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INTERNATIONAL MIGRATION AND SOCIO-ECONOMIC PERFORMANCE: WHAT EFFECT FOR DEVELOPING COUNTRIES?

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Abstract: The objective of this work is to analyse the effect of international migration on socio-economic performance in a panel of 124 developing countries over the period 1990-2020. Adopting the liberal, dual and new economics of migration theories as a theoretical framework, we use the IPAT model developed by Ehrlich and Holdren's (1971). We specify and estimate a panel data model using the Ordinary Least Squares (OLS) method and fixed effects. Two results emerge from the econometric estimates: international migration improves socio-economic performance in developing countries. However, institutions improve socio-economic performance through positive effects on socio-economic performance (HDI). We suggest setting up a policy to protect international migrants and consolidating the institutional framework in developing countries. We also suggest setting up a stable policy and a good quality of regulation by integrating the social and economic factor into their decision-making policies.
Keywords: *international migration, socio-economic performance, institutions, developing countries, IPAT.*

INTRODUCTION

Over the last twenty years or so, it has often been argued that there is a strong link between international migration and social and economic performance. The neoclassical two-sector model proposed by Lewis (1954) and formalised by Ranis and Fei (1961) has long dominated the literature on migration. Migration is a very important and real phenomenon. Its economic and social dimensions deserve to be studied . An international migrant is any person who changes their country of habitual residence (DAES, 2017). The international migrant population is defined as the total number of international migrants present in a given country at a specific point in time (DEAS, 2017). This work is associated with two ideas that reflect recent developments in theories and prejudices about international migration. The first idea is that international migration from the South to the North is the result of underdevelopment in the countries of origin, whose migrants are thus welcomed in the countries of the North, more out of humanity than to meet labour needs. The second idea is that if we tackle the supposed main cause of migration, poverty, in particular through official development assistance, South-North migration will eventually dry up, in the best interests of both parties. The UN's 2030 Agenda for Sustainable Development (UN, 2015) recognises that migration is an important aspect of sustainable development policy, urging governments to facilitate orderly, safe, regular and responsible migration and mobility [...] (ILO, 2021).

The analysis of the role of migration in the development of countries of origin underwent a major turnaround a few years later. In fact, a pessimistic trend prevailed for many years, even decades. The pessimistic views were inspired by the dependency theory, initiated by Jagdish Bhagwati in the 1970s. They maintain that the global system is characterised by mechanisms of exploitation and plundering of underdeveloped countries by developed countries, manifested by the recovery of natural and human resources from the periphery by the centre, which exacerbates the problems of underdevelopment. These theories developed in parallel with reflections on the "brain drain". In the same vein, endogenous growth theories, which emerged in the 1980s and even 1990s, suggest that migration is a phenomenon that slows down economic growth in developing countries. More specifically, they consider that emigration has an unfavourable impact on the productivity and wealth of countries of origin because it causes an overall loss of human capital for these countries. It is important to note that until the 1990s, there was no harmonised data on international migration by level of education or qualification. Consequently, these models were more descriptive than analytical and seem insufficient to analyse the impact of brain drain (Amal Miftah, 2018).

This laudable concern to reconcile the interests of North and South is, however, based on a simplistic analysis of sustainable development, international migration and the complex relationships between these phenomena. Current international migration is not really a new phenomenon, even if it does have its own characteristics. And, contrary to popular belief, development has historically created rather than reduced migration. In a context of accelerating trade of all kinds, of "globalisation", international migration may well intensify rather than dry up. Lastly, the fight against underdevelopment and the regulation of international migration appear as two distinct challenges requiring specific policies, in the North and in the South, rather than as a set of closely linked problems.

Given that the previous section was devoted specifically to the environmental dimension of sustainable development, this second section is devoted to the social and economic dimensions of sustainable development. In the first chapter, we will review the theoretical and empirical literature on the relationship between international migration and socio-economic performance. In the second part, we analyse this relationship in a sample of 124 developing countries.

The question of socio-economic performance in the developing world is also an important aspect to take into account when understanding migratory flows. The majority of people living in rural areas are dependent on the products of the land, forest or water to which they devote the majority of their time: cultivation, livestock rearing, collection, catching, etc. The tropical environment, which is more fragile than in temperate zones, has had to absorb a large part of the demographic pressure of the last fifty years, resulting in a rapid increase in rural densities, despite the migration mechanisms that have been put in place (Guilmoto and Sandron 2003). Locally, technical progress or economic diversification towards small-scale industry or services may have eased this pressure, but in general terms, it is above all the ecosystems that have been called upon to adapt. The speed of population growth has eroded the viability of traditional farming systems by depleting natural resources (deforestation, reduced biodiversity, soil erosion, depletion or pollution of water resources, etc.). The historical response has frequently been to develop marginal, poorer or more remote areas, with an inevitable drop in yields. Environmental constraints are therefore a factor that often exacerbates the situation of the rural economy, and over the last ten years or so have led to talk of "environmental migrants" or "environmental refugees". The phenomenon remains difficult to isolate, however, because migration is linked to environmental degradation via intermediate factors that are more social or economic in nature: lower yields and incomes, increased risk of disaster, unhealthy environment, etc.

In the second section, we present the theoretical foundations of the impact of international migration. The third section will be devoted to the methodology. The fourth section is devoted to the results and discussions. And finally, in the last section, we will conclude with the measures taken in various countries to make international migration a lever for sustainable development.

