a higher coefficient for *mne* is observed in more open economies, independent of the measure used to divide the sample, in comparison to countries with less openness. Specifically, FTA core depth is significant. Miroudot & Rigo (2022) find that trade agreements with investment provisions facilitate multinationals operations in foreign markets, especially for activities requiring the proximity of suppliers and consumers, and by helping multinationals joining global value chains.

Nevertheless, we observed that the effect of *mne* in HDI is higher when the total number of FTAs is employed, in contrast to the other two openness measures. FTAs

with more demanding legal provisions, including those related to investment, are less effective in development promotion. A similar idea is discussed by Cruzatti (2021).

A plausible explanation is that FTAs create the general conditions to attract FDI-MNE as well as bases for this effect. In other words, it seems to be more important to build a network of free trade, with a minimum threshold of clauses, than to incorporate a bigger number of investment provisions in FTAs. The main effect of investment provisions could be related to attraction of MNEs. In any case, countries with FTAs, including explicit or not investment measures, benefit from the operation of MNEs in their territories.

In this sense, the more MNEs in the domestic economy, the higher the HDI is, when the market operates in an environment of commercial intensification -and greater competition- derived from a network of FTAs. This result is similar to that of Cruzatti (2021), Miroudot & Rigo (2021), Islam & Fatema (2017) and Davies & Quinlivan (2006).

Thus, trade agreements could function as a catalyst or enhancer of development by incorporating aspects, beyond tariffs and non-tariff barriers, linked to intellectual property, investment protection and labor standards mainly. These factors are also linked in different ways with economic development. The positive effect of MNE-FTA can be understood when considering the fact that foreign firm investments make countries more receptive to social and economic changes, adopting modern business values and practices as outlined in the FTA.

Moreover, MNEs tend to respond directly to international competition through several organizational modes, adapting strategies and modalities, depending on the host country (Narula & Dunning, 2010). By extension, they also respond to the particular conditions in FTAs, used to establish productive relationships, in a context of global value chains, and they configure different ways to influence domestic economic and social activities as well. In this sense, the benefits of MNEs on development emerge at a secondary level, but also at tertiary levels, by developing linkages with local firms. This, in turn establishes relations with other domestic suppliers. At the same time, it can create consumption linkages (Narula & Pineli, 2019).

Through these different connections, opportunities for human development arise from MNE activities. Pyke (2017) identified that MNEs have potential to help increase skilled labor levels, to strengthen the capacities of local and national enterprises through the development of upgrading programmes for their suppliers, and through the set up or participation in training programmes created by MNEs

to fill skill gaps. All these measures boost capacities and opportunities for human development, mainly in the participating workers and their families. In this regard, the ILO Tripartite Declaration of Principles, concerning Multinational Enterprises and Social Policy, highlights the role of employment creation, both for its effect on living standards and as a means to stimulate economic growth and development (ILO, 2006), both related to wage increase and employment creation.

MNEs can play a central role in promoting the right to freedom of association in their own companies, extending to their first and second level suppliers, contributing in this way to human development (Pyke, 2017). Cruzatti (2021) establishes that the positive effect of the FTA is explained by an increase in economic activity that does not alter the levels of inequality. Consequently, the actions of MNEs in free trade agreements contexts tend to favor the exercise of fundamental freedoms. In this regard, Kumar (2017) argues that the more a country increases its commercial intensity, the greater the increase in its income, flow of new technologies, superior human skills, and availability of goods, translating into higher quality of life. Throughout this process, the MNEs, according to our results in Table 3, are a central agent of change.

This result confirms the idea in Rodrik (2018) regarding the capacity of trade agreements to empower a set of global economic agents, among which multinational companies, oriented to rent seeking, stand out. Furthermore, FTAs, focused on tariffs and non-tariff barriers, can lead to freer global trade that is beneficial to all, both in terms of access to markets and quality of life.

Likewise, although global companies compete with each other for new markets, according to Knickerbocker (1973), MNEs engage in “defensive investments,” mainly in oligopolistic sectors, which could emerge from bilateral or regional FTA. In other words, they invest in a country to match the movement of a rival company, which favors economic activity in the host country and, eventually, through the mechanisms mentioned above, boosts the HDI.

On the other hand, an MNE mechanism, especially in the larger businesses, that benefits the development process is the implementation of sustainable development programs, which boost the capacities and functionalities of people, mainly at a local level, where local governments and other agents could influence MNE activities (Väätänen & Teplov, 2017). Eang *et al.* (2023) identified five MNE roles: local sustainable development financier, community capacity builder, product and service provider, partner, and innovator, all directly or indirectly related to human development.