LITERATURE REVIEW

Theories of international migration and socio-economic performance lead to a fairly ambiguous link, both theoretically and empirically. This ambiguity invites us to review the main theoretical approaches and to validate or refute them with empirical analyses. We will begin by presenting two main sub-sections. The first will develop a review of the theoretical literature and the second will present a review of the empirical literature. Both will help to position our problem in relation to the existing literature.

Theoretical review of the literature
Harris and Todaro (1970), contributors to this theory, based on the neo-classical approach to the economic system, determine that migration (on a micro scale) responds to the migrant's expectation of a significant net gain between two areas. In other words, the migrant chooses to migrate if he or she believes he or she will obtain a better wage in the destination zone, while taking into account the potential risk of unemployment (Massey *et al.,* 1993). Hicks (1998) explains that migration is the result of an individual choice made by a rational person who, after a cost-benefit calculation, decides whether or not to migrate. One important point emerges from an analysis of this theory: the wage differential as an explanatory factor for migration appears to be more significant in the case of internal migration than in the case of international migration, particularly in the case of rural-urban migration (Massey *et al.,* 1998). The use of neo-classical migration theory provides a better understanding of why flows of people are initiated in rural areas with low levels of financial resources and destined for wealthier urban centres. In their study of the rural exodus, Harris and Todaro (1970) explain that it is not only the wage differential between two geographical areas that leads to the exodus, but also the wage expected by the potential migrant, given his profile and the costs associated with travel (Bilsborrow 2009; Piguet and Coulon 2010c).

Most proponents of the classical theory of migration, notably Smith (1776), find that emigration reduces the supply of labour, thereby increasing the remuneration of this factor. "... *The more capital and men we send abroad, the more [...] we can keep at home*" (Termote, 1993). Differences in factor endowments give rise, in the case of scarce factors, to a situation of rent that allows these factors to receive a remuneration higher than their marginal productivity. Mill (1848) adds that migration makes it possible to combat changes in land yields: "*it is a remedy for low wage rates and declining*

profit rates". For Ravenstein (1889), migration is a "push-pull" process, and the movement of people is bilateral. In order to recover the mechanisms of market equilibrium and re-establish the rule of remunerating the labour factor in accordance with its marginal productivity, neoclassical economists were forced to introduce the hypothesis of factor mobility into their general equilibrium model in order to deal with inequalities and eliminate rents. For them, migration is based on the difference in wage rates.

Workers move from low-wage countries to high-wage countries. This mobility leads to the equalisation of wage rates resulting from a more productive use of the labour factor (an optimal allocation of this factor). Wage equalisation results from differences in productivity between the two countries. A process of equalisation occurs as the rate of labour migration slows, reducing wage differentials in the two countries. This equalisation process stops when the marginal productivities of labour in the two countries become equal. At international equilibrium, migration stops and becomes theoretically impossible. This is also true for goods traded in the context of international trade. "*Despite two centuries of sometimes massive international migration and almost continuous rural exodus, it has to be said* that *wage differentials between rich and poor countries (between urban and rural regions) have been maintained, if not increased*". (Termote, 1993). These disputes may be linked to the migrant's average productivity in the host country and the low level of mobility between production sectors. Migrants will not necessarily have the same productivity because of possible integration difficulties, problems of climatic adaptation, cultural and linguistic integration and versatility (Dieng, 2000).

While Meyer believes that this approach provides a better understanding of the causes of immigration, he contradicts it by pointing out that globalisation has not reduced states' room for manoeuvre when it comes to controlling human flows. On the contrary, he sees the tightening of migration policies in recent years as "*a brake on the supposedly unstoppable advance of globalisation*". Meyers echoes Hollifield (1998) in pointing out that this approach gives relatively too much weight to economic and social factors compared with political considerations.

The dual theory developed by Lewis (1954), Ranis and Fei (1961) maintains that economies are divided into two sectors: the traditional sector and the modern sector. The traditional sector has a surplus of labour and the modern sector absorbs this surplus of labour with a remuneration system that is much more attractive than in the traditional sector (Fall and Cissé, 2007). As long as this differential is not eliminated, the migratory flow will continue. This theory was strongly challenged in the 1970s by Todaro, who considered it to be a caricature of migration in favour of a theory in which

the decision to migrate is a rational choice based on a cost-benefit calculation. However, Todaro applies the theory of dualism to the urban environment, dividing it into two sectors: the modern sector and the informal sector, into which migrants first enter and which continue to expand, resulting in sustained urban growth (Bocquier and Traoré, 2000). There are other theories that can explain migration, in particular the network theory, according to which migration is a self-perpetuating process (Borrel, 1999); the theory favouring opportunity costs or the institutional theory, which considers the support of humanitarian organisations or underground networks as social capital for access to the foreign labour market.

Other theories may be mentioned, such as the network theory, according to which "migration is a self-perpetuating process" (Borrel, 1999), the theory favouring opportunity costs or the "institutional" theory, which considers the support of humanitarian organisations or underground networks as "social capital for access to foreign labour markets". Mention should also be made of the theory of "cumulative causality", which emphasises the changes brought about by migration in the social context in which migration strategies are developed, leading to a potential stock of candidates for departure (Myrdal, 1957). These different theories show that the factors that perpetuate migration are at the heart of the migratory phenomenon. On the other hand, the standard neo-classical approach, which sees migration as an effect of "geographical differences between labour supply and demand" (repulsion-attraction or push-pull), and the "world economy" approach, according to which capitalism creates in the peripheries "a mobile population willing to migrate", remain general in the sense that they underestimate the strategies of the actors and are content with an explanation based on "large-scale historical factors". As a result, they pay no attention to the social and economic implications of such structural inequalities, which in our view deserve more attention.

We are currently at the heart of the new economics of migration, which maintains that migration is based on a collective choice made by a group of individuals, often the household. The family advances the money needed to pay the costs of migration (visa, passport, transport, settlement). Migration is no longer determined by income disparities, as in previous theories, but by a rationale of income diversification and security in the face of factors that can push households into poverty.

In the 1980s, a new interest emerged in illustrating the postulate of migration, and the research framework was broadened. The focus is now on households. An important change is taking place, in the way we understand the objective associated with migration and also how we assess the consequences of this migration (Piguet, 2010). The decision to migrate is

no longer taken by a single, isolated individual, but by a larger unit of people such as the family. The family acts collectively not only to maximise income but also to minimise risks and constraints (Massey, 1993).

In this new approach, the household plays a very important role. They play a key role in the decision to migrate. The relationship with risk management is also modified. In neoclassical theory, individuals migrate in order to avoid risk. In the new economy of migration, sending a family member to another geographical area allows spatial diversification of risk. Migration becomes insurance against economic hazards such as climate or unemployment. Wages are not the only criterion for migration; the individual's general situation must also be taken into account.

Empirical review of the literature
The multiple economic and social effects of migration are complex to assess and therefore remain controversial. The impact of international migration on economic performance has been investigated through direct effects (those inherent in the causes of migration) and indirect effects.

Empirical synthesis of the direct effects of international migration on socio-economic performance
The direct consequence of international migration for developing countries is the mechanical loss of human capital. The consequences of this loss are numerous: a drop in productivity and innovation (Benhabib and Spiegel, 2005), a lack of return on investment for the training country, and significant social costs in the education and health sectors (SOPEMI, International Migration Outlook, 2007). In addition, since the most highly skilled workers are generally those who obtain better-paid jobs, their departure generates a tax loss (Johnson, 1967); since migrants settled abroad pay little or no tax in their country of origin.

Empirical synthesis of the indirect effects of international migration on socio-economic performance
While migration causes a loss of human capital in the short term, it is likely to produce positive indirect effects in the longer term. Migration may encourage part of the population to continue their studies in order to take advantage of an increase in the opportunity to leave. The country of origin may benefit from the departure of its migrants if they return after acquiring a surplus of skills abroad. These positive indirect effects are referred to in the economic literature as *"brain gain"* (Mountford, 1997).

International migration also affects the economies of the countries of origin through two main indirect channels. Firstly, the departure of workers leads in the long term to a loss of labour. Depending on the skills and qualifications they possess, this alters the average human capital of the country of origin, and consequently productivity and growth. Migration therefore generates positive indirect effects that can compensate for any initial loss of human capital. Secondly, the money that migrants transfer from their host country to their country of origin affects the economies of the source countries. By increasing their income, they can improve the living conditions of the recipients; however, they can also generate negative perverse effects for the countries of origin.

METHODOLOGY
The model
The empirical model used in our work is derived from the IPAT model. The IPAT model was developed theoretically by Ehrlich and Holdren's (1971) and formalised mathematically by Commoner and al,. (1971). The IPAT model describes the effect of human activities on the environment. The IPAT model has two main limitations: it does not test hypotheses, and it lacks flexibility with regard to proportionality restrictions between variables (Mignamissi and Djeufack, 2022). The IPAT model allows us to assess the effect of international migration, unemployment and industrialization on socio-economic performance.

The empirical specification of our model is as follows:

$$logidh_{it} = \beta_0 + \beta_1 log(MGTint_{it}) + \alpha_1 logChom_{it} + \alpha_2 logIDE_{it} + \alpha_3 logInf_{it} + \alpha_4 logIndus_{it} + \alpha_5 logIPC_{it} + \alpha_6 logOUV_{it} + \alpha_7 logContrsocial_{it} + \varepsilon_{it} \quad (1)$$

With: **logidh$_{it}$:** human development index of country i at time t; **logMGTint$_{it}$:** international migration of country i at time t; **logChom$_{it}$:** unemployment of country i at time t; **logIDE$_{it}$:** foreign direct investment of country i at time t; **logInf$_{it}$:** inflation of country i at time t; **logIndus$_{it}$:** the industrialisation of country i at time t; **logIPC$_{it}$:** the consumer price index of country i at time t; **logOUV$_{it}$:** the trade openness of country i at time t; **logContrsocial$_{it}$:** the social contribution of migrants in country i at time t and **εit :** the error term.

Institutional variables can be used to assess the effect of institutional quality on socio-economic performance. Technically, there are two ways of introducing these variables into the sensitivity tests. Firstly, the direct effect of these variables will be examined. To do this, equation (1) is modified as follows:

$$Log(idh_{it}) = \beta_0 + \beta_1 log(MGTint_{it}) + \delta_p[institution_{it}] + \alpha_k(X_{it}) + \varepsilon_{it} \quad (2)$$

Institutions can also play an important mediating role in the effect of international migration. In developing countries, political stability and regulatory quality are expected to moderate the adverse effects of international migration on socio-economic performance. The model can be written as:

$Log(idh_{it}) = β_0 + β_1log(MGTint_{it}) + δ_p[institution*MGTint_{it}] + α_k(X_{it}) + ε_{it}$ (3)