Lastly, the limited magnitude of the *mne* coefficient is worth noting. Cruzatti (2021) also estimates a small effect of FTAs on human development, and explains that economic activity promoted by these agreements is not opportunity-redistributive.

On the other hand, as a robustness check, two additional estimations are shown on table 4 (sys-GMM methodology). In the first one all the control variables were removed for the equation. While this represents a very basic model, it seeks to capture the individual effect of MNEs. In the second specification, all the explanatory variables were lagged. This seeks to estimate the current effect of variables in the previous period. Almost all these variables show the same sign and are statistically significant. This is evidence that confirm that MNEs are a boosting factor of human development in the country samples, considering the set of explaining variables.

TABLE 4. ALTERNATIVE SYS-GMM ESTIMATIONS (ROBUSTNESS CHECK)

Independent variables	Without explanatory variables		Lagged explanatory variables	
	idh	p-value	idh	p-value
hdi-1	0.973*	[0.000]	0.903*	[0.000]
mne	0.000*	[0.045]	0.000**	[0.064]
sgc	–		0.012*	[0.029]
di	–		0.006	[0.164]
urb	–		0.015	[0.166]
misery	–		–0.006*	[0.023]
gend	–		0.003**	[0.084]
Constant	0.004*	[0.038]	0.132*	[0.022]
AB AR(1) (prob>Z)	0.000		0.002	
AB AR(2) (prob>Z)	0.132		0.148	
Hansen Test	0.221		0.196	
Diff-in-Hansen Test	0.243		0.222	
Observations	638		638	
No. of instruments	33		45	

*, **, and *** indicate significance at 1%, 5%, and 10%, respectively.

Source: own elaboration.

CONCLUDING REMARKS

Our paper shows robust evidence on the effect of multinational corporations on economic development measured by the HDI for a group of 58 high and upper-middle-income countries during the period 2005-2016. Following a sys-GMM econometric methodology, we estimated a positive effect of the MNEs-added value for the total sample and subsamples of countries grouped according to their trade status (measured by the number of FTAs, the inclusion of investment provisions in FTAs, and the percentage of FTAs including investment provisions) in economic development (using the HDI).

In general, the results show that MNEs drive economic development by favoring the expansion of people's capabilities. We were also able to observe this result through a combination of MNE presence and large free agreements.

Therefore, the economic activity of this type of company, measured by added value, tends to enrich the life of society as well as the fundamental freedoms in the foreign country in which they operate. MNE effects in economic development are higher in countries with a large number of FTAs, which means that intensification of free trade favors the MNE contribution to social goals. This finding is consistent both with the scarce quantitative literature that analyzes the effect of MNEs in economic development, and with the qualitative literature based mainly on the corporate social responsibility approach. Moreover, this effect is higher when the total number of FTAs is considered in comparison to the number or percentage of FTAs that includes more investment provision.

Therefore, from this point of view, MNEs, as a central actor in globalization, can also assume a critical role in economic development processes. This position can be strengthened when global companies operate from domestic markets with a broad base of FTAs. Even more, the effect of MNEs on the HDI may increase to the extent that this network of FTAs considers simultaneously tariff and non-tariff aspects (free trade and an increase of benefits), as well as other aspects such as human and labor rights, environmental protection, investment promotion and local employment, among others (benefit redistribution).

Although the activities of MNEs are primarily aimed at obtaining profits, with their actions linked to economic development being limited, our findings show the potential of these companies to achieve social objectives. Because of their scale, economic links, and political power MNEs bring substantial positive externalities that boost economic development. MNEs tend to create wealth *sine qua non* welfare improvements cannot take place.

In any case, it largely depends on the ability of national governments to prevent multinationals from exercising influence abuses, in which democracy and other political factors are also relevant. Furthermore, to simultaneously reach the two objectives of a functional economy and a prosperous society, in the context of multinationals and FTAs, we must consider the growing function of gender equality.

In consequence, the main political implication of these findings is the necessity to balance MNE economic activities, serving their stakeholders' interests, with their social actions, that could be implemented in coordination with other public and social actors. Democratic mechanisms could promote economic development interests in FTA negotiations, such as the participation of women in economy, sustainable urbanization processes and multinational enterprise connections to economic activities including social public spending.

Lastly, it must be recognized that our paper faces an important limitation because the study period was determined by data availability. Likewise, our current analysis can be expanded by delving into aspects such as global value chains, market structure and specific productive sectors.

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