In addition, to check the robustness of our tests, we include institutional variables in equation (3). However, following the approach of Xie and Liu (2019), this model is used to analyse the robustness of the other results and is specified as follows:

$logidh_{it} = β_0 + β_1log(MGTint_{it}) + δ_1[CC_{it}] + δ_2[GOV_{it}] + δ_3[STAPOLI_{it}] + δ_4[REGQ_{it}] + δ_5[RULE_{it}] + δ_6[VAA_{it}] + α_1logChom_{it} + α_2logIDE_{it} + α_3logInf_{it} + α_4logIndus_{it} + α_5logIPC_{it} + α_6logOUV_{it} + α_7logContrsocial_{it} + ε_{it}$ (4)

Study data

The data used for this study comes from the World Development Indicator and Government Development Index (2021) databases. These two databases enabled us to construct a panel of 124 developing countries over the period 1990-2020. Countries with no available data were excluded from the sample.

The description of these data shows a certain homogeneity compared to the first two moments (mean and standard deviation). It should be noted that the dependent variable and the institutional variables are relatively more dispersed than the other variables. The dispersion of institutional variables is justified by the fact that developing countries are at very different stages in their institutional reforms. Some countries are well advanced compared with others. These results could remain relatively stable, since they are not over dispersed.

This relative stability could be due to the homogeneity of other variables such as migration, foreign direct investment, industrialization, trade openness and inflation (table 1).

Table 1. Descriptive statistics

Variables	Definition	Obs	Mean	Std. dev.	Min	Max
logidh	Human Development Index	3,108	-.5308675	.2924729	-1.61445	-.0576291
logMGTint	International Migration	3,844	12.09469	1.680064	7.05445	16.29448
logChom	Unemployment	3,635	1.767535	.8692204	-2.302585	3.65842
logIDE	Foreign direct investment	3,437	.6701657	1.568565	-13.12127	6.107207
logInf	Inflation	3,247	1.723479	1.352594	-4.02081	10.07631
logIndus	Industrialisation	3,238	9.356005	1.13391	5.268051	12.74692
logIPC	Consumer price index	3,532	4.121597	1.530262	-21.60723	8.12113
logOUV	Commercial opening	3,741	3.948578	.5397132	1.001601	6.355438
logContrso~l	Social contribution	1,593	1.808243	2.320983	-16.20106	4.227022
CC	Control of corruption	3,844	-.2580199	.7039319	-1.712633	2.153153
GOV	Governance	3,844	-.2433194	.7073767	-2.36193	2.158516
STAPOLI	Political stability	3,844	-.2409233	.8313428	-3.180352	1.637917
REGQ	Quality of regulation	3,844	-.2116483	.7108916	-2.348573	1.906693
RULE	Rules and laws	3,844	-.2732459	.7059623	-1.927978	1.99035
VAA	Voice and responsibility	3,844	-.2176157	.7537085	-2.233271	1.692534

Source: constructed by the authors

RESULTS AND DISCUSSION

Result preliminary

The main unit root tests on panel data are those of Levin and Lin (1993) and Im Pesaran and Shin (1997). The Im Pesaran and Shin (1997) test is similar to the Augmented Dickey and Fuller (1979) test. In this work, we check the stationarity of our variables using the Im Pesaran and Shin test (Table 5). This test is stable and efficient and is still applicable to panel data models (Im Pesaran and Shin, 1997).

To conclude, we look at the probability associated with each statistical series. If it is below the decision thresholds (1%, 5% or 10%), then the decision rule is as follows: accept the null hypothesis and conclude that the series is stationary.

Table 2. Stationarity test for the various variables

Variables	Statistics for Im-Pesaran-Shin	Prob.*	Order of integration
Logidh	-24,1294	0,0000	I(1)
logMgtint	-25,6053	0,0000	I(1)
logChom	-5,69579	0,0000	I(0)
logIDE	-11,9398	0,0000	I(0)
logInf	-14,8244	0,0000	I(0)
logIndus	-36,9326	0,0000	I(1)
logIPC	-7,58486	0,0000	I(0)
logOuv	-7,04823	0,0000	I(0)
logContrsocial	-5,14037	0,0000	I(0)
CC	-5,56266	0,0000	I(0)
GOV	-5,23829	0,0000	I(0)
Stapoli	-6,28747	0,0000	I(0)
RegQ	-4,42995	0,0000	I(0)
Rule	-4,78116	0,0000	I(0)
VAA	-5,96522	0,0000	I(0)

* Significant at 1%; ** Significant at 5%; *** Significant at 10%.
Source: constructed by the authors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
logidh	1.0000														
logMGTint	0.1858	1.0000													
logChom	0.1197	0.1123	1.0000												
logIDE	0.3704	-0.1859	-0.0121	1.0000											
logInf	-0.2374	0.0475	0.0574	-0.2026	1.0000										
logIndus	0.7308	0.2639	0.0206	0.2048	-0.3060	1.0000									
logIPC	0.2117	0.0487	-0.1513	0.2565	-0.4675	0.1669	1.0000								
logOUV	0.4246	-0.3188	0.0657	0.3554	-0.0339	0.2273	0.0396	1.0000							
logContrso~l	0.4590	0.0233	-0.0131	0.0932	-0.0103	0.3335	-0.0575	0.1694	1.0000						
CC	0.4495	0.0094	0.1332	0.1699	-0.2757	0.5431	-0.0206	0.2423	0.2013	1.0000					
GOV	0.5804	0.1107	0.1404	0.1815	-0.3203	0.6402	0.0229	0.2292	0.2328	0.8941	1.0000				
STAPOLI	0.3836	-0.2336	0.0959	0.2323	-0.1484	0.3388	-0.0897	0.4592	0.2263	0.6549	0.6083	1.0000			
REGQ	0.5858	0.0151	0.1080	0.2922	-0.3507	0.5886	0.0533	0.2592	0.3115	0.7784	0.8734	0.5721	1.0000		
RULE	0.5225	0.0293	0.1596	0.1860	-0.2951	0.5686	-0.0121	0.2692	0.2168	0.9176	0.9296	0.6892	0.8637	1.0000	
VAA	0.4402	-0.1325	0.1248	0.1952	-0.2764	0.4075	-0.0207	0.2235	0.2233	0.7214	0.7308	0.6259	0.7901	0.7893	1.0000

Source: constructed by the authors

Figure 1 shows that the relationship between the human development index (hdi) and international migration is positive. Countries with high levels of migration experience a strong improvement in socio-economic performance. However, a heterogeneous relationship is to be expected, since not all countries are at the same level of development.
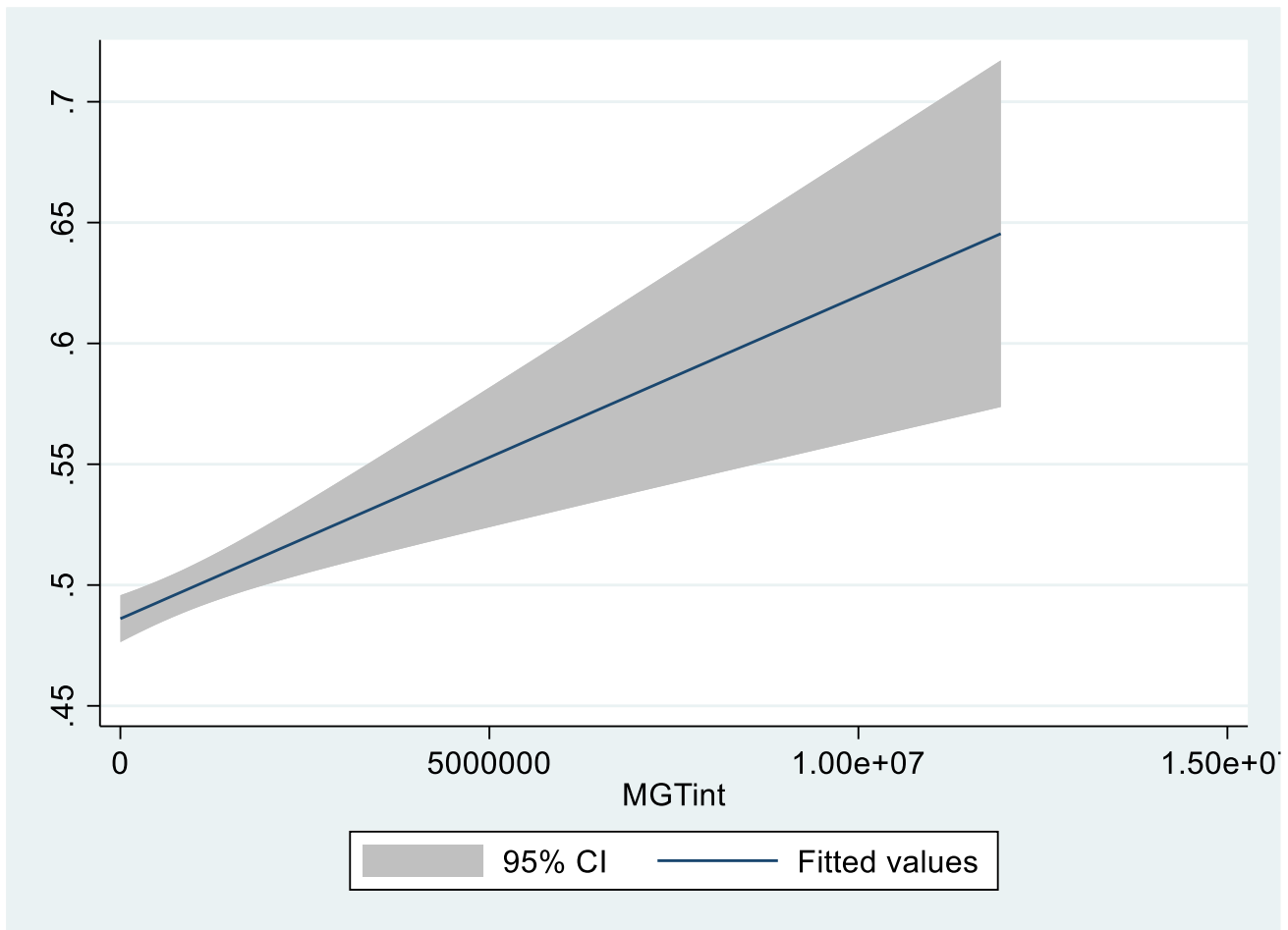
Figure 1. Relationship between hdi and international migration in developing countries
Source: constructed by the authors

The model is estimated using OLS and fixed effects as shown in Table 4 below. International migration is a factor in improving socio-economic performance (Fang and Chen, 2019; Su *et al.,* 2021). Socio-economic performance would be sensitive to several determinants with different effects, since unemployment, the level of development, foreign direct investment, industrialization and trade openness are important factors that increase socio-economic performance.

Table 4. Preliminary results for developing countries

VARIABLES	OLS logidh (1)	Fixed effects logidh (2)
Mgtint (log)	0.0195***	0.0459***
	(0.00279)	(0.00675)
Indus (log)	0.125***	0.0218**
	(0.00521)	(0.0103)
OUV (log)	0.115***	0.0746***
	(0.00933)	(0.0102)
IPC (log)	0.0301***	0.0538***
	(0.00634)	(0.00360)
Contrsocial (log)	0.0269***	0.0211***
	(0.00208)	(0.00433)
Chom (log)	0.0345***	-0.0329***
	(0.00620)	(0.00760)
IDE (log)	0.0253***	0.00892***
	(0.00306)	(0.00195)
Inf (log)	-0.00156	-0.00426*
	(0.00425)	(0.00241)
Constant	-2.580***	-1.696***
	(0.0657)	(0.129)
Observations	1,047	1,047
R-squared	0.702	0.512

Standard deviation in brackets
* Significant at 1%; ** Significant at 5%; *** Significant at 10%.
Source: *constructed by the authors*

International migration has a positive effect on socio-economic performance. This reflects the perverse effect of migration on the human development index. Our results corroborate those of Zhu *et al.* (2012); Guan *et al.* (2014); Yang *et al.* (2015); Qin and Liao, (2016) and Shuddhasattwa *et al.* (2016). A one-unit increase in international migration leads to a 1.15% increase in socioeconomic performance (logidh$_{it}$). We also note that the coefficient on international migration is significant at the 10% level. Qi and Li (2020) in their study show that internal migration is an important cause of the deterioration of socio-economic performance in China. Gao *et al*. (2021) studied the impact of population migration on carbon emissions through the level of urbanization and trade. These authors found that migration positively affects carbon emissions.

Unemployment has a negative effect on socio-economic performance. In other words, a 1% change in unemployment leads to a 3.29% drop in socio-economic performance in developing countries.

Trade openness has a positive effect on socio-economic performance (hdi). In other words, it improves the human development index in developing countries.

Our results do not corroborate those obtained by Pu *et al.* (2020); Qi and Li, (2020). For these authors, trade openness is responsible for 49.25% of the deterioration in socio-economic performance in China.

The quality of institutions: effects and channels

The literature borrows the definition of institutions from Douglas North. According to North, institutions are the rules of the game in a society, or more formally, the humanly conceived constraints that determine human interactions. Institutions structure the incentives in human exchanges, whether political, economic or social. Moreover, the nature of institutions is to reduce uncertainty in everyday life (North, 1990).

With regard to the corruption variable, the results show a positive effect on socio-economic performance. In general, corruption worsens economic and social performance. The results show a positive effect on socio-economic performance. A variation of 1% in the institutional variables leads to an improvement in the human development index (hdi). The mediating effect of institutions therefore seems conclusive. The results in Table 5 show that institutions exert a positive pressure on socio-economic performance.

Table 5. Quality of institutions: effects

VARIABLES	OLS						Fixed effects					
	IDH (log)						IDH (log)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(9)	(10)	(11)
MGTint (log)	0.0200***	0.0196***	0.0212***	0.0208***	0.0204***	0.0237***	0.0450***	0.0443***	0.0494***	0.0462***	0.0453***	0.0521***
	(0.00280)	(0.00274)	(0.00284)	(0.00274)	(0.00277)	(0.00279)	(0.00675)	(0.00678)	(0.00682)	(0.00682)	(0.00682)	(0.00671)
Indus (log)	0.120***	0.103***	0.121***	0.107***	0.111***	0.112***	0.0136	0.0116	0.0301***	0.0229**	0.0192*	0.0372***
	(0.00585)	(0.00603)	(0.00539)	(0.00573)	(0.00583)	(0.00540)	(0.0109)	(0.0112)	(0.0106)	(0.0108)	(0.0110)	(0.0104)
OUV (log)	0.114***	0.110***	0.107***	0.111***	0.109***	0.113***	0.0750***	0.0757***	0.0734***	0.0746***	0.0748***	0.0824***
	(0.00935)	(0.00917)	(0.00976)	(0.00915)	(0.00929)	(0.00911)	(0.0102)	(0.0102)	(0.0101)	(0.0102)	(0.0102)	(0.0101)
IPC (log)	0.0325***	0.0385***	0.0338***	0.0378***	0.0370***	0.0379***	0.0559***	0.0556***	0.0515***	0.0537***	0.0545***	0.0501***
	(0.00647)	(0.00633)	(0.00646)	(0.00631)	(0.00640)	(0.00628)	(0.00371)	(0.00368)	(0.00367)	(0.00364)	(0.00374)	(0.00359)
Contrso (log)	0.0269***	0.0267***	0.0265***	0.0248***	0.0267***	0.0256***	0.0214***	0.0207***	0.0214***	0.0211***	0.0210***	0.0217***
	(0.00208)	(0.00203)	(0.00208)	(0.00206)	(0.00205)	(0.00204)	(0.00432)	(0.00432)	(0.00431)	(0.00433)	(0.00433)	(0.00425)
Chom (log)	0.0329***	0.0283***	0.0330***	0.0293***	0.0292***	0.0280***	-0.0348***	-0.0344***	-0.0329***	-0.0328***	-0.0330***	-0.0254***
	(0.00625)	(0.00614)	(0.00621)	(0.00612)	(0.00621)	(0.00612)	(0.00763)	(0.00761)	(0.00757)	(0.00761)	(0.00761)	(0.00756)
IDE (log)	0.0251***	0.0244***	0.0248***	0.0217***	0.0246***	0.0238***	0.00884***	0.00878***	0.00882***	0.00896***	0.00891***	0.00839***
	(0.00306)	(0.00300)	(0.00305)	(0.00304)	(0.00302)	(0.00299)	(0.00195)	(0.00195)	(0.00195)	(0.00196)	(0.00195)	(0.00192)
Inf (log)	0.000180	0.00569	4.56e-05	0.00654	0.00375	0.00523	-0.00417*	-0.00421*	-0.00404*	-0.00432*	-0.00423*	-0.00449*
	(0.00434)	(0.00430)	(0.00428)	(0.00433)	(0.00432)	(0.00425)	(0.00241)	(0.00241)	(0.00240)	(0.00242)	(0.00241)	(0.00237)
CC	0.0126*						0.0152**					
	(0.00653)						(0.00677)					
GOV		0.0504***						0.0155**				
		(0.00738)						(0.00696)				
STAPOLI			0.0174***						-0.0170***			
			(0.00610)						(0.00562)			
REGQ				0.0475***						-0.00200		
				(0.00695)						(0.00662)		
RULE					0.0342***						0.00448	
					(0.00657)						(0.00690)	
VAA						0.0402***						-0.0384***
						(0.00550)						(0.00634)
Constant	-2.539***	-2.382***	-2.538***	-2.441***	-2.454***	-2.525***	-1.611***	-1.586***	-1.807***	-1.709***	-1.667***	-1.951***
	(0.0689)	(0.0705)	(0.0670)	(0.0674)	(0.0692)	(0.0645)	(0.135)	(0.138)	(0.134)	(0.136)	(0.137)	(0.134)
Observations	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
R-squared	0.703	0.715	0.704	0.715	0.709	0.716	0.514	0.514	0.517	0.512	0.512	0.530

Standard deviation in brackets
* Significant at 1%; ** Significant at 5%; *** Significant at 10%.
Source: *constructed by the authors*

Table 6. Quality of institutions: channels

VARIABLES	OLS						Fixed effects					
	IDH (log)						IDH (log)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MGTint (log)	0.0199***	0.0198***	0.0209***	0.0208***	0.0206***	0.0231***	0.0451***	0.0446***	0.0487***	0.0462***	0.0452***	0.0517***
	(0.00282)	(0.00275)	(0.00287)	(0.00277)	(0.00278)	(0.00281)	(0.00675)	(0.00676)	(0.00680)	(0.00681)	(0.00680)	(0.00670)
Indus (log)	0.122***	0.105***	0.122***	0.110***	0.113***	0.114***	0.0129	0.0108	0.0295***	0.0230**	0.0182*	0.0374***
	(0.00588)	(0.00610)	(0.00540)	(0.00580)	(0.00587)	(0.00544)	(0.0109)	(0.0112)	(0.0106)	(0.0108)	(0.0110)	(0.0104)
OUV (log)	0.114***	0.111***	0.109***	0.112***	0.111***	0.115***	0.0750***	0.0755***	0.0735***	0.0747***	0.0749***	0.0834***
	(0.00936)	(0.00920)	(0.00975)	(0.00922)	(0.00931)	(0.00917)	(0.0102)	(0.0102)	(0.0101)	(0.0102)	(0.0102)	(0.0101)
IPC (log)	0.0317***	0.0376***	0.0330***	0.0363***	0.0361***	0.0368***	0.0560***	0.0558***	0.0515***	0.0537***	0.0548***	0.0495***
	(0.00648)	(0.00636)	(0.00648)	(0.00636)	(0.00643)	(0.00634)	(0.00371)	(0.00367)	(0.00368)	(0.00365)	(0.00374)	(0.00361)
Contrsocial (log)	0.0269***	0.0267***	0.0265***	0.0255***	0.0269***	0.0260***	0.0215***	0.0208***	0.0211***	0.0211***	0.0210***	0.0215***
	(0.00208)	(0.00204)	(0.00208)	(0.00207)	(0.00206)	(0.00205)	(0.00432)	(0.00432)	(0.00431)	(0.00433)	(0.00433)	(0.00425)
Chom (log)	0.0337***	0.0298***	0.0336***	0.0311***	0.0306***	0.0295***	-0.0348***	-0.0345***	-0.0328***	-0.0328***	-0.0331***	-0.0251***
	(0.00625)	(0.00615)	(0.00621)	(0.00615)	(0.00621)	(0.00616)	(0.00762)	(0.00761)	(0.00757)	(0.00761)	(0.00760)	(0.00757)
IDE (log)	0.0252***	0.0245***	0.0249***	0.0225***	0.0247***	0.0242***	0.00883***	0.00875***	0.00878***	0.00896***	0.00890***	0.00845***
	(0.00306)	(0.00301)	(0.00306)	(0.00306)	(0.00303)	(0.00301)	(0.00195)	(0.00195)	(0.00195)	(0.00196)	(0.00195)	(0.00192)
Inf (log)	-0.000396	0.00535	-0.000229	0.00523	0.00341	0.00440	-0.00411*	-0.00416*	-0.00409*	-0.00433*	-0.00420*	-0.00466**
	(0.00436)	(0.00434)	(0.00429)	(0.00438)	(0.00436)	(0.00430)	(0.00241)	(0.00241)	(0.00240)	(0.00242)	(0.00241)	(0.00237)
logMGTint*CC	0.000621						0.00127**					
	(0.000521)						(0.000523)					
logMGTint*GOV		0.00360***						0.00134**				
		(0.000596)						(0.000543)				
logMGTint*STAPOLI			0.00105**						-0.00125***			
			(0.000489)						(0.000441)			
logMGTint*REGQ				0.00298***						-0.000177		
				(0.000549)						(0.000521)		
logMGTint*RULE					0.00233***						0.000490	
					(0.000526)						(0.000547)	
logMGTint*VAA						0.00258***						-0.00306***
						(0.000426)						(0.000503)
Constant	-2.556***	-2.407***	-2.553***	-2.472***	-2.479***	-2.542***	-1.607***	-1.581***	-1.793***	-1.710***	-1.657***	-1.948***
	(0.0686)	(0.0706)	(0.0668)	(0.0677)	(0.0689)	(0.0649)	(0.134)	(0.137)	(0.133)	(0.136)	(0.137)	(0.134)
Observations	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
R-squared	0.702	0.712	0.703	0.710	0.707	0.712	0.515	0.515	0.516	0.512	0.512	0.530

Standard deviation in brackets
* Significant at 1%; ** Significant at 5%; *** Significant at 10%.
Source: constructed by the authors

Table 7. Robustness of results

| VARIABLES | OLS IDH (log) | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Mgtint (log)	0.0200***	0.0196***	0.0212***	0.0208***	0.0204***	0.0237***
	(0.00283)	(0.00258)	(0.00289)	(0.00263)	(0.00271)	(0.00281)
Indus (log)	0.120***	0.103***	0.121***	0.107***	0.111***	0.112***
	(0.00850)	(0.00818)	(0.00698)	(0.00763)	(0.00794)	(0.00698)
OUV (log)	0.114***	0.110***	0.107***	0.111***	0.109***	0.113***
	(0.0112)	(0.0111)	(0.0115)	(0.0110)	(0.0112)	(0.0109)
IPC (log)	0.0325***	0.0385***	0.0338***	0.0378***	0.0370***	0.0379***
	(0.0104)	(0.0104)	(0.0108)	(0.0107)	(0.0106)	(0.0109)
Contrsocial (log)	0.0269***	0.0267***	0.0265***	0.0248***	0.0267***	0.0256***
	(0.00414)	(0.00406)	(0.00406)	(0.00390)	(0.00410)	(0.00389)
Chom (log)	0.0329***	0.0283***	0.0330***	0.0293***	0.0292***	0.0280***
	(0.00688)	(0.00673)	(0.00672)	(0.00667)	(0.00680)	(0.00682)
IDE (log)	0.0251***	0.0244***	0.0248***	0.0217***	0.0246***	0.0238***
	(0.00476)	(0.00486)	(0.00476)	(0.00515)	(0.00481)	(0.00481)
Inf (log)	0.000180	0.00569	4.56e-05	0.00654	0.00375	0.00523
	(0.00425)	(0.00419)	(0.00433)	(0.00425)	(0.00426)	(0.00422)
CC	**0.0126**					
	(0.00786)					
GOV		**0.0504*****				
		(0.00913)				
STAPOLI			**0.0174*****			
			(0.00647)			
REGQ				**0.0475*****		
				(0.00907)		
RULE					**0.0342*****	
					(0.00779)	
VAA						**0.0402*****
						(0.00592)
Constant	-2.539***	-2.382***	-2.538***	-2.441***	-2.454***	-2.525***
	(0.108)	(0.108)	(0.0985)	(0.103)	(0.106)	(0.0959)
Observations	1,047	1,047	1,047	1,047	1,047	1,047
R-squared	0.703	0.715	0.704	0.715	0.709	0.716

Standard deviation in brackets
* significant at 1%; ** significant at 5%; *** significant at 10%.
Source**: constructed by the author**

To validate the consistency of the results, a robustness test is performed (Table 7). This test verifies the robustness of the relationship with the human development index in order to understand the effects of international migration on socio-economic performance in developing countries.

It is essential to assess the effect of international migration on social and economic performance, one of the consequences of which is foreign direct investment. Table 6 therefore tests the nature of the link between international migration and the human development index. The results reveal that international migration is an effective means of improving socio-economic performance in developing countries.

CONCLUSION

The aim of this article was to examine the relationship between international migration and the socio-economic performance of developing countries. Taking this intensity into account allowed us to test the existence of a heterogeneous relationship between the two concepts. Empirically, we used a quantile regression model applied to variables instrumented in panel data on a sample of 124 developing countries covering the period 1990-2020.

Our main findings are as follows: (i) firstly, international migration helps to improve socio-economic performance in developing countries. However, this effect is heterogeneous across different levels of

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development, as it is not favourable for all developing countries. (ii) secondly, foreign direct investment has a positive effect on social and economic performance. (iii) and finally, institutions have a positive effect on the human development index and consequently on socio-economic performance.

Given these results, certain economic policy recommendations are necessary. They concern international migration, unemployment, trade openness and the quality of institutions:
As far as international migration is concerned, host developing countries must protect international migrants, as this enables them to improve their socio-economic performance; and countries of origin must introduce support policies, as this enables unemployed migrants to improve their economic situation and enhance their well-being.

Developing countries should also improve their institutional frameworks, in particular by stabilising their political situation and monitoring the quality of regulation. Developing countries should set up strong, inclusive institutions to monitor the quality of regulation and design a strong, stable policy.

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